

**Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape**

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3043889



A thesis submitted in fulfilment of the requirements for the degree of Magister Artium in Sport, Recreation and Exercise Science, in the Department of Sport, Recreation and Exercise Science, UNIVERSITY of the WESTERN CAPE

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November 2018

## ABSTRACT

### **Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape**

M.T.T RAMPOU (2018)

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The prevalence of non-communicable diseases (NCDs) are the rising cause of mortality globally. Physical inactivity, unhealthy diet, tobacco use, and excessive alcohol consumption are common NCDs risk factors contributing to premature death, related to NCDs worldwide. Youth's lack of knowledge and misconception on physical activity (PA) and NCDs risk factors, aids the growing burden of NCDs globally. Thus, the purpose of this study is to explore the knowledge and perception of youth in a low-resourced community in the Western Cape Province. A qualitative methodological approach was adopted for data collection, using a qualitative exploratory study design. Convenience sampling was used to select the female youth participants, aged 18-35 years old from, Vrygrond in the Western Cape Province. Focus group discussions were steered by means of a semi-structured interview plan to guide the discussion about perceptions and knowledge of PA and NCDs risks factor. Trustworthiness was used to review information and to assess accuracy of findings. The discussions were analysed using Atlas.Ti8. Results indicated that the female youth were reasonably knowledgeable about the term PA. However, they lacked sufficient knowledge with regards to NCDs, indicating that participants are uninformed about NCDs and their risk

factors in their community and local healthcare centres. Female youth's socio-economic environment had an influence impact on their perceptions and decisions made with regards to PA and preventing them from engaging in NCDs risk factors. Furthermore, there were various barriers hindering the female youth from participating in PA and preventing them from engaging in NCDs risk factors. Results of this study will inform policy at the provincial, and national level, to provide cost effective and sustainable educative intervention programmes that address the youth misconception on physical activity and NCDs risks factor. Creation of awareness can positively influence beliefs and promote healthier practices, therefore making it crucial to understand NCDs risks factor implications on health, in lieu to combating the onset of NCDs.

**KEYWORDS:** Physical activity, Non-communicable diseases, Knowledge and perceptions, Low resourced community, youth



## DECLARATION

I hereby declare that “*Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape*” is my own work, that it has not been submitted before for any other degree in any other university, and that the sources I have used have been indicated and acknowledged as complete references.

**Mpai Tshidisegang Tshwaro Rampou**

**November 2018**

**Signed** \_\_\_\_\_



## DEDICATION

I dedicate this research work to my mother, Suanne Maditrupa Madile Rampou, my sister, Tshegofatso Thuto Gaopalelwe Rampou, my grandmother Mpai Maria Rampou and my late grandfather Boas Monkoki Rampou. Thank you all for continuing to love and support me through this journey of life. Your strength and guidance motivates and encourages me to be the best version of myself. Thank you for investing in me academically, and for providing me with a life filled with opportunity, love and support.



## ACKNOWLEDGEMENTS

I am profoundly grateful and eternally indebted to the Almighty God who continues to bless me profusely and for affording me the opportunity to embark on this journey, in furthering my studies.

Furthermore I would like to thank:

I would like to acknowledge the financial assistance of the National Research Foundation (NRF) towards making this research paper possible. The sentiments expressed and conclusions arrived at are those of the author and are not necessarily to be attributed to the NRF. This research paper would not have been possible without this scholarship.

The Department of Sport, Recreation and Exercise Science for the opportunity to pursue a Master's degree in the field of Sport, Recreation and Exercise Science as well as the support provided by the academic and administrative staff.

A special thanks to my supervisors Dr. Barry Andrews, Dr. Marie Young and Dr. Sunday Onagbiye of the Department of Sport, Recreation and Exercise Science (SRES), for encouraging me on my journey in Post-Graduate studies, and for the academic guidance and assisting me with scientific writing techniques, constant motivation, and the opportunities experienced.

The Sozo Foundation and Communiversity of South Africa for allowing me to conduct my research study at their organizations with their staff members and female youth learners.

Thank you Prof. Cornelia Hart, Prof. Adeniyi, Olushola, Prof. Kanayo Ogujiuba and Prof. Lorna Holtman from the Division for Post-Graduate Studies for the opportunity to experience the benefits of their writing workshops and writing retreats, contributing and assisting me significantly in the completion of this thesis.

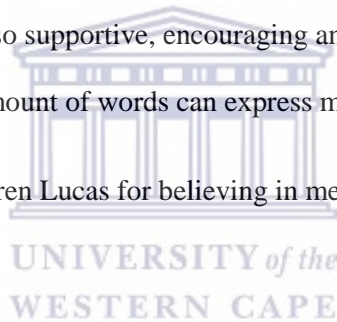
The University of the Western Cape Library, Post-Graduate Resource Centre (Level 13), for providing access to literature, writing coaches and a conducive working environment.

I am extremely thankful to my writing coaches Yusuf Adegoke and Albert Omulo, who not only encouraged me during the difficult moments associated with the writing of this thesis, but also reviewed my work and provided invaluable comments and feedback.

My gratitude also goes to Prof Marion Keim and Prof Christo De Coning from the Interdisciplinary Centre of Sport Science and Development (ICSSD) for the assistance, guidance and advice, as well as for the Post-Graduate laboratory facilities made available to me during this research journey.

A heartfelt and big thank-you to someone who has played a crucial role in this academic journey- Kirby Phillips. Thank you for always being so supportive, encouraging and inspirational. This journey would've not been the same without you - no amount of words can express my gratitude.

I would like to thank my mentor, Warren Lucas for believing in me and continuously supporting me in this academic journey.



Lastly, I would like to thank my family and friends who have continuously motivated and supported me through this journey. Undoubtedly, the journey towards the successful completion of this thesis involved many other benefactors; although it is not possible to mention the names of everyone, I appreciate and love them all.

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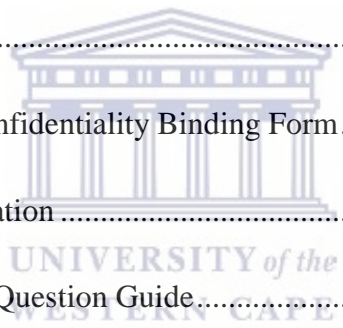
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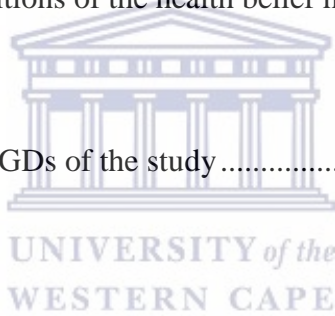
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## LIST OF ABBREVIATIONS

AIDS	Acquired Immunodeficiency Syndrome
ASDRs	Age-Standardized Death Rates
ASMR	Age-Standardized Mortality Rate
BMI	Body Mass Index
CAQDAS	Computer-Aided Qualitative Data Analysis Software
CDC	Center for Disease Control and Prevention
CHD	Coronary Heart Disease
CVD	Cardiovascular disease
DALYs	Disability Adjusted Life Years
FGDs	Focus Group Discussions
GDP	Gross Domestic Product
HBM	Health Belief Model
HDL-C	High-Density Lipoprotein Cholesterol
IGT	Impaired Glucose Tolerance
LMICs	Low and Middle-Income Countries
MI	Myocardial Infarction
NCDs	Non-communicable diseases

PA	Physical Activity
QDA	Qualitative data analysis
SA	South Africa
SANHANES-1	South African National Health and Nutrition Examination Survey
SEP	Socioeconomic Position
SES	Socioeconomic Status
U.S.	United States
TB	Tuberculosis
UK	United Kingdom
WC	Western Cape
WHO	World Health Organization
WOW	Western Cape on Wellness Campaign



## **CHAPTER ONE**

### **INTRODUCTION AND BACKGROUND TO THE STUDY**

#### **1.1 INTRODUCCION**

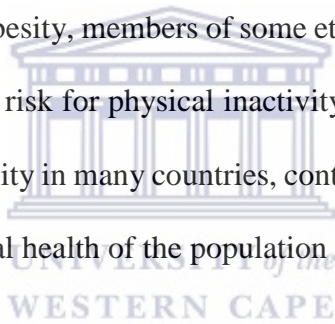
This chapter outlines the background of the study, providing a brief overview on the role of physical activity in promoting health as well as a brief outline of the burden of non-communicable diseases and the risk factors. The burden of non-communicable diseases are specifically examined from a South African and Western Cape Province context. The statement of the problem is presented as well as the research question, research aims and objectives, followed by the significance of this study. A definition of key terms is provided, and an overview of chapters in this thesis is presented. The leading non-communicable disease related deaths in each province and the Western Cape Province are displayed on a cluster column and bar chart, presenting the findings from the 2015 Mortality and causes of death notification in South Africa. The study's aims and objectives, as well as the research question will be detailed. The problem statement, significance as well as a definition of key terms follows with the overview of each chapter of the thesis.

#### **1.2 BACKGROUND TO THE STUDY**

The increasing prevalence of physical inactivity has been recognized as a 'global public health priority', despite evidence on the health benefits associated with regular physical activity (PA) (Hallal et al., 2012; Powell, Slater, & Chaloupka, 2004). Physical inactivity has been identified by the World Health Organization, as the fourth leading risk factor for global mortality and one of the

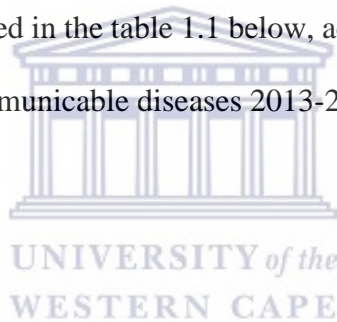


most significant causes of disability and reduced quality of life (Bailey, Wellard, & Dismore, 2004; WHO, 2010a). Furthermore, physical inactivity has been identified as one of the non-communicable diseases (NCDs) modifiable risk factors, and accounted for 3.2 million deaths worldwide in the year 2012 (WHO, 2014a). Physical inactivity typically includes sedentary behaviour such as sitting or television viewing (Miles, 2007). Approximately 21-25 percent of breast and colon cancer burden, 27 percent of diabetes and 30 percent of ischaemic heart disease burden is caused by physical inactivity (WHO., 2013). Participating in less than 150 minutes of moderate-intensity activity per week or equivalent is associated with being insufficiently physically active (WHO, 2010a). Evidence suggests that low income and lack of employment, increased risk of weight gain and obesity, members of some ethnic minority groups and those with disabilities are populations most at risk for physical inactivity (Miles, 2007; Powell et al., 2004). The rising levels of physical inactivity in many countries, contributes to major implications for the occurrence of NCDs and the general health of the population (WHO, 2010a).



The prevalence of non-infectious and non-transmissible diseases – NCDs such as cardiovascular disease (CVDs), type 2 diabetes, cancer and chronic respiratory diseases have been recognized as the leading cause of morbidity and mortality worldwide, for almost three decades (Habib & Saha, 2010; Horton, 2013; Nojilana et al., 2016; Solomons, Kruger, & Puoane, 2017). The most recent NCDs Country Profiles indicated that in the year 2016, NCDs were responsible for 41 million (71 percent) of the world’s 57 million deaths (WHO, 2018). Furthermore, NCDs will account for five times as many deaths as communicable diseases in low- and middle-income countries (LMICs) by 2030 (Hofman, 2014; Nikolic, Stanciole, & Zaydman, 2011).

The rise in these NCDs usually manifests during mid-to-late adulthood and are caused by four common, modifiable risk factors that are generally adopted earlier in life (Peer, Bradshaw, Laubscher, Steyn, & Steyn, 2013; Spires et al., 2016). Moreover, these modifiable risk factors include: tobacco use, physical inactivity, unhealthy diets and harmful use of alcohol. These modifiable risk factors have been recognized to be directly related to NCDs and can lead to overweight and obesity, high blood pressure, and high cholesterol (Baldwin, Kaneda, Amato, & Nolan, 2013; DoH, 2013; Wagner & Brath, 2012; WHO., 2013). The above mentioned modifiable risk factors and their association to NCDs and other conditions such as mental disorder, oral disease, eye disease, kidney disease and muscular-skeletal conditions (including arthritis and rheumatoid conditions) are presented in the table 1.1 below, according to the strategic plan for the prevention and control of non-communicable diseases 2013-2017 (DoH, 2013).



**Table 1. 1: Common risk factors for non-communicable diseases (DoH, 2013)**

Risk factor	Cardiovascular disease	Diabetes	Chronic respiratory	Cancer	Mental disorder	Oral disease	Eye disease	Kidney disease	Muscular-skeletal conditions
Diet	X	X		X	X	X	X	X	X
Smoking	X	X	X	X		X	X	X	X
Physical Activity	X	X		X	X			X	X
Alcohol	X	X		X	X	X		X	X

These risk factors are modifiable in nature, as they can be prevented through adopting healthy lifestyle practices. Socio-cultural factors, living and working conditions, individual and community are modifiable determinants that can be altered (Puoane, Tsolekile, Sanders, & Parker, 2008). It has been reported in literature, that these four modifiable risk factors are known to make a large contribution to NCDs morbidity and mortality rates globally, if the probability of disease is not reduced (WHO., 2013). In 2012, an estimated 3.3 million of all deaths worldwide attributed to alcohol consumption, insufficient PA contributed to 3.2 million deaths, 6 million people died from tobacco use and 9.4 million deaths were caused by raised blood pressure (WHO, 2014). Worldwide, the relationship between the major modifiable risk factors and the main NCDs are known to be similar.

Regular PA is essential in maintaining good health and it is beneficial to children, adults as well as people who are disabled or who have disease limitations (Bouchard, Blair, & Haskell, 2012; Onagbiye, 2016). The majority of health benefits only occur when sedentary people become moderately active (Lindström, Hanson, & Östergren, 2001). Moderate-intensity PA such as walking and running, carried out more often and for longer periods of time, can increase capacity to carry blood in the coronary arteries, reduce resting blood pressure and effects the body's capacity for forming and breaking down blood clots (Miles, 2007). Increasing frequency, duration and intensity of exercise, increases the health benefits of PA and reduces the mortality rates due to many chronic diseases associated with regular PA (Onagbiye, 2015; Powell, Slater, & Chaloupka, 2004). The beneficial effects of regular PA has been reported to have an impact on 23 diseases or health conditions (Pratt, Norris, Lobelo, Roux, & Wang, 2014). Some of which include: decreased risk of CVDs, coronary heart disease, diabetes, colon cancer, hip fractures, blood pressure, obesity and improvement of blood lipid levels and glucose metabolism (Lindström, Hanson, & Ostergren, 2001; Madsen, Hicks, & Thompson, 2011; Monyeki, 2014; Powell et al., 2004).

High levels of PA engagement has also been reported to reduce the common NCDs modifiable risk factors such as unhealthy diet, tobacco use, excessive alcohol consumption and physical inactivity, especially among female youth (Powell et al., 2004). Young females who participate in regular PA are less likely to engage in risky health behaviours, have a higher self-esteem and are more accepted by peers, than those who do not participate in PA (Monyeki, 2014). Physical activity participation among female youth improves growth and development, emotional and psychological well-being, increases self-esteem levels and reduces stress, improves academic performance and reduces disruptive behaviour, lowers risk for breast cancer, obesity (through

weight control) and helps in the prevention and management of NCDs (Madsen et al., 2011; Monyeki, 2014; Powell et al., 2004).

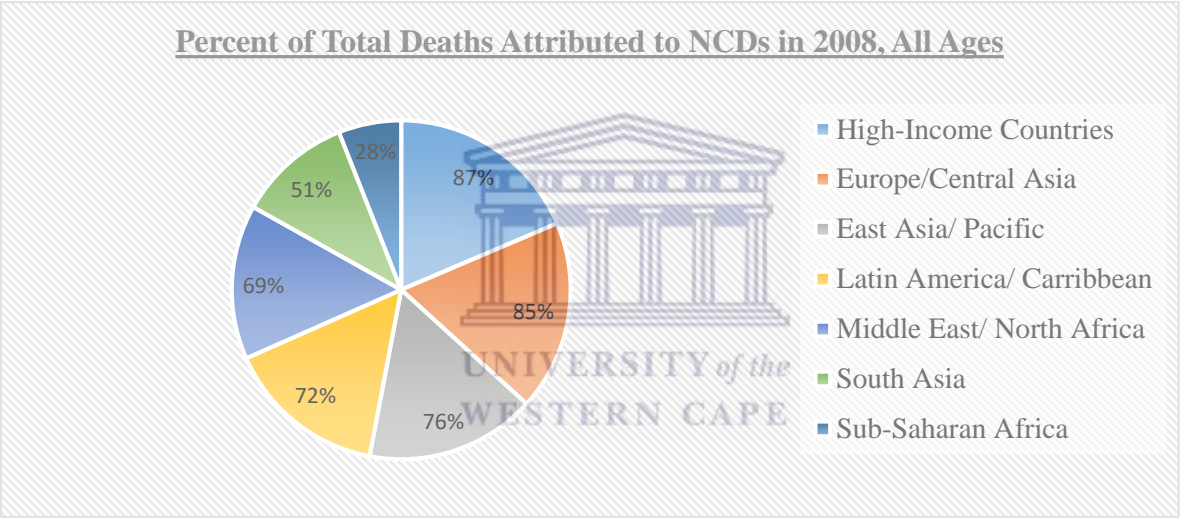
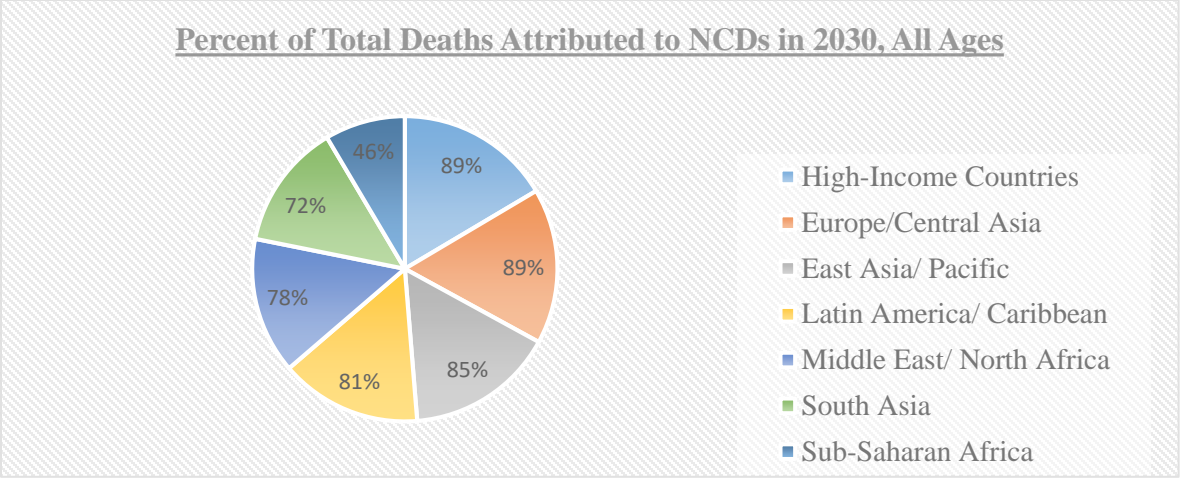
### **1.2.1 The burden of non-communicable diseases in developing countries**

The burden of the NCDs has become more expensive to treat, compared to communicable diseases and it is affecting most country's economy, health care services, individuals and their families (Alwan & Barker, 2012; Nikolic et al., 2011). Low and middle-income countries (LMICs) are more effected by the global epidemic of NCDs, because public financing or insurance is limited for the treatment of NCDs (Hunter & Reddy, 2013). More expensive and advanced treatment options are in demand in these countries due to economic growth and globalization of a number of NCD-related risk factors (Nikolic et al., 2011). Unfair trade and irresponsible marketing, rapid and unplanned urbanization and increasingly sedentary lives are some examples of the negative effects globalization has on NCDs risk factors and lifestyle changes (Oli, Vaidya, & Thapa, 2013; WHO, 2011).

In addition, the economic growth in developing countries is expected to decrease due to rising NCD mortality rates (Marquez & Farrington, 2013). Reduced labour supply, reduced labour output (resulting from absenteeism and the diminished economic output of suffers and caregivers), lower tax revenues and increased government expenditures are some examples of how increased NCDs levels can adversely affect the economy (Nikolic et al., 2011). These effects can result in long-term impacts on labour supply, capital accumulation and gross domestic product (GDP) worldwide, health outcomes and poverty, inequity and opportunity loss, with the consequences

most severe in LMICs (Bloom et al., 2012; Nikolic et al., 2011). Low- and middle-income countries (LMICs) such as South Africa (SA) (US\$1.88 billion), Nigeria (US\$1.17 billion), Ethiopia (US\$16 million) and the Democratic Republic of Congo (DRC) (US\$15 million) are estimated to lose billions of dollars in economic output due to the burden of NCDs (Marquez & Farrington, 2013). People affected by NCDs in these developing countries, are often at increased risk of losing their jobs and income due to illness and premature death (Hunter & Reddy, 2013; Nikolic et al., 2011).

An estimated 82 percent of premature deaths and 28 million of all NCDs deaths occur in developing countries (WHO, 2014). Demographic transitions and lifestyle changes of the population, along with the rise in urbanization, is increasing the implications of NCDs in developing countries (DoH, 2013). Developing countries experience 29 percent of NCD-related deaths globally, compared to 13 percent in developed countries, with mortality occurring at an earlier age (Monyeki, 2014). Non-communicable diseases (NCDs) that result in death are expected to increase by 27 percent in the African region (WHO., 2013). In LMICs such as DRC, Ethiopia, Nigeria and SA, NCDs will be responsible for 46 percent of deaths, compared to those in high-income countries (Solomons et al., 2017). Nearly 30 percent of these deaths occur among people under the age of 60 and are at the peak of their economic productivity (Naik & Kaneda, 2015). By 2030, it has been predicted that NCDs will account for five times as many deaths as communicable diseases in developing countries (Hofman, 2014). The percent of total deaths attributed to NCDs in 2030, for all ages, especially in developing regions for 2008 – 20230 is depicted in figure 1.1 below.



**Figure 1. 1: NCDs Account for a Growing Share of Total Deaths 2008 – 2030**

(Source: Nikolic et al., 2011:pg 6)

Furthermore, between 2008 and 2030, NCDs deaths are projected to rise by 1 percent in high-income countries, 12 percent in middle-income countries and 45 percent in low-income countries. In addition, by 2030, deaths in LMICs are projected to rise by over 50 percent, from an estimated 28 million in 2008 to 43 million (Nikolic et al., 2011). NCDs such as CVDs, cancers, diabetes, and

chronic respiratory diseases have been recognized as the leading causes of death in developing countries and it is expected to have the largest increase in NCD deaths over the next decade (Naik & Kaneda, 2015). Demographic transitions and lifestyle changes of the population, along with the rise in urbanization, have been reported to be responsible for increasing the ramifications of NCDs in developing countries (DoH, 2013).

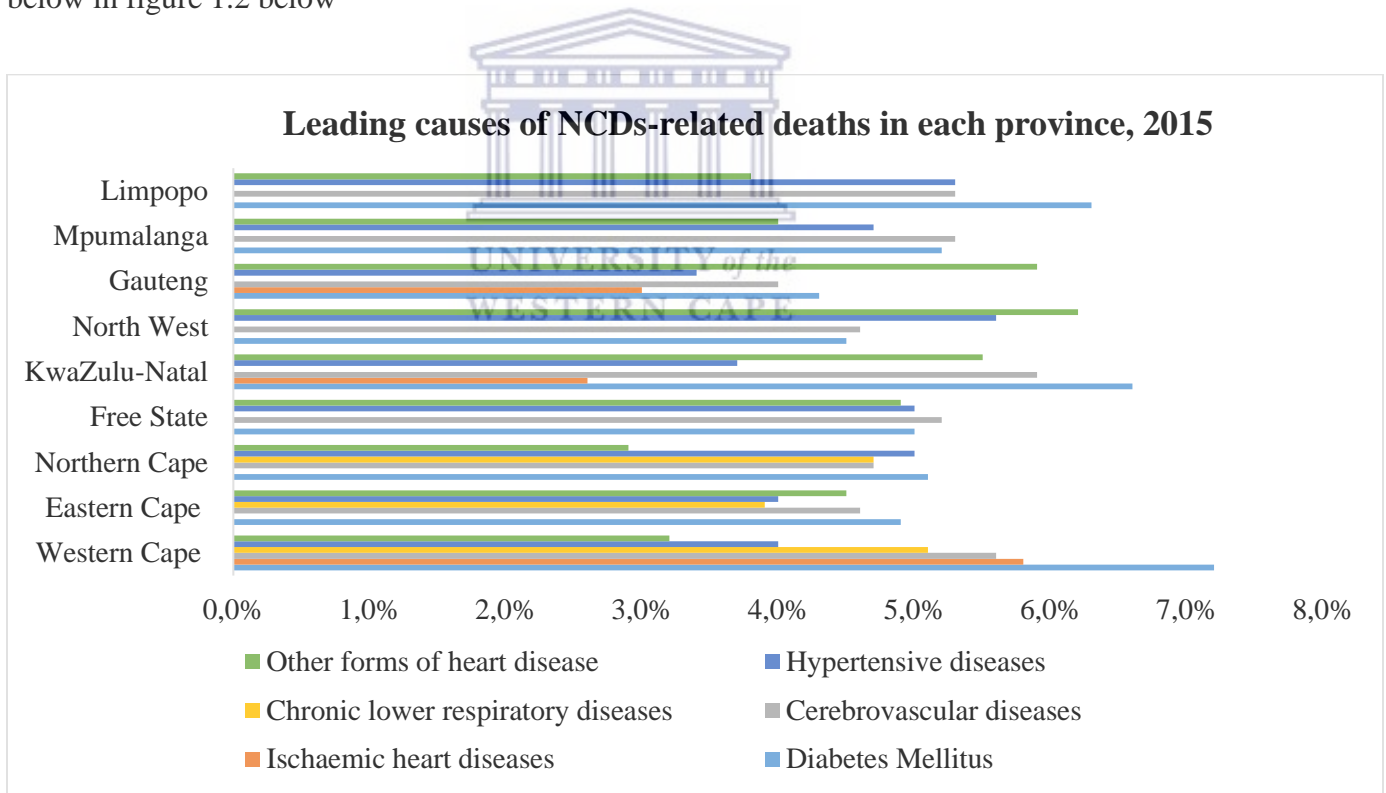
### **1.2.2 The burden of non-communicable diseases in South Africa**

In SA, the NCDs epidemic is an even greater burden, as it is occurring concurrently with the AIDS (acquired immunodeficiency syndrome) pandemic, high rates of injury and other infectious diseases (Bradshaw, Steyn, Levitt, & Nojilana, 2011; Hofman, 2014). NCDs such as CVDs, diabetes, cancers, chronic respiratory diseases and mental illness are the leading cause of mortality in developing countries, with approximately two out of five deaths associated with SA (Hofman, 2014; Mayosi et al., 2009; WHO, 2014). NCDs develop due to immune activation, medication side-effects, coinfections and ageing (Sheik, Evans, Morden, & Coetzee, 2016). Communicable, maternal, nutritional and perinatal conditions are currently dominating the mortality profile in the African region (Nojilana et al., 2016). In 2008, the relative burden of communicable diseases was reported to be 58 percent, NCDs was reported at 38 percent and injuries at 4 percent, as measured by the age-standardized mortality rate (ASMR) (Marquez & Farrington, 2013). CVDs, diabetes, cancers, chronic respiratory diseases and mental illness have been reported to be the major NCDs in SA (Bradshaw et al., 2011). Over the years, SA has seen an increase in the mortality rates associated with NCDs. Between 2010 and 2014, SA has experienced an increase in deaths resulting from NCDs. In 2010, NCDs death rates were at 46.6 percent and increased to 52.9 percent in 2014



(Stats SA, 2016). According to the World Health Organization, NCDs were estimated to account for 43 percent of the total deaths in SA, in 2014 (WHO, 2014).

More recently, a total of 460, 236 NCDs related deaths were recorded in SA in 2015, with diabetes mellitus being the common cause of death for all provinces in SA (Stats SA, 2016). The Western Cape (WC) Province had the highest number of NCDs-related deaths across all provinces with diabetes mellitus and ischaemic heart disease being the top two causes of death. The other leading underlying cause of NCDs-related deaths in each province of death occurrence, 2015 is illustrated below in figure 1.2 below



**Figure 1. 2: Leading causes of NCDs-related death in each province of death occurrence**

(Source: Statistics South Africa, 2016: pg 40)

In addition, the poor and young segments of the population are increasingly becoming affected by NCDs risk factors on a daily basis (Shivalli, Gupta, Mohaptra, & Srivastava, 2012). Africa has been reported as having the youngest population in the world, with 36 million young people between the ages of 10 and 24 years old (Naik & Kaneda, 2015). Currently, the key health challenges facing South African young people and affecting their wellbeing are NCDs such as: cancer, diabetes and hypertension (Stats SA, 2016). Deaths due to NCDs were relatively common among South African female youth (24, 9 percent) (Lehohla, 2013). Female youth in SA are at a high risk of NCDs such as CVDs and hypertension as a result of unhealthy behaviour practices such as insufficient PA, unhealthy diet, tobacco use and excessive drinking (Naik & Kaneda, 2015). In the 2008 National Youth Risk Behaviour Survey, 27.8 percent of female youth were significantly more overweight than their male (11.2 percent) counterparts (Reddy et al., 2003). More recently, the strategic plan for the prevention and control of NCDs 2013-2017 reported that overweight (71.8 percent) was the highest modifiable risk factor among South African females compared to their male (58.5 percent) counterpart (DoH, 2013).

In SA, high body-mass index (BMI), high fasting plasma glucose, high systolic blood pressure, alcohol use and smoking are the leading risk factors associated with NCDs (Sheik et al., 2016). Literature reports that CVDs are the leading category of NCDs among South Africans. Black Africans were reported to be in the midst of a cardiovascular epidemic with relatively high age-standardized death rates (ASDRs) from cerebrovascular disease, hypertensive heart disease, diabetes mellitus, ischaemic heart disease and cardiomyopathy (Nojilana et al., 2016).

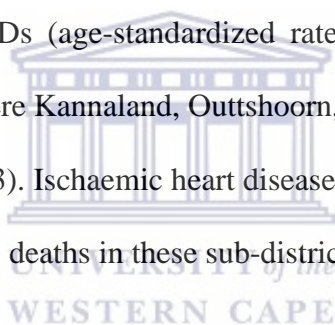
The patterns of NCDs mortality rates are particularly higher in poorer areas, as the response and coping strategies differ between poor and non-poor communities (Ataguba et al., 2011; Puoane, Tsolekile, Igumbor, & Fourie, 2012). This is due to lack of resources in low-income communities (Ataguba et al., 2011). Research describes that low income communities have fewer resources and limited access to them, resulting in poorer health outcomes such as obesity and diabetes (Mabweazara, Ley, & Leach, 2016). South Africa has consistently shown that the poor suffer from more disease and violence, relative to the wealthy (Ataguba et al., 2011).

The development of NCDs in these areas are known to be a barrier for growth, which in turn becomes a driver for poverty, as poverty exposes people to engage in modifiable risk behaviours (Islam et al., 2014). These behaviours along with unhealthy lifestyle choices leads to obesity and physical inactivity, which contribute to the increase and development of NCDs in SA and its low-income communities (Makamu, 2015). Literature reported that people who have a low socioeconomic status and live in poor communities have a higher risk of dying from NCDs, than do more advantaged groups and communities (Di Cesare et al., 2013). This development is seen to be based on globalization, supermarket growth, rapid urbanization and increasingly sedentary lifestyles (Wagner & Brath, 2012).

### **1.2.3 Non-communicable diseases in the Western Cape Province**

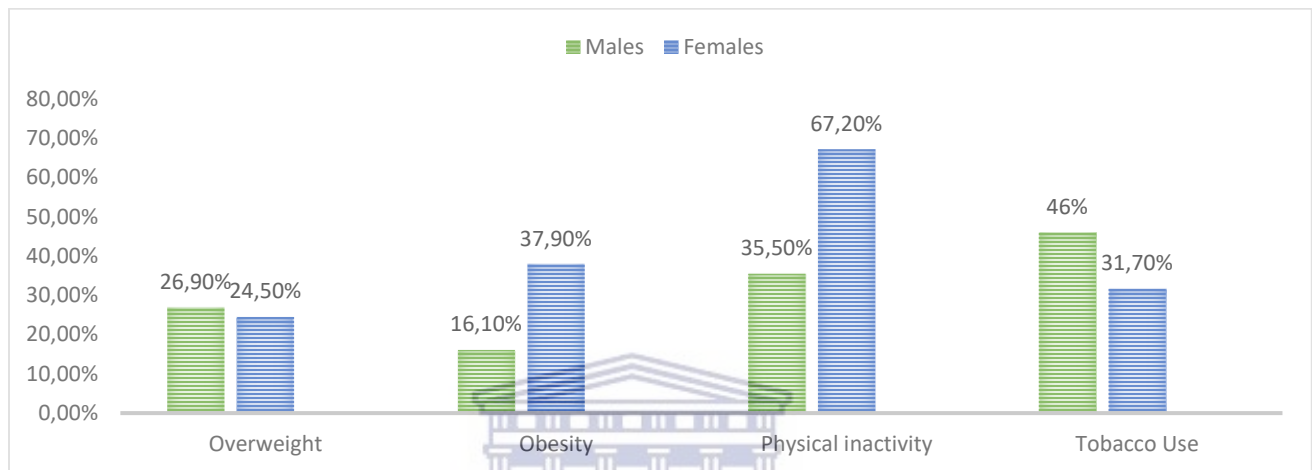
Non-communicable diseases (NCDs) such as ischaemic heart disease, diabetes, cerebrovascular disease, lung cancer and Chronic Obstructive Pulmonary Disease (COPD) have been reported as being the leading cause of death in Western Cape (WC) Province, compared to the other provinces

in SA (Lalkhen & Mash, 2015). Five of the ten leading causes of NCDs deaths have been reported to be affecting the population of the WC Province .The WC Province accounted for 58 percent of NCDs related deaths, compared to the country's national NCDs death rate of 38 percent in the year 2000 (Myers et al., 2007). The population in the WC being older than the national population, is reported to have an influence on the results (Chopra, Steyn, & Lambert, 2007). These diseases include cardiovascular diseases and ischaemic heart disease (Myers et al., 2007). In 2013, the WC mortality profile reported that NCDs deaths have continued to increase, with the proportion of death being 57 percent in 2009 and 61 percent in 2013 (Sheik et al., 2016). NCDs death rates were found to be higher in poorer areas of the WC, than in the well-off areas (Chopra et al., 2007). The sub-districts with the highest NCDs (age-standardized rate) ASR (>800 deaths per 100 000 population) in the WC Province were Kannaland, Outtshoorn, Mitchells Plain, Breede Valley and Tygerberg (Groenewald et al., 2013). Ischaemic heart disease and cerebrovascular disease ranked among the top two causes of NCDs deaths in these sub-districts (Sheik et al., 2016).



The nature of NCDs is seen to differ between male and female in the WC Province. Non-communicable diseases (NCDs) accounted for 60 percent of deaths for both males and females in the WC from 2009-2013 (Groenewald et al., 2013). Non-communicable diseases (NCDs) are reported to contribute to a larger proportion of premature mortality in women than men. In 2013, NCDs deaths contributed to 68 percent of deaths in women compared with 56 percent among men (Sheik et al., 2016). NCDs that affected women the most were diabetes, stroke and hypertensive heart disease, whereas men were mostly affected by ischaemic heart disease, lung cancer and COPD (Chopra et al., 2007). Alcohol use and smoking in the WC Province, are among the highest NCDs risk factors prevalent in SA among both male and females. The other major NCDs risk

factors that are prevalent in both males and females in the WC Province, were reported in 2012 by the South African National Health and Nutrition Examination Survey (SANHANES). These risk factors included: overweight, obesity and physical inactivity, which are presented in figure 1.3. (Shisana et al., 2013).

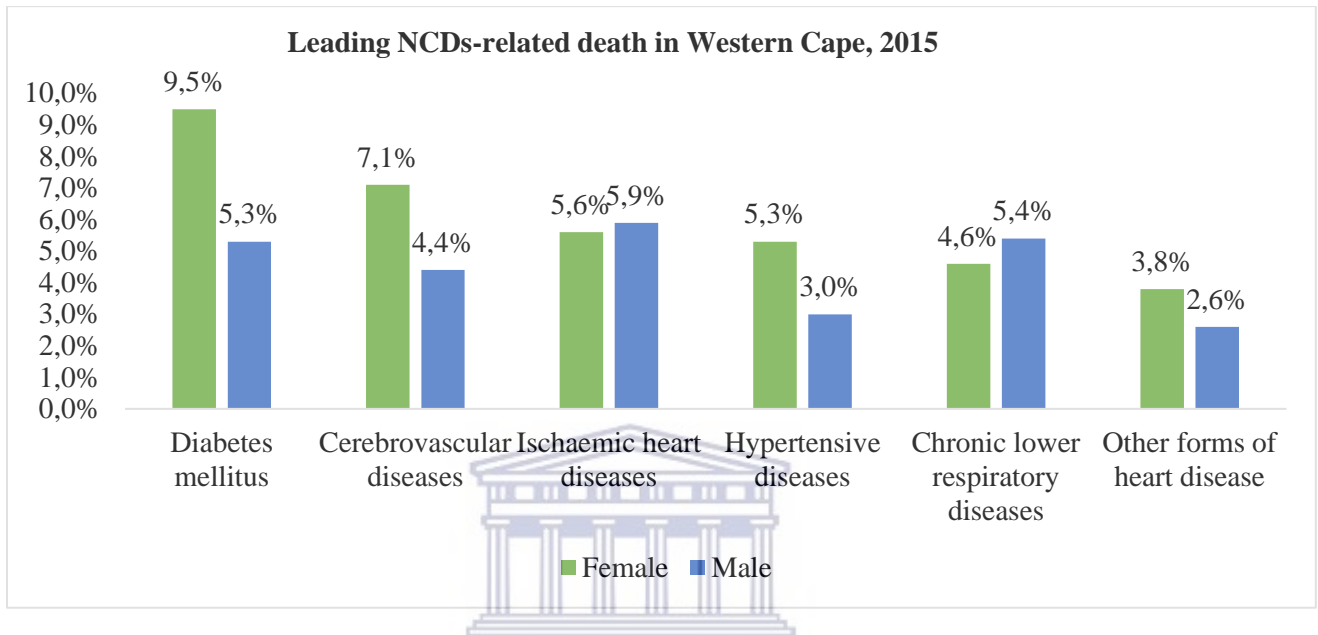


**Figure 1.3: Prevalence of NCDs risk factors in the Western Cape Province 2012**

(Adapted from Shisana et al. (2013))

Although, the results mentioned in the above *figure* seems to be associated with a number of factors (not focus of this study) such as level of education, urbanization, poverty, lack of opportunities and unemployment (Myers, 2007; Puoane, Tsolekile, Igumbor, & Fourie, 2012). In 2013, NCDs continued to account for the largest proportion of deaths (60 percent) in the WC with 16.4 percent affecting youth (Groenewald et al., 2013; Lehohla, 2013).. The WC death notification in 2013, indicated that females were more affected across all age groups: 68 percent of deaths in females were due to NCDs compared to 56 percent among males (Groenewald et al., 2013). Non-communicable diseases (NCDs) such as cerebrovascular disease, ischaemic heart disease and diabetes mellitus contributed to nearly 20 percent of premature death among females in the WC

(Sheik et al., 2016). More recently, Statistics South Africa released the *Mortality and causes of death in South Africa, 2015: Findings from death notification* (STATS SA, 2016). The leading causes of NCDs-related death in the WC Province by sex, is presented in figure 1.3 below.



**Figure 1. 4: Leading NCDs-related death in the Western Cape, 2015 by sex**

**(Source: Statistics South Africa, 2016: pg 48)**

High prevalence of physical inactivity, high levels of obesity/overweight, and low levels of underweight as well as high intakes of energy and fat are among some of the reasons for the prevalence of NCDs among females in the WC Province (Marquez & Farrington, 2013). Having outlined the trajectory of PA and NCDs risk factors, as well as given a general description of the health situation in the WC, the statement of the research problem is presented in the next section.

### 1.3 STATEMENT OF THE PROBLEM

The prevalence of physical inactivity and NCDs such as CVDs, cancers, diabetes and hypertension are the rising cause of mortality in developing countries. Low and middle-income countries (LMICs) are especially affected by NCDs, because nearly 80 percent of all NCDs related deaths occur in this region and it is expected to increase over the next decades (Naik & Kaneda, 2015)

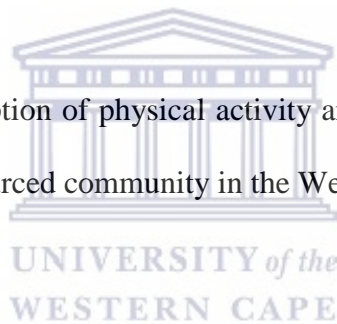
Youth in low-resourced communities in SA are faced with daily stressors, which limit their potential to becoming productive individuals (Mosavel, Ahmed, Ports, & Simon, 2015). Currently, the advent of unhealthy diets, tobacco use, excessive alcohol use and physical inactivity has negatively impacted many life, most especially the younger population (DoH, 2013). These health behaviours along with unhealthy lifestyle choices, are contributing factors responsible for the increase in physical inactivity, obesity and other NCDs. Female youth are increasingly facing serious health effects from engaging in unhealthy lifestyle practices (DoH, 2013). Furthermore, female youth are commonly reported as being less physically active than their male peers, placing them at a greater risk of developing chronic disease, from poor lifestyle practices and the lack of knowledge thereof (Makamu, 2015; Mathur, 2006; Sedibe et al., 2014). According to Holdsworth et al. (2006), having a lack of knowledge and misconception about PA and NCDs risk factors at young age, is a deterrence in reducing the growing burden of NCDs later in life.

One of the effective strategies for improving PA and reducing the development of NCDs risks factor, is by increasing the knowledge of PA and NCDs risk factors, particularly knowledge about appropriate exercise prescription and nutritional knowledge, by means of education (Hui &

Morrow, 2001; Jacobs & Mash, 2013; Ramadani, Rasimi, & Bytyci, 2016). However, it has been reported that many South African women have inadequate knowledge and perception about PA and NCDs (Makamu, 2015). Moreover, studies have not comprehensively examined female youth in low-resourced communities. In a bid to contribute towards the filling of these gaps, and to enrich scholarly discourse surrounding PA and NCDs, this study aims to explore the knowledge and perception of PA and NCD risk factors among female youth in a low-resourced community in the WC.

#### **1.4 RESEARCH QUESTION**

What is the knowledge and perception of physical activity and non-communicable disease risks factor among youths in a low resourced community in the Western Cape Province?



#### **1.5 AIM OF THE STUDY**

The aim of this study was to explore the physical activity and non-communicable disease risk factor knowledge and perception among youth in a low resourced community in the Western Cape Province.

#### **1.6 OBJECTIVES OF THE STUDY**

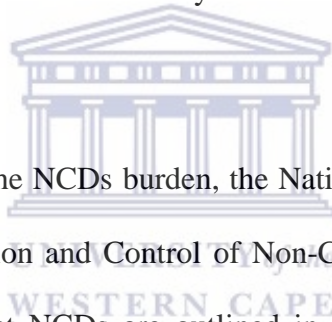
The objectives of this study was to:

1. Explore the youths' knowledge of PA and NCDs risk factors
2. Explore the youths' perceptions of PA and NCDs risk factors



## 1.7 SIGNIFICANCE OF THE STUDY

The high prevalence of physical inactivity, high levels of obesity/overweight, and low levels of underweight as well as high intakes of energy and fat are among some of the reasons for the prevalence of NCDs among females (Marquez & Farrington, 2013). Three out of five females in the WC are classified as overweight (BMI 25.0-29.9) or obese (BMI  $\geq$ 30) (Shisana et al., 2013). Tobacco use and harmful use of alcohol were also identified as common NCDs risk factors in the WC contributing to the increase in NCDs-related deaths among female (Sheik et al., 2016). According to Schneider, Bradshaw, Steyn, Norman, & Laubscher (2009), the distribution of lifestyle and risk factors for NCDs, is influenced by SA's rich ethnic diversity.



In efforts to prevent and manage the NCDs burden, the National Department of Health released the Strategic Plan for the Prevention and Control of Non-Communicable Diseases 2013-2017. Three main components to combat NCDs are outlined in the plan and this includes, healthy lifestyle promotion, health systems strengthening, as well as monitoring cases and risk factors (DoH, 2013). In 2015, the Western Cape on Wellness campaign (WOW) was also launched, aiming to promote and activate a range of health-related physical activities and healthy eating through team leaders to expand and sustain a culture of wellness at and across work-place, community and school levels (Groenewald et al., 2013). These national and provincial initiatives have the potential to reduce the health, economic and social costs of NCDs.

Therefore, this study is significant in that the outcome of this study could inform WC health sector to create awareness about the negative health effect associated with NCDs risk factors, as well as

the positive health effects of regular PA. The Health Belief Model (HBM) used in this study, plays a vital role in understanding how to develop interventions to explain perception and knowledge about health-related behaviour among female youth in the WC Province (Makamu, 2014). The information gathered from this study may be used by the South African National and Provincial Government as well as Departments of Health, to develop cost effective and sustainable intervention and prevention programmes for female youth in a low-resourced community. This may promote an increase in healthy lifestyle, increase PA levels, and reduce the threat of NCDs risk factors among the female youths in WC Province, and SA at large.

## **1.8 SUMMARY OF THE RESEARCH METHODOLOGY**

A more comprehensive explanation of the research methodology is presented in Chapter three. A brief description of the research methodology follows next, in order to provide the reader with an overview of the relationship between the purpose of this study and the research approach and methods adopted.

A qualitative approach was considered to be the most appropriate for this kind of study as it allows for the exploration of the participant's knowledge and perception on the stated topic. In addition, it allows the researcher to gather in-depth information on their experiences and opinions of PA and NCDs risk factors. Thus, one method of data collection was utilized to gather data, by means of focus group discussions (FGDs). Data was collected by the researcher from female youth participants from a low-resourced community within the WC Province. Female youth between the

ages of 18 and 35 years old participated in this study. Focus group discussions (FGDs) were held in the community of Vrygrond and they were audiotaped.

Data analyses followed the data collection, and themes were developed using the study's applied theoretical framework, the Health Belief Model (HBM) (Glanz, Rimer, Viswanath, & Orleans, 2008). The HBM was used to guide the themes that emerged in this study. These themes were; knowledge and perception of term PA, knowledge and perception of term NCDs, health effects of physical inactivity, health effects of NCDs risk factors, benefits of PA, benefits of preventing NCDs risk factors, barriers to PA participation, barriers to preventing NCDs risk factors. These themes were analysed and subthemes had emerged, which was used to understand the way female youth in a low-resourced community understood and perceived PA and NCDs risk factors, though these findings are discussed further in detail in chapters four and five of this thesis. A more detailed explanation of the research methodology is presented in Chapter Three.

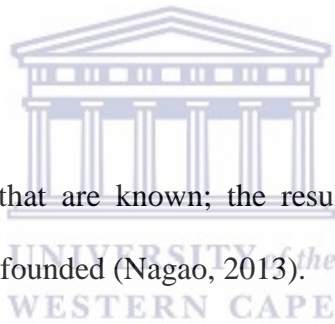
## **1.9 INTERPRETATION OF KEY TERMS**

**Physical activity (PA)** is defined as any bodily movements produced by the contraction of skeletal muscles that substantially increases energy expenditure (Caspersen, Powell, & Christenson, 1985). These bodily movements can be performed in occupational, home and family care, competing in sport and exercise, transportation and leisure settings (ACSM, 2013; Miles, 2007; Silverman, Thomas, & Nelson, 2005).

**Physical inactivity** is defined as “an absence of physical activity or exercise” (Brangan, 2012; World Health Organization, 2010a).

**Non-communicable diseases (NCDs)** are defined as diseases that are non-infectious, are of long duration and generally slow progression (Bloom et al., 2012).

**Youth** in South Africa is defined by the National Youth Policy 2015 - 2020, as young people falling within the age group of 14-35 years old, based on the mandate of the National Youth Commission’s Act (1994) and the National Youth Development Policy Framework (2002) (NYDA, 2015).



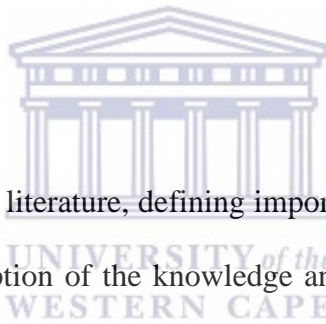
**Knowledge** is defined as things that are known; the results obtained by perception. It is a perception that is reliable and well-founded (Nagao, 2013).

**Perception** can be defined as the ‘awareness of objects, qualities or relations, which results directly upon the stimulation of sense organs’ (Hetherington, Miller, & Neville, 2013). It is an individuals’ primary form of cognitive contact with the world around them (Radnitzky, Andersson, Cohen, & Wartofsky, 2012).

## 1.10 OVERVIEW OF CHAPTERS

This thesis is presented in the following structure:

**Chapter One** outlines the background of the study, providing a brief overview on the role of physical activity in promoting health as well as a brief outline of the global burden of non-communicable diseases and the risk factors. The burden of non-communicable diseases were examined from a South African and Western Cape Province context. The statement of the problem is presented as well as the research question, research aims and objectives, followed by the significance of this study. A definition of key terms is provided, and an overview of chapters in this thesis is presented.



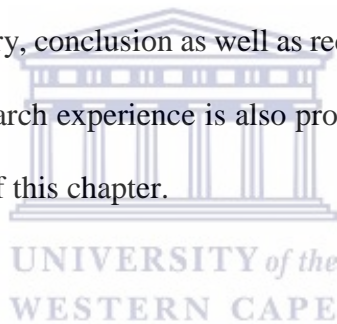
**Chapter Two** presents a review of literature, defining important concepts for the purpose of this study. Thereafter follows a description of the knowledge and perception of PA and NCDs risk factors. Literature pertaining to the health effects of physical inactivity and NCDs risk factors is then followed by a discussion on the benefits of PA and preventing NCDs risk factors. An overview of the barriers to PA and preventing NCDs risk factors, making reference to relevant research studies is presented thereafter. Lastly, this study's theoretical framework is described. The Health Belief Model will be used to explain and predict health behaviour, through understanding PA and NCDs risks factor in health as well as understanding what motivates youth to engage in health behaviour.

**Chapter Three** describes the research methods used in this study. This study is qualitative in its design, and the data collection and data analyses techniques are presented. The research sample is

described as well as the research setting, providing a description of the Vrygrond community and the activities the youth engage in on a daily basis. Reflexivity and trustworthiness is described, and the study limitations and delimitations are revealed.

**Chapter Four** details the findings of this study. Each finding is categorized into themes with an associated subtheme(s). Literature will be used to define each theme and interpretations and discussions for each finding that emerged is presented.

**Chapter Five** provides the summary, conclusion as well as recommendations for further research. A reflection of the qualitative research experience is also provided by the researcher. References and appendices follow at the end of this chapter.



## **1.11 CHAPTER CONCLUSION**

This chapter contextualizes the topic under investigation which is to gain insight on the knowledge and perception of PA and NCD risk factors among female youth in a low-resourced community in the Western Cape. This chapter provided background literature to support the research inquiry. The problem observed was presented as a statement, and the significance of the problem was described. This chapter also described the research question, the aims and objectives of the study.

The next chapter provides a review of literature on the topics of PA and NCDs risk factors and highlights the theoretical framework adopted for this study, from various literature and researchers.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

This chapter presents a review of literature with regards to the knowledge and perception of PA and NCDs risk factors, the health effects of PA and NCDs risk factors. Thereafter follows a description of the benefits of PA and preventing NCDs risk factors, which include the global recommendations of PA and health, adopting a healthy lifestyle, the benefits of preventing tobacco use and benefits of preventing excessive alcohol consumption. Literature pertaining to the barriers of PA and preventing NCDs risk factors, is then followed by a detail description of the theoretical framework adopted for this study. The Health Belief Model will be adopted as the theoretical framework for this study and will serve as a lens to explain and predict health behaviour, through understanding PA and NCDs risks factor in health as well as understanding what motivates youth to engage in health behaviour.

#### 2.2 KNOWLEDGE AND PERCEPTION OF PA AND NCDs RISK FACTORS

An individual's general knowledge and perception of the risk factors associated with highly prevalent diseases, can have a negative influence on their health behaviours (Surka, Steyn, Everett-Murphy, Gaziano, & Levitt, 2015). For example, if an individual is unaware of the risk factors associated with the development of NCDs, they are unable to seek the necessary screening, diagnosis and treatment required. Therefore, it is essential for individuals to understand and be aware of PA and NCDs risk factors, as they can be seen as a preventative measures for the

development of NCDs later in life. Physical inactivity, poor diet, excessive tobacco use and alcohol abuse are NCDs modifiable risk behaviours, that are easy to measure and can be significantly reduced through awareness, early detection and treatment (Ade, Chethana, Mane, & Hiremath, 2014; Shivalli et al., 2012; Solomons et al., 2017).

The perception of NCDs and its modifiable risk behaviours, is crucial in the establishment and implementation of intervention programmes that promote healthy lifestyles and prevent NCDs (Lorga, Aung, Naunboonruang, Junlapeeya, & Payaprom, 2013; Shivalli et al., 2012). In their study among rural school children, Shivalli et al., (2013: 333) found that girls had less overall awareness about the common NCDs and their risk factors, in comparison to boys. It is believed that health knowledge implemented at a younger age will prevent the emergence of unhealthy behaviour and risky lifestyle choices, reducing the onset of NCDs later in life (Lorga et al., 2013). The lack of knowledge is known to be prevalent in low and middle income areas, where there is a shortage of resources, financial constraints and unpleasant settings for PA engagement (Lorga et al., 2013; Sedibe et al., 2014). Furthermore, in a study conducted in Salvador, clearly presented the risk factors associated with physical inactivity among younger people (Alves et al., 2012). Socio-cultural factors is seen to have an influence on the pattern of PA. The findings of the study indicated that the prevalence of physical inactivity was higher among adolescents with a better economic level, compared to those with a low economic level. However, the association between PA and economic level depends on the PA domain assessed (Alves et al., 2012: 868).



### **2.2.1 Knowledge and perception of physical activity**

Physical inactivity has been recognized as an important risk factor for NCDs worldwide (Kinsman et al., 2015). Regular PA is known to reduce risks of a variety of diseases, has psychological and emotional benefits and improves quality of life (Bailey et al., 2004). According to Thomas, Nelson, & Silverman (2015), PA can be described in several ways and can be performed as hobbies or activities involved in daily living (Miles, 2007). However, lack of knowledge of PA participation is known to lead to negative health outcomes. Literature illustrates that understanding the need and roles of an individual is important in promoting PA participation (Kinsman et al., 2015). The individual determines the type of exercise, time spent exercising, the best time to exercise and the safest place to exercise (Pienaar, De Swardt, De Vries, & Roos, 2004). “The adoption of regular exercise is linked to the knowledge of, and belief in, the health benefits of physical activity” (Voster, Love, & Browne, 2001: pg 14). However, the knowledge to be able to understand adequate fitness programmes lacked in a study conducted with the elderly in Bloemfontein. Even though the participants had a good general knowledge of the influence PA has on their quality of life, only 35.5 percent of the participants wanted to improve their exercise programme (Pienaar et al., 2004). Similarly, in a study conducted among campus students, they found that there was no relationship between knowledge of PA and PA participation. Although students had a good knowledge about PA and its benefits, it does not mean that they regularly participated in PA (Ward, 2014).

Regular participation in PA, can also be influenced by factors other than the individual’s needs. Often environmental, social, and cultural circumstances, that the individual is effected by, can play

a major role in determining one's PA participation. Living in an urban area is often associated with lower levels of PA than living in a rural area (NCD Alliance, 2011). A study conducted in rural South Africa showed that the relationship between sedentary time and socio-economic status was significant. Living in an area with a lower socioeconomic status, intended that more time was spent walking for transport and doing household chores, which were predictors of PA at an individual level (Micklesfield et al., 2014). Similar findings were reported in a study conducted in Langa, which is a low-resourced community in the Western Cape. In this study, walking for transportation was common among the participant's, because the distance they travelled was not that long and paying to use public transport for a 10 minute walk seemed like a waste of money to them (Brangan, 2012). Furthermore, in the urban-rural and gender differences in tobacco and alcohol use, diet and PA among young black South Africans study, urban areas are known to have better infrastructure, which contributes to the higher prevalence of physical inactivity in urban areas compared to rural areas (Peer et al., 2013). Inequalities in PA participation has been well documented in literature. Further recommendations have been made to develop PA interventions in resource constraint settings that tackle NCDs from an early age (Bailey et al., 2004; Kinsman et al., 2015).

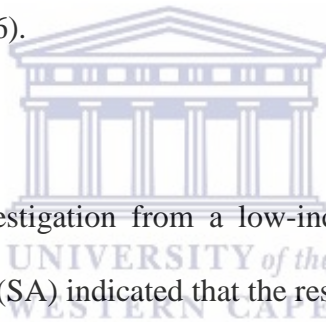
Encouraging PA at a young age is crucial for a child's development, however promoting PA and healthy lifestyle behaviours among children and adolescents has become a complex challenge, despite the positive outcomes (Jenkinson, Naughton, & Benson, 2012). Physical activity (PA) benefits are universal for all children, and it is known to improve academic performance, concentration and attentiveness (Davis, Wojcik, & Dewaele, 2016). Schools play a major role in encouraging PA participation, as they are recognized as important health settings for promoting

knowledge of PA and healthy lifestyle behaviours via physical education and PA programs (Jenkinson et al., 2012). In a study conducted in Pohnpei on youth knowledge and practices towards non-communicable disease risk factors, majority of the youth reported attaining their knowledge of PA from school. This reiterates the importance of schools for the dissemination of health information and healthy lifestyle practices (Mathur, 2006). Conversely, literature has found that schools tend to discourage PA participation among students. A qualitative study exploring healthy eating practices and physical activity among adolescent girls in rural South Africa reported that in more senior grades, the school discouraged them from participating in extra mural activities. They were encouraged to use that time for studying instead, as sports would interrupt their academic performance (Sedibe et al., 2014). This discouragement can also be seen as discriminatory, as only the older girls from higher grades were discouraged from participating in PA. Therefore, they were being treated differently from the other learners at the school, despite the learners wanting to participate in PA. This contradicts the benefits PA participation has on academic performance. Thus, improving one's knowledge about PA is crucial in reducing the misconceptions about PA participation.

### **2.2.2 Knowledge and perception of NCDs risk factors**

The burden of NCDs can be significantly reduced by addressing NCDs risk factors and understanding the knowledge and perception about these risk factors (Lambert & Kolbe-Alexander, 2013). Literature illustrates that there is a lack of knowledge regarding NCDs and their risk factors (Ade et al., 2014a; Chamroonsawasdi et al., 2017; Makamu, 2015). In a study conducted in India, among rural adolescent students, it was evident that the majority of the students

(76.2 percent) had a low level of awareness of NCDs risk factors (Ade et al., 2014a). Only 3percent of the students had a good level of knowledge regarding the risk factors. Similarly, in studies conducted in SA the results showed that South Africans have poor and limited knowledge about NCDs and negative misconceptions about NCDs risk factors (Makamu, 2015; Puoane, Tsolekile, & Sanders, 2013). Conversely, familial risk factors for diabetes were known among Karen high school students however, many of the students had poor knowledge about preventative behaviours, genetic predisposition and family history, which is known to be a strong indicator of NCDs risk factors (Lorga et al., 2013). This trend is similar to the results reported in a study conducted among urban Senegalese women, where poor knowledge of preventative behaviours of NCDs was least understood (Holdsworth et al., 2006).



The findings of a qualitative investigation from a low-income peri-urban community in the Western Cape (WC), South Africa (SA) indicated that the respondents were more knowledgeable about CVD in general, than about the concept of risk (Surka et al., 2015). The study conducted a series of focus group discussions with the respondents, to investigate the knowledge and perception about risk for cardiovascular disease in a community. The data was organized into themes and analysed to find associations between themes to provide explanations for the findings. The health belief model framework was used to evaluate the key findings table 2.1 from the risk of cardiovascular disease (Surka et al., 2015: 6).

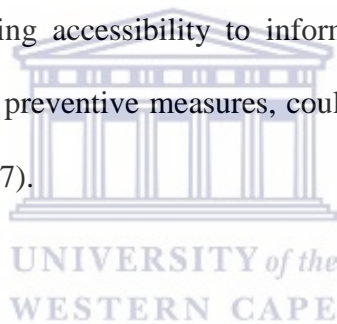
**Table 2. 1: Summary of findings from focus group discussions of risk for cardiovascular disease within the framework of the health belief model (Surka et al., 2015: 7-8).**

<b>Key descriptor</b>	<b>Explanation</b>	<b>Findings</b>
<b>Perceived susceptibility</b>	The perception of the likelihood of experiencing a given disease or condition	<p>A limited understanding exists of the causal relationship between CVD and its risk factors.</p> <p>The absence of external symptoms, as in the case of hypertension, negatively affects perceptions of susceptibility.</p> <p>Perceived susceptibility remained unchanged by calculation of a CVD risk score.</p>
<b>Perceived severity</b>	The perception of the seriousness of the effects a given disease or condition would have on ones state of affairs, including the emotional and financial effects.	<p>The physical severity of consequences of CVD was perceived adequately.</p> <p>Perceptions on the psychosocial, emotional and financial effects were not discussed.</p>
<b>Perceived benefits of taking action</b>	The perception of the benefits to be gained by taking an action.	Awareness of the benefits of taking action was limited. Even respondents who were taking action (e.g. adhering to treatment) did not express perception of any benefits gained.

	Cultural, religious and other beliefs further detracted from the perceived benefits of taking action.
<b>Barriers to taking action</b>	Barriers relate to the Poverty was identified as a barrier to making inhibitory characteristics of lifestyle changes. a treatment or preventative measure that prevent action, including, for example, the inconvenience or expense.
<b>Cue to action</b>	The cue to action acts as a None elicited trigger for the desired action to be taken.

In addition to there being a lack of NCDs knowledge, it is also important to address the misconceptions and fears that individuals may have towards NCDs, because of the stigma associated with it. Literature argues that stigma is a series of interrelated components and processes by which certain identities are devalued (Airhihenbuwa, Ford, & Iwelunmor, 2014). For example, a person with an NCD may feel ashamed to disclose their illness, in fear that they will be treated differently, because of people’s lack of knowledge and understanding of the NCD. In the advocacy agenda for people living with NCDs, it was reported that 66 percent of respondents who have or have had an NCD reported experiencing stigma due to their disease or condition (NCD Alliance, 2017). This labelling and stereotyping is effecting the way unaffected individuals perceive NCDs

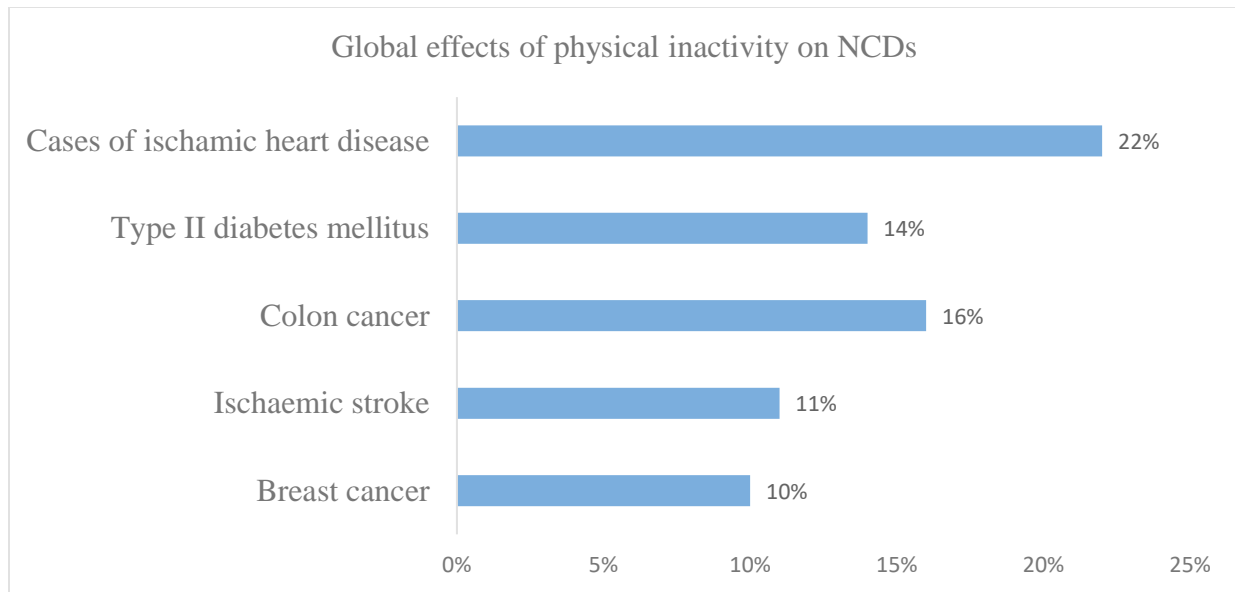
and is seen to be prevalent in communities effected by poverty (Allen, 2017; Checkley et al., 2014; Schneider et al., 2009). Individuals who live in communities where there is high rates of unemployment and lack of financial means, not only bear a disproportionate burden of NCDs, but also have poor risk perception of NCDs because of a lack of NCDs knowledge and misconception (Aryal et al., 2015; Di Cesare et al., 2013; Kaba, Khamisa, & Tshuma, 2017; Sherkhane, Chowti, & Manjrekar, 2014). For example in a recent study conducted by Kaba et al. (2017), the young participants of the study had poor risk perception of NCDs, resulting in poor practice of NCD preventive measures. According to Hosseinpoor et al., (2012), this is concerning, as a lack of knowledge and misconception is one of the leading factors influencing unhealthy and risky behaviours among youth. Increasing accessibility to information relating to NCD risks, and encouraging the adoption of NCD preventive measures, could assist in preventing and reducing the onset of NCDs (Kaba et al. 2017).



## **2.3 HEALTH EFFECTS OF PHYSICAL INACTIVITY AND NCDS RISK FACTORS**

### **2.3.1 Health effects of physical inactivity**

The prevalence of physical inactivity, defined as doing no or very little PA at work, at home, for transport or during discretionary time, was identified as the fourth leading risk factor for NCDs in 2009 and accounted for more than 3 million preventable deaths (Hallal et al., 2012; Micklesfield et al., 2014; Waxman, 2004). Figure 2.1 depicts the global effects physical inactivity has on the development of various NCDs. 10 percent of breast cancer, 11 percent of ischaemic stroke, 16 percent of colon cancer, 14 percent of type II diabetes mellitus, 22 percent of cases of ischaemic heart disease are a result of low levels of PA globally (Joubert et al., 2007).



**Figure 2. 1: Global effects of physical inactivity on NCDs**

(Source: Joubert et al., 2007: pg 726)

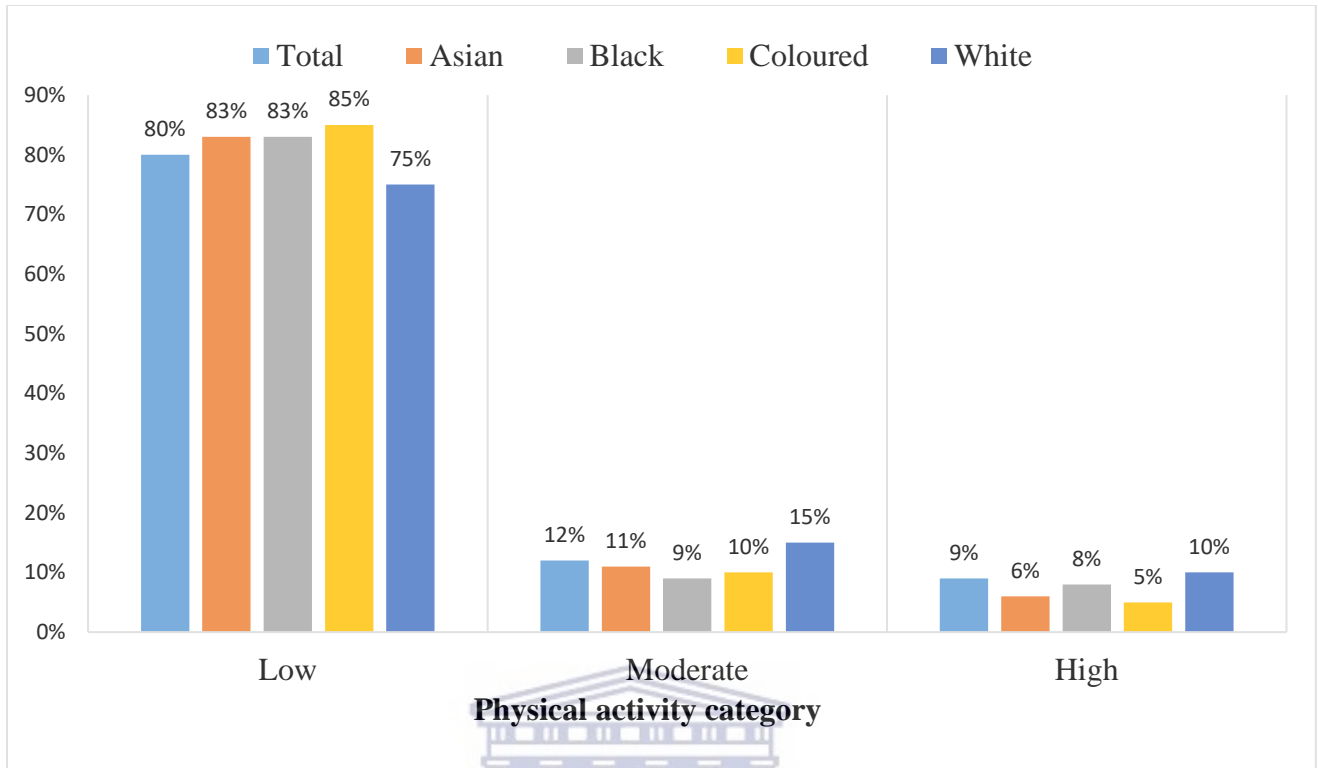


These NCDs can be prevented through the adoption of healthy behaviour and regular PA patterns (Monyeki, 2014). In addition, physical inactivity has been reported to have progressively increased over the past several decades, significantly increasing the risk of various diseases and disorders, including several forms of cancer, diabetes, hypertension, coronary and cerebrovascular diseases, overweight and obesity and all-cause mortality, among others (Knight, 2012). In a recent study conducted among adults, it was reported that approximately 31 percent of the participants were inactive between the ages of 33 and 50 years old, which in turn contributed to participants increase in poor health and obesity (Pereira & Power, 2018). Similar results were reported in a later study, conducted on the global physical activity levels, it was reported that a third of adults and four-fifths of adolescent's are physically inactive (Hallal et al., 2012), increasing their risk of developing NCDs later in life. Additionally, it has been reported that participants with multiple



health risk factors, have low physical performance levels (Teyhen et al., 2016). This could be due to the fact that these health risks are hindering participants from performing at their optimal level, thus also increasing their risk of sustaining a musculoskeletal injury or impairing their physical performance (Teyhen et al., 2016).

It has also been documented in literature that females are more inactive than their male counterparts, thus increasing their risk of being effected by several health risk factors (Eyler et al., 2003; Plonczynski, Wilbur, Larson, & Thiede, 2008; Weuve et al., 2004). Many females have been reported to suffer from obesity, type 2 diabetes, CVDs, osteoporosis and some cancers including bowel breast cancer (Chopra, Misra, Gulati, & Gupta, 2013; Rockhill et al., 2001; WHO, 2000). This is known to be a result of inadequate participation in PA, which is affecting females in developed and developing countries (Yeats, 2010). Furthermore, in developing countries such as SA, where females constitute the majority of the population, it has been reported that only 23 percent participate in sport (SISA, 2000). In the findings of a cross-sectional investigation on the PA and physical fitness profiles of South African women of various ethnic groups reported below in figure 2.1, majority of the women fell into the low PA group (Smit, Wilders, & Strydom, 2011). 85 percent of coloured women reported low PA participation, followed by black and Asian women where 83 percent of the participants indicated low PA participation, while 75 percent of white woman revealed low PA levels. Physical activity (PA) was determined by means of a survey, which included 3273 women participants. 262 women were Asian, 1357 were black, 239 coloured women and 1415 white women.



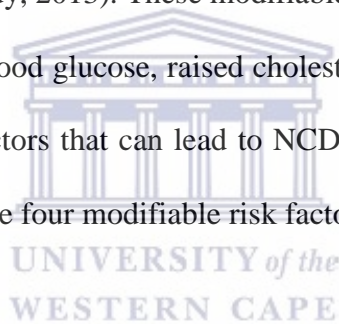
**Figure 2. 2: Physical activity participation profiles of South African women**

(Source: Smit, Wilders, & Strydom, 2011: pg 455)

In general, female of all ages have been reported to have lower PA participation rates than their male counterparts in previous studies (Booth, Bauman, Owen, & Gore, 1997; Bopp et al., 2006; Hui & Morrow, 2001; VicHealth, 2014). In a study conducted among two generations of Black South African professional women, it was indicated that these women displayed lower levels of health-promoting behavioural practices than expected. Significantly lower levels of PA and significantly higher levels of overweight and obesity than the South African norms were also reported among these women (Walter, Du Randt, & Venter, 2011). Similarly, in a study on women and physical activity, 30.9 percent of Australian women were reported to be overweight and 24 percent of women were obese (Yeats, 2010).

### 2.3.2 Health effects of NCDs risk factors

Non-communicable disease (NCDs) such as chronic respiratory disease, cancers, CVDs and diabetes are the four common NCDs, effecting millions of people worldwide (Monyeki, 2014; Puoane et al., 2008; Solomons et al., 2017). Many NCDs related deaths caused each year are modifiable and premature (Nikolic et al., 2011). “Modifiable risk factors refer to characteristics that societies or individuals can change to improve health outcomes” (WHO, 2011). The four common NCDs are associated with four common modifiable risk factors (tobacco use, harmful use of alcohol, unhealthy diet, and physical inactivity) which are responsible for 80 percent of deaths from NCDs (Hunter & Reddy, 2013). These modifiable NCDs risk factors may show up as raised blood pressure, increased blood glucose, raised cholesterol and overweight/obesity, which are classified as metabolic risk factors that can lead to NCDs (WHO, 2014). The four common NCDs and their association with the four modifiable risk factors is illustrated in table 2.2 below:



**Table 2. 2: Four common non-communicable diseases and their association with the four modifiable risk factors (WHO, 2014).**

	Tobacco use	Unhealthy diets	Physical inactivity	Harmful use of alcohol
Cardiovascular disease	✓	✓	✓	✓
Diabetes	✓	✓	✓	✓
Cancer	✓	✓	✓	✓
Chronic respiratory disease	✓			

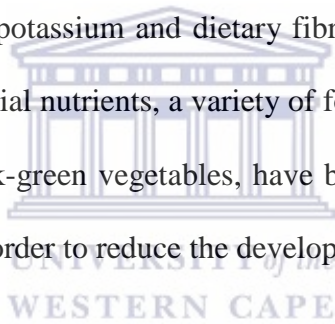


Individuals tend to experience some of the NCD risk factors in ‘clusters’ (i.e. physical inactivity often clustering with poor diet and smoking) (WHO, 2003). Exposure to multiple risk factors combined with insufficient preventive healthcare and education contributes to the rise in NCDs level, especially amongst those least able to afford the consequences (Nikolic et al., 2011). This is supported by literature, where it was found that individuals of low socioeconomic status generally experience a higher burden of NCDs risk factors (Allen, 2017).

### **2.3.2.1 Health effects of unhealthy diets**

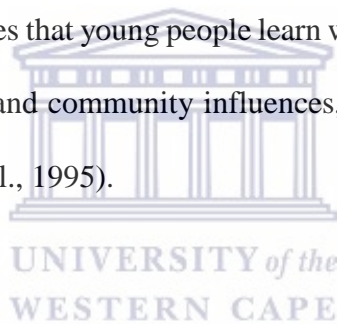
One of the recognized determinants responsible for the growing burden of NCDs is an unhealthy diet (Holdsworth et al., 2006; Tawa, 2010). According to the World Health Organization (WHO),

approximately 16.0 million (1.0 percent) disability adjusted life years (DALYs) and 1.7 million (2.8 percent) of deaths worldwide are attributable to low fruit and vegetable consumption (WHO, 2003). Decreasing the consumption of salt, saturated fats and refined sugars and to increase the consumption of vegetables and fruit and levels of PA will contribute in reducing the development of NCDs (Holdsworth et al., 2006). It has been reported that regular fruit and vegetable consumption, can be a protective factor against developing obesity, type 2 diabetes, cancer of the oral cavity, oesophagus, stomach and colorectal and CVDs (Shisana et al., 2013; WHO, 2003). In order to be protective against these NCDs, WHO recommends an intake of five portions (400g) of fruit and vegetables per day, because fruit and vegetables are major contributors of several nutrients, a few of which include potassium and dietary fibre (Mathur, 2006; WHO, 2003). To ensure an adequate intake of essential nutrients, a variety of foods in the diet are needed (Shisana et al., 2013). Orange, red and dark-green vegetables, have been identified as some of the most important nutrients to consume in order to reduce the development of NCDs (Mathur, 2006).



In contributing to sound nutrition, appropriated dietary practices are crucial (Shisana et al., 2013). Poor dietary practices that have been closely linked to the development of chronic diseases include high-fat foods, lack of fruits and vegetables, together with the use of low-density cholesterol cooking oil (Tawa, 2010). The consumption of processed foods or foods high in saturated fats, low in fibre, and/ or having a high glycaemic load is known as a poor diet (Mathur, 2006). Poor diets that include high consumption of sugar-sweetened beverages, large portion sizes, eating patterns (such as meal-skipping) and high energy dense diets are common contributing factors associated with the increase in obesity, type II diabetes, metabolic syndrome, and cardiovascular diseases later in life (Sedibe et al., 2014; Shisana et al., 2013).

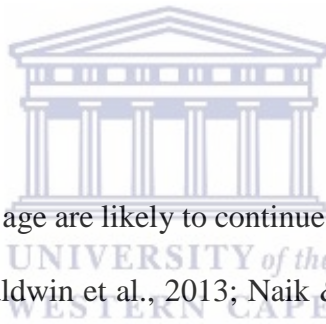
Globally, eating habits of youth and adolescents are of public health interests, because poor childhood nutrition is contributing to the increase in obesity (Sedibe et al., 2014). The four key NCDs such as CVDs, cancer chronic respiratory disease and diabetes are strongly linked with obesity and unhealthy diet and physical inactivity among youth (UN General Assembly, 2012). One of the main risk factors for obesity in both youth and adults is a high energy intake (Shisana et al., 2013). Children and adolescents who adopt unhealthy lifestyles, such as diets containing excessive intakes of fats (especially saturated fats), refined carbohydrates, cholesterol and salt, inadequate intake of fibre and potassium, along with a lack of exercise are at risk of developing raised blood pressure, impaired glucose tolerance (IGT) and dyslipidaemia (Darnton-Hill, Nishida, & James, 2004). Literature illustrates that young people learn what to eat, when and how at a young age through home, school, media and community influences, which may have lasting effects on their dietary choices (Contento et al., 1995).



### **2.3.2.2 Health effects of tobacco use**

Tobacco use is known to be addictive and harmful to one's health. Tobacco use, according to WHO is defined as current use of any tobacco product in either smoked or smokeless form (WHO, 2014). It is one of the preventable modifiable risk factors with the leading cause of death annually. It has been reported that 6 million people die globally, from direct tobacco use and second-hand smoke (Baldwin et al., 2013; Naik & Kaneda, 2015; Wagner & Brath, 2012). Additionally, 7 percent of all female and 12 percent of all male globally, die from tobacco use (WHO, 2014). The growing use of tobacco is reported to be associated with premature death from illnesses such as lung cancer, chronic respiratory disease, heart disease and cardiovascular diseases such as stroke

and heart attack among users (Marquez & Farrington, 2013; Naik & Kaneda, 2015; Puoane et al., 2008). Tobacco can be used in different ways and it is available in various forms and mixtures (Iqbal, Irfan, Ashraf, Awan, & Khan, 2015). Apart from smoking, tobacco is chewed, inhaled and applied in nasal and teeth and gums forms (Devi & Singh, 2015). Manufactured cigarettes have been reported to be the most common method of using tobacco and it is used by over 90 percent of current smokers (WHO, 2010). The age-standardized prevalence of current tobacco smoking in persons 15 and over was reported to be the highest in the European Region (30 percent) and the lowest in the African region (12 percent) in 2012 (WHO, 2014). By 2025 it has been estimated that the proportion of youth and female smokers will rise by 20 percent in several regions of the world (NCD Alliance, 2011).



Smoking habits adopted at a young age are likely to continue through to adulthood, increasing the exposure to and risk for NCDs (Baldwin et al., 2013; Naik & Kaneda, 2015). In the 2002 South African national youth risk behaviour survey, it was reported that 46.7 percent of the learners smoked, with 18.5 percent of the learners reported to have started smoking before the age of 10 years old (Reddy et al., 2003). The age of initiation is also seen to be decreasing amongst other African countries, with the rate of smoking among young girls becoming similar to boys. In 2007, it was reported that, 6.6 percent of males and 4.0 percent of females were currently smoking in Uganda (Marquez & Farrington, 2013). As a result of the high prevalence of tobacco use among young people, the global action plan for the prevention and control of NCDs 2013-2020 aims to reduce the prevalence of current tobacco use by 30 percent, in persons aged 15 and older by 2020 (WHO., 2013).

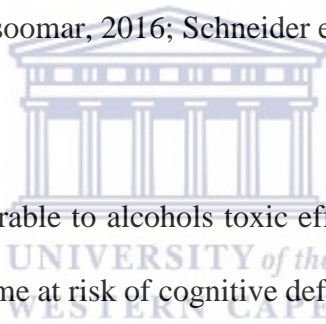
The prevalence in tobacco use among females has risen over the years, despite the increased awareness of hazardous effects of tobacco use (Iqbal et al., 2015). Factors such as illiteracy, poverty, malnutrition, child bearing and social inequality, is seen to influence the increase in tobacco use among females (Devi et al., 2015). An estimated 250 million females in the world have been reported as daily smokers by the World Health Organization. females in developed countries smoke more tobacco (22 percent) than female in developing countries (9 percent) (WHO, 1999). In a study conducted South Africa, increases in tobacco use among youth and females was prevalent between the year 2008 and 2011, despite the implementation of tobacco interventions and hikes in excise duty on cigarettes (Reddy et al., 2013; Priscilla Reddy, Zuma, Shisana, Kim, & Sewpaul, 2015). This increase in tobacco use among female, has been reported to be associated with the lack of knowledge and awareness of the harmful effects tobacco has on health (Devi & Singh, 2015). Thus, health promotion interventions that educate and improve individual's health knowledge are crucial in elevating the cause of disease and premature death (Reddy et al., 2013; Sarraf-Zadegan et al., 2004).

### **2.3.2.3 Health effects of excessive alcohol consumption**

The harmful use of alcohol has a detrimental impact on health. Harmful use of alcohol, also often referred to as “alcohol abuse” is defined as a “pattern of alcohol use that is causing damage to health” (NIH, 2015: pg 13; WHO, 2011). The burden of disease and death as a result of harmful use of alcohol and problems related to alcohol vary widely around the world (WHO, 2011). The number of deaths attributed to alcohol consumption is referred to as alcohol-attributable deaths. It is estimated that 3.3 percent (1.8 million) deaths and 4 percent of all deaths worldwide are



attributed to alcohol. This is greater than deaths caused by HIV/AIDS, violence or tuberculosis (WHO, 2011). Among the global risk factors for death, alcohol ranks eighth, while it is the third leading global risk factor for disease and disability (WHO, 2011). Beer, wine, spirits and several other alcoholic beverages such as fermented beverages made from sorghum, maize, millet, rice or cider, have been identified as the different types of alcohol people consume (WHO, 2014). An estimated 36 percent of total recorded alcohol is consumed in the form of beer and the harmful effects of consuming alcohol in any form can lead to a series of Chronic diseases (Schneider et al., 2007; WHO, 2011). Chronic diseases such as an increased risk of high blood pressure, cancer or ischaemic heart disease are some examples of the harmful effects alcohol consumption can have on an individual (Morojele & Ramsoomar, 2016; Schneider et al., 2007).



Young people are especially vulnerable to alcohol's toxic effects as their adolescent brains have not fully developed yet. They become at risk of cognitive deficits, poor executive functioning and poor long-term memory (Seggie, 2012). Research suggests that this is a result of early initiation of alcohol use among youth (Morojele & Ramsoomar, 2016). In a study conducted among secondary school students in Southern KwaZulu-Natal, SA, and their findings reported that 14.5 percent of the students started drinking alcohol before the age of 13 and 51 percent of the students started drinking alcohol before the age of 17 (Ghuman, Meyer-Weitz, & Knight, 2012). Evidence suggests that delaying a young person's first drink will prevent the development of harmful drinking habits later in life (Seggie, 2012).

Drinking habits adopted at a young age, increase the risk of engaging in substance abuse later in life and the development of other risk behaviours, such as unsafe sex with an increased risk of HIV infection, teenage pregnancy, dropping out of school and delinquent or criminal behaviour (Ghuman et al., 2012). Greater risk-taking behaviour among youth results from heavy episodic drinking, acting physiologically to impair motor function and psychologically lowers inhibitions (Morojele & Ramsoomar, 2016).

## **2.4 BENEFITS OF PA AND NCDs RISK FACTORS PREVENTION**

### **2.4.1 Benefits of PA**

Physical activity (PA) participation on a regular basis is known to have beneficial effects on many diseases and health outcomes (Pratt et al., 2014). These benefits include improved cardiovascular health, lower risk of diabetes, improved motor skills, psychological development and the level of social relationships (Adrienne & David, 2009; Roos, 2014). Physical activity (PA) also helps reduce overweight and obesity by controlling weight, which is commonly known to affect females (Makamu, 2015; Mathur, 2006; WHO, 2010). In a case study of community-level intervention for NCDs in Khayelitsha, Cape Town, obesity and overweight was common among the community health workers. (CHWs). The participants were at substantial risk of developing NCDs related to their obesity, poor nutrition and lack of PA (Puoane et al., 2013). However, these benefits are only attainable, if individuals achieve the recommended PA and health levels. In a qualitative study conducted among adolescent girls in rural SA, it was reported that even though the urban girls participated in house chores, the majority of them did not participate in enough PA, therefore not meeting the recommended PA and health levels (Sedibe et al., 2014).

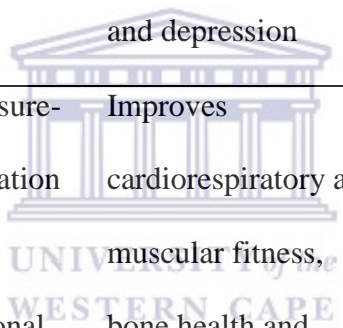
### 2.4.1.1 The global recommendations on PA and health

The World Health Organization (WHO) has developed global recommendations on PA and health for the promotion of PA and NCDs prevention. The recommendations address three age groups: 5-17 years old; 18-64 years old; and 65 years old and above (WHO, 2010). According to WHO, PA of amounts greater than 60 minutes of moderate to vigorous – intensity daily, will provide the necessary health benefits (WHO, 2010). This entails being physically active to a level where it is possible to talk, but not sing (Yeats, 2010). Achieving these recommendations can reduce the risk death as well as developing hypertension, coronary heart disease, stroke, diabetes, breast cancer and feelings of depression and anxiety. The scientifically-informed recommendations mentioned above, with a global scope, on the benefits, type, amount, frequency, intensity, duration and total amount of the PA are presented in table 2.3 below and address three age groups: 5–17 years old; 18–64 years old; and 65 years old and above.

**Table 2. 3: WHO recommended population levels of physical activity for health** (World Health Organization, 2010a).

Age groups	Types of activity	Benefits	Duration	Intensity
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5-17 years old	Play, games, sports, transportation, recreation, physical education or planned exercise, in the context of family, school, and community activities	Improves cardiorespiratory and muscular fitness, bone health, cardiovascular and metabolic health biomarkers and reduced symptoms of anxiety and depression	60 minutes, daily	Moderate-to vigorous-intensity PA
18-64 years old	Recreational or leisure-time PA, transportation (e.g. walking or cycling), occupational (i.e. work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities.	Improves cardiorespiratory and muscular fitness, bone health and reduce the risk of NCDs and depression	150 minutes throughout the week 75 minutes throughout the week or an equivalent combination of moderate- and vigorous-intensity activity	Moderate-intensity aerobic PA Vigorous-intensity aerobic PA



65 years old and above	Recreational or leisure-time PA, transportation (e.g. walking or cycling), occupational (if the person is still engaged in work), household chores, play, games, sports or planned exercise, in the context of daily, family, and community activities.	Improves cardiorespiratory and muscular fitness, bone and functional health, and reduce the risk of NCDs, depression and cognitive decline,	150 minutes throughout the week 75 minutes throughout the week or an equivalent combination of moderate- and vigorous-intensity activity	Moderate-intensity aerobic PA Vigorous-intensity aerobic PA
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These general public health guidelines need to be met, in order to recognize the benefits resulting from PA engagement (Onagbiye, 2015). Implementing these recommendations and being physically active, can prevent individuals from being at risk of NCDs and it can contribute to achieving the necessary health benefits (Hui & Morrow, 2001; US Department of Health and Human Services, 1996).

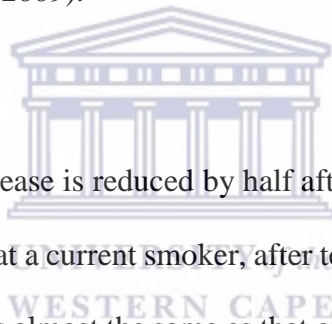
#### 2.4.2 Prevention of NCDs risk factors and its benefits

The benefits of preventing NCDs risk factors such as tobacco use, excessive alcohol consumption, unhealthy diets and physical inactivity has been well documented in literature (Resaland et al.,

2015; Stern, Puoane, & Tsolekile, 2010; WHO, 2000). Even though chronic diseases are among the most common and costly of all health problems, they are also among the most preventable (CDC, 2009). According to Vestemian and Achim (2014), chronic NCDs can and should be prevented from childhood through an appropriate lifestyle, maintaining age-corresponding body weight, avoiding trans saturated fats (e.g. margarine), reducing salt intake, avoiding smoking, stressful situations, and practicing regular PA. In particular, adopting healthy eating practices and participating in regular PA can prevent 80 percent of heart attacks, 90 percent of type 2 diabetes, and 70 percent of colorectal cancer. It can also help you avoid stroke, osteoporosis, constipations and other digestive woes, cataracts, and ageing-related memory loss or dementia (Willett, 2017). Moreover, through the adoption of a healthy lifestyle and regular PA, individuals are able to regulate their weight, enhance their happiness and wellbeing, and reduce personal, societal, and economic consequences of lifestyle-related illness and disease (Giles & Brennan, 2014). In addition, lifestyle changes in diet and PA, resulting in individuals participating in at least 150 minutes of PA per week and maintaining 5-7 percent weight loss through preparing fruit and vegetables without added sugar and fats, contributes significantly towards increasing an individual's life span and reducing or delaying their risk of developing NCDs such as type 2 diabetes, breast and colon cancer (CDC, 2009; Mathur, 2006; WHO, 2010). For example, in a study conducted with participants in a major clinical trial group, participants of the study exercised at moderate intensity, usually by walking an average of 30 minutes a day, 5 days a week, and they lowered their intake of fat and calories. Their efforts resulted in a sustained weight loss of about 10 to 15 pounds, reducing their risk of getting diabetes by 58 percent (CDC, 2009).

### 2.4.2.1 Tobacco use prevention and its benefits

In addition, to adopting healthy eating practices and participating in regular PA, literature illustrates that there are also health “benefits” associated with inhibiting tobacco use and alcohol consumption (Reddy et al., 2013; WHO, 2011) . The benefits of preventing tobacco use have been reported as being perceived temporary relaxation, lower risk of weight gain (especially in comparison with past smokers or never smokers) (Haapanen-Niemi, 2000). According to the Centre for Disease Control and Prevention (CDC), the benefits of quitting smoking are experienced immediately. Heart attack risk begin to drop and lung function begins to improve within 2 weeks to 3 months (CDC, 2009).



In addition excess risk for heart disease is reduced by half after one year of quitting, and the lung cancer death rate is about half of that a current smoker, after ten years of quitting. Furthermore, an ex-smoker’s risk for heart disease is almost the same as that of a lifelong non-smoker, after fifteen years of quitting smoking (CDC, 2009). Similarly, Dietz et al. (2016), reported that nearly one-third of the 10-year increase in average adult life expectancy since 1965 is due directly to lower smoking rates. These benefits are only attainable if individuals quit smoking, however this may not always be that easy. For example, in a study conducted among women in Karachi, Pakistan, it was reported that 85.47 percent of the participants had attempted to quit smoking for 12 months, however they all failed to do so (Iqbal et al., 2015). Reasons for this was due to the fact that participants lacked knowledge about the hazards of smoking and they were uninformed about the health effects associated with smoking, because they did not read any information on the packaging (Iqbal et al., 2015).

Conversely, even though participants in a study conducted among adults in SA were aware of the health effects of smoking, only 49.9percent reported that the health warning labels on tobacco packages made them think about quitting (Reddy, Zuma, Shisana, Kim, & Sewpaul, 2015). This suggest that it is important to create more awareness, about the health effects of smoking, through illustrating effective and informative warning labels on tobacco packages, to encourage smoking cessation (Reddy et al., 2015).

#### **2.4.2.2 Excessive alcohol consumption prevention and its benefits**

Where alcohol consumption is concerned, the benefits thereof are influenced by ethnicity, gender, type of alcohol beverage and pattern of alcohol intake (Movva & Figueredo, 2013). The consumption of alcohol is harmful to an individual's health, if it is consumed excessively, and can therefore lead to the development of numerous NCDs (WHO, 2011). However, the consumption of light to moderate alcohol has been reported to possibly protect from ischemic heart disease and a number of other coronary heart disease (CHD) (Movva & Figueredo, 2013; Solomon et al., 2000; Wakabayashi et al., 2015).

In addition, significant reduction in risk of myocardial infarction (MI) among generally nondiabetic populations has been associated with low to moderate alcohol intake (Solomon et al., 2000). For example, in a study conducted among women with type 2 diabetes mellitus, the study findings suggest that light to moderate alcohol intake, is associated with approximately halving the risk for CHD (Solomon et al., 2000). This is due to the fact that light to moderate alcohol



consumption positively effects High-Density Lipoprotein Cholesterol (HDL-C) levels and has the potential to lower serum non-HDL cholesterol (which is a strong predictor of cardiovascular disease) in healthy adults (Movva & Figueredo, 2013). Furthermore, light to moderate alcohol consumption has been reported as being a social lubricant for relaxation, mood alteration and sensory pleasure (Haapanen-Niemi, 2000).

### **2.4.2.3 Economic benefits of NCDs risk factors prevention**

Apart from the health benefits mentioned above, preventing NCDs risk factors such as tobacco use, excessive alcohol consumption, unhealthy eating and physical inactivity, can contribute positively to the economic growth and development of a society. For example, according to Hofman (2014), the health of a population, influences the economic development of a nation. According to the WHO, reducing the economic impact of NCDs in LMICs, not only restores and allows individuals to lead flourishing lives, but it also allows individuals to actively participate in the workplace (WHO, 2011). For example, an estimated US\$ 377 billion over the period of 2011-2025 (an average of US\$25 billion per year), would reduce economic losses in LMICs, as a result of a 10 percent reduction in mortality from NCDs (WHO, 2011). Similarly, in SA, an estimated ZAR300 million annually, in hospitalisation costs would be reduced through the prevention and control of NCDs (Hofman, 2014).

Furthermore, preventing and delaying the onset of NCDs is significantly more effective and considerably less costly than treatment of those who become sick, especially in LMIC's (Hofman, 2014). Regardless of whether the treatment is provided at a public or private facility, the average

out-of-pocket expense per stay for inpatient treatment for NCDs is almost two times more than for non-NCDs patients (Thakur, Prinja, Garg, Mendis, & Menabde, 2011). Understanding the economic benefits and financial implications associated with averting mortality or morbidity due to NCDs, across multiple sectors and throughout individuals' entire life spans, inhibits unhealthy behaviours from being entrenched (Bertram et al., 2018; CDC, 2009).

## **2.5 BARRIERS TO PA IN THE PREVENTION OF NCDs RISK FACTORS**

### **2.5.1 Barriers to PA participation**

The growing health risks associated with physical inactivity among female youth at a young age, are likely to translate into a range of chronic diseases later in life (Ade et al., 2014; Micklesfield et al., 2014; Minaz, 2017; Walter et al., 2011). The transition away from PA participation is the highest among female youth during the early phases of development, as they are influenced with multiple barriers (Biddle et al., 2005). Social and cultural, socioeconomic and the environment are some of the major barriers that impact on female youth health, attitudes and behaviour, as well as their ability to be physically active (Minaz, 2017; Smit, et al., 2011; VicHealth, 2014; Walter et al., 2011). These barriers are seen to effect female youth during various stages in life, as they assume roles of motherhood, academic challenges and old age (Moreno & Johnston, 2014; Smit, et al., 2011; VicHealth, 2014). In an attempt to be physically active, some females will experience more than one of these barriers.

### 2.5.1.1 Social and cultural barriers

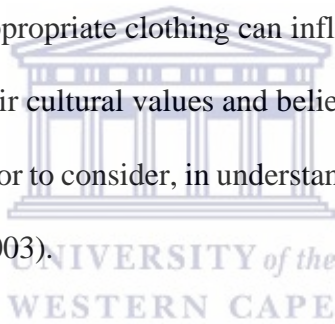
Female youth do not reach adequate levels of PA levels due to their roles in paid and unpaid work, which has been observed to be associated with the social construct of gender (Yeats, 2010). Unpaid work such as family obligations and social support within and outside the home plays an important role in the influence of PA participation among female youth. Family obligations such as caring for children and taking care of household duties can negatively affect female youth PA participation (Women's Sport And Fitness Foundation, 2008) . The family's needs are known to be time consuming, therefore preventing some females from being able to participate in PA during their leisure-time (Moreno & Johnston, 2014). In a study conducted on women and physical activity in Australia, 14 percent of the women acknowledged that there was insufficient time to participate in PA due to family commitments (Yeats, 2010). This was also observed in a study conducted on the PA and physical fitness profiles of South African women, where 12 percent of the women reported that time constraints hindered them from participating in PA during their leisure-time (Smit, et al., 2011). Along with family obligations, school obligations such as doing homework also becomes a barrier for female youth to participate in PA (Yungblut, Schinke, & McGannon, 2012). In a study conducted on the factors that influence PA participation among high- and low- SES youth, academic and extracurricular activities was a barrier to PA among high SES participants (Humbert et al., 2006).

Females with no family obligations or with more available leisure-time often reported that having a social network or support within the home and in the community, positively encouraged them to participate in PA (Fox, Mann, Ramos, Kleinman, & Horowitz, 2012; Hoare, Stavreski, Jennings,

& Kingwell, 2017). Several women from a study conducted on physical activity and minority women, stated that having someone to exercise with and being accountable to show up to exercise, may motivate them to become more physically active or to exercise (Eyler et al., 1998). Similar results were reported in a study conducted among members of an African American church, as they reported that having someone there to help push and motivate them encouraged them to exercise, as doing it on their own makes it difficult for them to participate in PA (Bopp et al., 2006). Even with the support and time constraints, in some instances, female's cultural beliefs stood in the way of them participating in PA. The perception of health as well as the choice to adopt healthy behaviours has been documented to be profoundly influenced by individuals' daily experiences and culture (Banks-Wallace & Conn, 2002). Increased body fatness is perceived as a sign of good health and wealth in the African culture. This encourages poor eating habits and low levels of PA participation, thereby increasing the risk of developing chronic diseases of lifestyle (Mokabane, Mashao, van Staden, Potgieter, & Potgieter, 2014). In a study conducted on the perceptions about body image and sizes among black Africans, positive perceptions of fatness was displayed by the female participants as they associated it with dignity and looking good. Thinness on the other hand, was associated with poor health and misery. The researcher's indicated that these perceptions towards body image could be attributed to prevailing cultural beliefs in the society, the participants lived in (Puoane, Tsolekile, & Steyn, 2010).

Conversely, in the western culture, health ideals and physical ideals perceived by females positively influenced them to participate in PA (Seguin, Connor, Nelson, LaCroix, & Eldridge, 2014). In a study conducted on the health benefits of PA for girls and women, evidence reported that for women from the western culture, slimness is ideal and toned muscles are admired if they

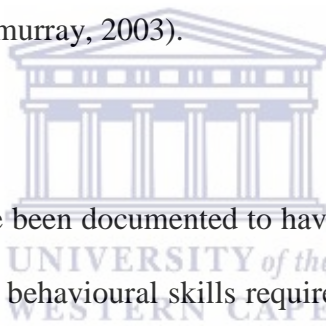
do not add significant bulk (Reid, Dyck, McKay, & Frisby, 2005). Similarly, in a study conducted to promote PA among Arab women, they reported that cultural beliefs have minimal influence on women's decision to engage in PA. The Middle Eastern societies, have adopted western values, beliefs and practices, to promote physical health and healthier lifestyles, by encouraging a healthy diet and regular exercise among the Arab women (Donnelly & Al-Thani, 2015). Black South African females are additionally faced with cultural barriers that pertain to the non-acceptability of wearing tight-fitting clothing when participating in PA as a result of cultural beliefs and affordability (Kinsman et al., 2015). This issue has also been experienced among Muslim women, as their dress code prohibited them from wearing western-style sports clothing (Oglesby, 2007). Feelings of comfortability in the appropriate clothing can influence female youth to participate in PA without being ostracized by their cultural values and beliefs (Reid et al., 2005). Thus, cultural implications is an important indicator to consider, in understanding female's motives to participate in PA (Henderson & Ainsworth, 2003).



### **2.5.1.2 Socioeconomic barriers**

An individual's socioeconomic status (SES) is typically determined by their income, occupation and education. Age, minority status and gender are often seen as a consequence of one's socioeconomic status and is seen to be associated with the performance of health behaviours (Conner & Norman, 2005; Sternfeld, Ainsworth, & Quesenberry Jr, 1999). The relationship between SES and PA has been well documented in literature. Participation in PA has been reported to have a strong association with socioeconomic position (SEP). High SEP, middle SEP and low SEP are the three different socioeconomic groups that were identified, in a study conducted on the

participation in recreational PA differences among the socioeconomic groups (Burton, Turrell, & Oldenburg, 2003). The findings from this study, reported that socioeconomically disadvantaged participants were less likely to engage in recreational PA compared to participants of a high SEP (Burton et al., 2003). Those findings are consistent with a number of other studies that indicated that people with lower socioeconomic status are less likely to be physically active than those with a higher SES (Yeats, 2010). For example, in a study conducted among African American and white women, women living in rural areas have been reported to have lower rates of PA participation, than women living in urban areas as they often experience higher rates of poverty, lower levels of education and greater traveling distance to access health care and other services (Wilcox, Bopp, Oberrecht, Kammermann, & McElmurray, 2003).



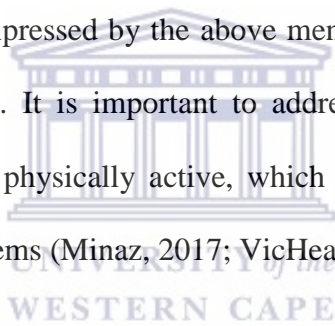
Female youth with lower SES have been documented to have reduced educational opportunities, resulting in lack of knowledge and behavioural skills required to be health conscious (Jeffery & French, 1996). Female youth in lower SES communities, are at a risk of developing chronic lifestyle diseases, than those in higher SES communities, as a result of limited resources made accessible to support PA participation (McVeigh, Norris, & De Wet, 2004). In a study conducted on the socioeconomic status and weight control practices among 20-45 year old women, SES was positively associated with healthy weight control practices. Economic constraints was observed as a contributor to high rates of obesity among women with lower SES (Jeffery & French, 1996). Researchers have described this to be associated with lack of knowledge about health related recommendations and guidelines. Therefore, it might be that people living in lower SES communities, do not value healthy lifestyle activities and PA participation (Burton et al., 2003).

### 2.5.1.3 Environmental barriers

Personal safety on the streets, on public transportation, and in and around sport and community centres is known to be a problem for females (Women's Sport And Fitness Foundation, 2008). Female youth who reside in low-resourced communities that are not conducive and are unsafe are less likely to participate in PA than those who live in safe neighbourhoods (Yeats, 2010). Concerns such as crime, victimization, traffic, stray dogs and lack of group participation have been documented in previous studies (Wilson, Kirtland, Ainsworth, & Addy, 2004). Female youth have been reported to be vulnerable to sexual violence and as a result parents often make their girls stay at home after school or on weekends, where they are safe and protected from being hurt (Kinsman et al., 2015). Similarly, in a study conducted in an attempt to understand the physical participation among members of the church, most of the women reported that crime and safety issues in the community prevented them from participating in PA. The limited number of outdoor spaces that were conducive in the community, prevented the women from engaging in exercise in a safe space (Bopp et al., 2006). Furthermore, in a study conducted with minority women, safety concerns in all settings (rural, urban and suburban) was mentioned in all 10 of the focus group discussions. Most of the women had experienced crime in their communities, making them fearful of their surroundings, which was seen as a detriment to being more physically active outdoors (Eyler et al., 1998).

Climate and access to the recreational facilities were other environmental factors mentioned in previous studies, prohibiting female youth from leading active healthy lifestyles within their communities (Donnelly & Al-Thani, 2015). Areas that have extreme weather conditions and

limited access to indoor recreational facilities, make it difficult for people to participate in PA. In a study conducted among Saudi women, the hot climate contributed to low levels of PA in their daily lives (Al-Eisa & Al-Sobayel, 2012). Often recreational facilities are not always accessible to women, either because male sport are prioritized over female sport, or the recreational facilities are not in close proximity to where the female youth reside (Humbert et al., 2006; Women's Sport And Fitness Foundation, 2008). In a study conducted on the factors that influence PA participation among high and low SES youth, all the participants from low SES communities, reported that PA programs offered at recreational facilities must be close to where they live, or they would not be able to attend (Humbert et al., 2006). Influences of aesthetic and community design relating to the recreational facilities, were also expressed by the above mentioned study participants as factors limiting them participating in PA. It is important to address all these barriers, to positively influence females on being more physically active, which would ultimately help in reducing burden of preventable health problems (Minaz, 2017; VicHealth, 2014).



### **2.5.2 NCDs risk factors prevention and barriers**

NCDs risk factors such as unhealthy eating, physical inactivity, tobacco use and excessive alcohol consumption are known to be modifiable in nature and can be prevented through leading a healthy lifestyle (BHF, 2011; Sedibe et al., 2014) . However, this is not always the case. Literature indicates that there are many barriers hindering individuals from leading a healthy lifestyle (Arena et al., 2015; Harrison, Pham Kim, & Kagawa-Singer, 2007; Pinho et al., 2018) . In particular, where tobacco use and excessive alcohol consumption is concerned, these barriers relate more

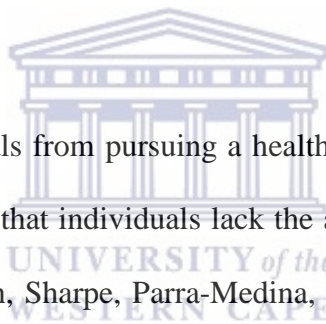


towards the challenges individuals face when overcoming tobacco cessation as well as individuals barriers to seeking successful treatment for alcohol addiction (Twyman, Bonevski, Paul, & Bryant, 2014). The prevalent barriers identified in this particular section include personal, social and socioeconomic barriers. Each of these barriers are discussed below, in order for the reader to establish a better understanding of the challenges individuals are faced with on a regular basis, hindering them from leading healthy lifestyles.

### **2.5.2.1 Personal barriers**

Personal barriers relates to the factors that are personal to the individual and act as a hindrance for individual's to pursue a healthy lifestyle (Ali, Baynouna, & Bernsen, 2010; Gowani et al., 2016; Tiedje et al., 2014). In this section factors such as convenience, palatability, lack of knowledge, lack of motivation, fear of gaining weight, stress influence and attitudinal barriers, effect individuals from leading a healthy lifestyle. Previous literature indicates that the consumption of unhealthy food is related to individual's lack of time and competing priorities, to prepare healthy meals due to work or family responsibilities (Harrison et al., 2007; Seguin et al., 2014; Smit et al., 2016; WHO., 2017). This has been reported to be a reoccurring issue in LMICs, where the increasing cost of living, economic challenges, and increasing availability, access and popularity of fast foods has resulted in more individuals consuming fast foods (Sedibe et al., 2014). It was reported that some individuals frequently eat out or relied on quick microwave meals, instead of eating healthy home cooked meals due to busy family and work schedules (Seguin et al., 2014). Similar findings were reported in a study conducted among adolescents in seven Arab countries, where the adolescent's reported that not having time to prepare or eat healthy foods because of

school commitments, was the most important barrier hindering them from leading a healthy lifestyle (Musaiger et al., 2013). Furthermore, taste preference of an individual influenced the choices they made when it came to eating healthy. Studies report that many individuals perceive healthy food as having an unsatisfying taste, and thus prefer the taste of unhealthy foods, which are major drivers of energy-dense and nutrient-poor choices (Reyes, Klotz, & Herring, 2013). The palatability of foods such as Kota (a quarter loaf of white bread filled with fried potato chips and ample processed meat or cheese), vetkoek (fried dumplings made from wheat flour), and snacks were reported as the preferred option, in a study conducted among adolescent girls in rural SA (Sedibe et al., 2014).



Another factor hindering individuals from pursuing a healthy lifestyle is the lack of knowledge thereof. Previous literature reports that individuals lack the accurate dietary knowledge to make appropriate dietary choices (Baruth, Sharpe, Parra-Medina, & Wilcox, 2014; Holdsworth et al., 2006; Monyeki, 2014; Sedibe et al., 2014; Shisana et al., 2013). According to Shisana et al. (2013), nutrition knowledge and beliefs are influenced by dietary behaviour, therefore it is important to understand and be aware of the adequate nutrient intake and PA the body requires. This is however not always the case. In a study conducted among adolescents in seven Arab countries, a deficiency of information related to healthy nutrition was reported as being one of the predominant obstacles to eating a healthy diet (Musaiger et al., 2013). Similar findings were reported in a study conducted among women from disadvantaged neighbourhoods, where the women cited lack of knowledge as a barrier to healthy eating. They talked about not knowing what to eat or how to eat or cook healthy (Baruth et al., 2014). According to South African National Health and Nutrition Examination Survey (SANHANES-1), health knowledge is one of the most crucial factors in establishing

dietary knowledge, behaviour as well as practices that can serve as appoint of reference in the future, for the prevention and treatment of these nutrition-related NCDs (Shisana et al., 2013).

Barriers to tobacco cessation included lack of motivation, fear of gaining weight and stress influence (Foster, Schmidt, & Zvolensky, 2015; Rosenthal et al., 2013). These barriers make it difficult for individuals to quit smoking and at times they don't, because they do not know how to handle it. For example, findings from a study conducted among young adults in the US, reported that more than half (59 percent) of current young adult smokers endorsed "loss of a way to handle stress" as a barrier to quitting smoking (Villanti, Manderski, Gundersen, Steinberg, & Delnevo, 2016). Furthermore, seeking treatment for alcohol addiction can sometime pose as a challenge, because many individuals are in denial or find it difficult to disclose their addiction problem, as a result of shame or embarrassment, from the social stigma associated with drinking problems (Abbey, Smith, & Scott, 1993; Hanpatchaiyakul, 2016; Schuler, Puttaiah, Mojtabai, & Crum, 2015). Therefore, attitudinal barriers such as the belief that an individual should be "strong enough" to handle alcohol problems on one's own, have regularly been found to be the most predominant barriers. For example, in a study conducted on the Perceived Barriers to Treatment for Alcohol Problems, the most commonly endorsed barrier was reported as being "I should be strong enough to handle on my own" (36 percent), followed by "the problem will get better by itself" (27 percent), and "I stopped drinking on my own" (16 percent) (Schuler et al., 2015). Thus, this suggests that barriers such as convenience, palatability, lack of motivation, fear of gaining weight, stress influence and attitudinal barriers should be a focus for programs aimed at encouraging a healthy lifestyle and preventing the use of these NCDs risk factors.

### 2.5.2.2 Social barriers

The influence of a supportive social environment (i.e. family, friends, and co-workers) plays an important role in an individual's life. Massive marketing and media pressures, which are reinforced through peer pressure, as well as through parents' own health behaviours such as physical inactivity, their diet, tobacco use and excessive alcohol consumption heavily influences children and adolescents to adopt unhealthy behaviours (Darnton-Hill et al., 2004). Often they can be positive or negative influences, but their support is necessary and essential in assisting individuals to overcome unhealthy eating, tobacco use and excessive alcohol consumption. However, previous literature illustrates that social support is a significant barrier, which hinders individuals from leading a healthy lifestyle (Devi, Laishram, Jayarani, Devi, & Ingudum, 2013; Harker Burnhams, Parry, Laubscher, & London, 2014; Kiernan et al., 2012; Twyman et al., 2014). An unsupportive social environment was often mentioned as a barrier to healthy eating, particularly in a study conducted among women from disadvantaged neighbourhoods. These women talked about being pressured to eat more, not being supported if they were trying to eat healthfully, and being told they did not need to lose weight, when in fact, they knew they did (Baruth et al., 2014). Similar findings were reported in a study conducted among adolescents in seven Arab countries (Musaiger et al., 2013). Participants expressed that the lack of support from their parents, peers, teachers and mass media, hindered them from eating a healthy diet. According to Sedibe et al. (2014), if communities adopt unhealthy eating behaviours, healthy traditional and local eating practices could erode.

In addition, social support is essential for everyone when wanting to quit, but for individuals in neighbourhood contexts of high smoking rates, social support for quitting may be particularly

lacking and social norms likely support smoking (Rosenthal et al., 2013). Similarly, when seeking treatment for alcohol problems, it is important to have the necessary support systems in place in order for treatment to take place (Kulnaree Hanpatchaiyakul, Eriksson, Kijssomporn, & Östlund, 2016). Often individuals experience lack of support not only from their family members and peers, but also from health and other service providers. For example, in a study conducted among vulnerable groups, participants experienced a lack of support to quit smoking from health professionals and other service providers (Twyman et al., 2014). Similarly, it was reported that no support was provided to help young adults change their behaviours, after a study was conducted in (UK) United Kingdom (Giles & Brennan, 2014). This suggests that individuals are not receiving adequate guidance and care to facilitate and support healthy lifestyle behaviours.



### **2.5.2.3 Socioeconomic barriers**

Making the decision to select a healthy option is not always easy. Furthermore, it can be difficult to avoid unhealthy food, tobacco products and excessive alcohol consumption, in low socioeconomic environments and communities that are affected by poverty (Di Cesare et al., 2013; Hosseinpoor et al., 2012; Lindström, Hanson, & Östergren, 2001). Barriers such as poverty, food insecurity, and lack of resources, lower income, and unemployment were identified as the socioeconomic factors hindering individuals to positively influence their lifestyle choices. Often individuals from low SES, find it difficult to adopt a healthy lifestyle, because of being exposed to poor living habits, resulting in limited choices and restricted access of healthy options available to them (Haapanen-Niemi, 2000). According to Sedibe et al. (2014), in order to promote healthier dietary behaviours, it is important to consider the impact poverty and food insecurity plays on an

individual. For example, in the South African National Health and Nutrition Examination Survey (SANHANES-1), it was reported that many factors including poor household food security resulting from poverty can be attributed to the low intake of fruit and vegetables (Shisana et al., 2013). One study suggested that the women in poverty faced a number of challenges that might inhibit their ability to eat healthfully including role strain, unemployment or multiple jobs, single parenthood, financial hardship, and inadequate food supplies (Baruth et al., 2014). Similarly, in a qualitative study exploring healthy eating practices and physical activity among adolescent girls in rural South Africa, it was reported that it was common for more fast foods to be consumed in rural settings because of the increasing cost of living, economic challenges, and increasing availability, access and popularity of fast foods (Sedibe et al., 2014). Access to healthy, affordable foods poses as a problem in rural areas, where in small grocery, convenience, or village stores there may be a lack of high-quality, healthy options or high costs (Seguin et al., 2014). This was found to be a relatively high barrier among adolescents in seven Arab countries, where about 50 percent to 69 percent of males and 51 percent to 64 percent of females participants reported that they do not have access to healthy food in their respective communities (Musaiger et al., 2013). Therefore, lower income and a poorer quality diet, which has little diversity has been associated with the higher prevalence of inadequate micronutrient intake in rural compared to urban populations (Peer et al., 2013).

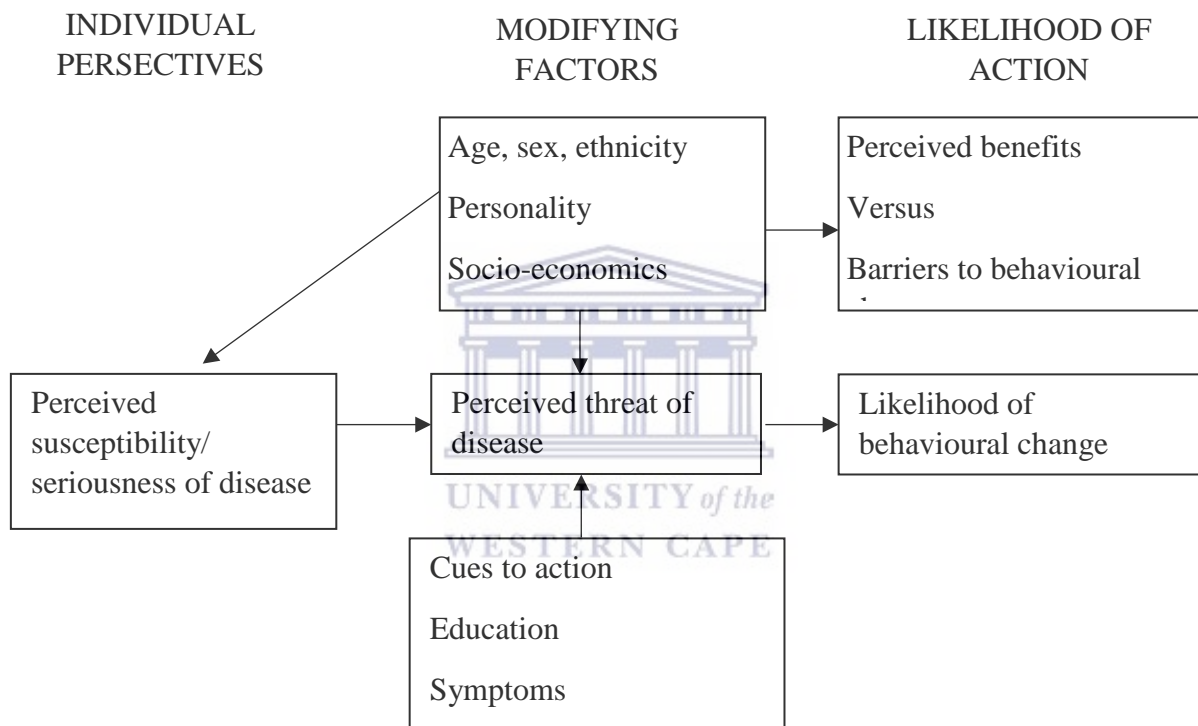
Furthermore, preventing tobacco use and seeking treatment for alcohol addiction poses financial challenges to an individual. Literature has articulated that although many people think about and attempt to quit tobacco, many are unaware of or unable to access cessation services (Milton et al., 2004; Shaik, Doshi, Bandari, Madupu, & Kulkarni, 2016; Warren, 2002). This was evident in a

study aimed at understanding barriers and motivations to quitting smoking among urban adult daily tobacco smokers. Participants in this study reported that their attempt to quit smoking is hindered by the fact that they are unable to afford the medication or nicotine replacement products required to facilitate the process (Rosenthal et al., 2013). Similar concerns have been found with alcohol addiction. According to WHO (2014), socio-economic inequality can lead to increased susceptibility and more severe alcohol problems, exacerbated by a lack of access and finances to healthcare and other services. As a result of this, low rates of seeking alcohol treatment are seen to be common. In particular, “couldn’t afford to pay the bill”, was the most common financial barrier among participants in a study conducted on the barriers to treatment for alcohol problems. 14 percent of the participants reported this as being an issue hindering them from seeking treatment for alcohol problems (Schuler et al., 2015). According to Darnton-Hill et al. (2004), the underlying socioeconomic factors that foster these NCDs risk factors need to be taken into account, when addressing the major risk factors of unhealthy diet, PA, alcohol use and smoking. Understanding barriers to a healthy lifestyle among individuals is important for any intervention to promote the nutritional and health status of the community (Musaiger et al., 2013).

## **2.6 HEALTH BELIEF MODEL (HBM)**

The Health Belief Model (HBM) is the theoretical framework that will be used in the study, in an attempt to explain and predict health behaviour. The HBM is one of the most commonly applied theories of health behaviour and it is frequently used in health education and promotion (Glanz et al., 2008). The HBM was developed in the 1950s in the U.S. Public Health Services, to explain people’s behaviour related to health, physical and mental well-being (Becker et al., 1978). The premise of the HBM is that an individual will take action to prevent, control or treat a health related

problem if that person: (1) feels that a negative health condition can be avoided, (2) has a positive expectation, that by taking a recommended action, he/she will avoid a negative health condition, and (3) believes that he/she can successfully take a recommended health action, as depicted in figure 2.2 below (Rosenstock, Strecher, & Becker, 1988).



**Figure 2. 3: Conceptual Health Belief Model**

**(Source: Glanz et al., 2008: pg49)**

The HBM has been applied to a range of behaviours can be identified in three broad areas: (a) preventative health behaviours which includes health-promoting (e.g. diet, exercise), health-risk behaviours (e.g. smoking) as well as vaccination and contraceptive practices; (b) sick role behaviours, particularly adherence to recommended medical regimens, and (c) clinic use, which



involves going to the doctor for a certain medical related reason (Conner & Norman, 2005). The HBM attempts to explain the impact of an individual's perception and attitudes towards a disease and how those perceptions and attitudes impact their health related decision-making. This was proposed in the form of six primary concepts: (1) perceived susceptibility, (2) perceived severity, (3) perceived benefits, (4) perceived barriers, (5) cues to action and (6) self-efficacy Table 2.4 (Glanz et al., 2008). These concepts were added to help the HBM fit better the challenges of changing habitual unhealthy behaviours, such as being sedentary, smoking, or overeating (Adejoh, 2014). The HBM is adopted to this study to assist the researcher in understanding PA and NCDs risks factor in health as well as understanding what motivates youth to engage in a health behaviour.

**Table 2. 4: Key concepts and definitions of the health belief model (Glanz et al., 2008)**

<b>Concept</b>	<b>Definition</b>	<b>Application</b>
<b>Perceived Susceptibility</b>	One's opinion of chances of getting a condition	Define population(s) at risk, risk levels; personalize risk based on a person's features or behaviour; heighten perceived susceptibility if too low.
<b>Perceived Severity</b>	One's opinion of how serious a condition and its consequences are	Specify consequences of the risk and the condition
<b>Perceived Benefits</b>	One's belief in the efficacy of the advised action to reduce risk or seriousness of impact	Define action to take; how, where, when; clarify the positive effects to be expected.

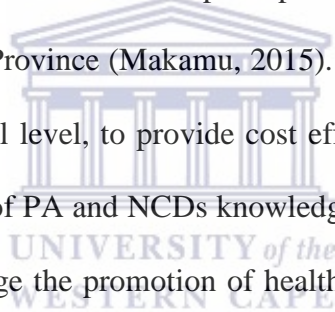
<b>Perceived Barriers</b>	One's opinion of the tangible and psychological costs of the advised action	Identify and reduce barriers through reassurance, incentives, assistance.
<b>Cues to Action</b>	Strategies to activate "readiness"	Provide how-to information, promote awareness, reminders.
<b>Self-efficacy</b>	Confidence in one's ability to take action	Provide training, guidance in performing action.

## 2.7 CHAPTER SUMMARY

In summary, there is a lack of knowledge and misconception regarding PA and NCDs risk factors. This contributes to the development of NCDs such as cardiovascular disease, type 2 diabetes, cancer and chronic respiratory diseases. These diseases are associated with four main modifiable risk factors which include tobacco use, physical inactivity, unhealthy diets and harmful and alcohol use. People of all ages including children are affected by NCDs and risk factors for NCDs (Shisana et al., 2013). However, early initiation of these modifiable risk factors are increasing globally. The development of NCDs later in life can be prevented and delayed through modifying lifestyle risk factors at an earlier age (Mathur, 2011). Knowledge can positively influence beliefs and facilitate healthier practices, therefore making it crucial to understand each modifiable risk factors implication on NCDs, to combat the onset of NCDs (O'Brien & Davies, 2006). Physical activity (PA) participation on a regular basis is can provide beneficial effects on many of these diseases and contribute to positive health outcomes (Pratt et al., 2014). Preventing NCDs risk factors such as unhealthy eating, tobacco use and alcohol consumption can improve an individual's health, reduce the development of NCDs and can contribute positively to the economic growth and

development of a society (CDC, 2009; Hofman, 2014; Movva & Figueredo, 2013). However, social and cultural, personal, environmental and socioeconomic barriers are hindering individuals from achieving these benefits.

The health effects of PA and NCDs risk factors for females need to be investigated more at all levels of development. Individuals lack of knowledge and misconception of chronic disease, their causes and relationship to physical inactivity becomes an obstacle in reducing the growing burden of NCDs (Holdsworth et al., 2006). A theoretical framework like the HBM is required to understanding how to develop interventions to explain perception and knowledge about health amongst female youth in the WC Province (Makamu, 2015). The information will inform policy both at the provincial, and national level, to provide cost effective and sustainable intervention programmes that address the lack of PA and NCDs knowledge and perception. The development of these programmes will encourage the promotion of healthy lifestyle, increase PA levels, and reduce the menace of NCDs risk factors among the female youths in WC Province, and SA in general.



## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 INTRODUCTION**

This chapter presents research methodology and describes the exploratory qualitative approach utilized. A qualitative approach was considered to be the most appropriate for this kind of study as it allows for the exploration of the participant's knowledge and perception on the stated topic. In addition, it allows the researcher to gather in-depth information on their experiences and opinions of PA and NCDs risk factors. Furthermore, this chapter outlines the research design and describes the research setting. The population and sampling of the participants is provided, along with the criteria used for the sample selection. In addition, the research instrument and data collection procedures, data analysis, considerations around trustworthiness and reflexivity, as well as ethical considerations were also presented in this chapter. Each of the preceding sections mentioned above of this research methodology chapter is now presented sequentially.

#### **3.2 RESEARCH DESIGN**

This study adopts an exploratory qualitative approach. Qualitative research is an approach that enables the researcher to study individual's experiences extensively, through the use of specific research methods such as in-depth interviews, FGDs, observations, content analysis visual methods, and life histories or biographies (Hennink, Hutter, & Bailey, 2011). This approach enabled the researcher to develop an understanding of the meaning that people ascribe to their understanding and perception (Sutton & Austin, 2015). Qualitative approach aims to develop

theory and promote description, understanding and meaning through non-numerical analysis, by enabling the researcher to explore the current problem at hand (Andrew, Pedersen, & McEvoy, 2011; Lewis, 2015). Furthermore, the purpose of an exploratory qualitative approach is to focus on a concept that has not been described in any great detail, whilst considering the way people behave in their most natural manner, which influences their thoughts and actions in everyday life (Fitzpatrick & Kazer, 2011; Taylor, Bogdan, & DeVault, 2015).

### **3.3 RESEARCH SETTING**

A naturalistic method of data collection provides an ideal environment for the researcher to learn more and holistically understand human experiences in terms of context-specific settings (Guba & Lincoln, 1994; Patton, 1990). The setting used is Vrygrond, which is a low-resourced community in the Western Cape Province. Vrygrond, is a socially and economically disadvantaged community situated near Muizenberg, on the False Bay coast, approximately 20 kilometres from central Cape Town. In 1942, the community of Vrygrond was established and it was one of the first homes to many migrants who came from impoverished hinterlands of Cape Town as well as the Transkei and Ciskei in the Eastern Cape (Jensen, Polatin, & Naidoo, 2011). Vrygrond is known to be one of the most diverse communities in Cape Town, with Afrikaans and Xhosa being the major languages spoken in the community (Charman, Petersen, Piper, Liedeman, & Legg, 2017). Vrygrond is also known for having one of the highest level of violence (particularly violence against women), alcohol and substance abuse, unemployment and poverty rates in the metropolitan area of Cape Town (Kellerman, 2014).

### 3.4 POPULATION AND SAMPLING

A population refers to the target group which a study aims at developing knowledge about (Punch, 2013). Sampling is defined as a process of selecting representative units from an entire population (Suresh, 2014). The Vrygrond community has a population of 13222 and from that, 47 percent (11843) of the community is Female (Charman et al., 2017). A total number of 22 participants were recruited from the community of Vrygrond as the sample for this study, based on the criteria below.

The process of gathering data in qualitative research, allows the researcher to access the thoughts and feelings of the study participants (Sutton & Austin, 2015). In order to access the thoughts and feelings of the study participants, an appropriate sampling method needs to be used, that aligns with the method of data collection. For the purpose of this study, purposive sampling was utilized to select the participants. A purposive sampling method is typically adopted in focus group research, because it adds power to the discussion (Liamputtong, 2011). The purposive sampling strategy adopted for the collection of data, was *homogeneous sampling*. Homogeneous sampling involves bringing together a particular subgroup of people with similar backgrounds and experiences to facilitate group interviewing (Palinkas et al., 2015; Patton, 1990).

#### 3.4.1 Sampling criteria

Participants were selected and invited by the organizations managers as well as the researcher to participate in the FGDs. The researcher as well as an assistant moderator gathered data for this

study. The inclusion criteria for participants to take part in the FGDs included female youth participants between the ages of 18 and 35 years old, who reside in the community of Vrygrond.

Female youth participants who did not meet the above inclusion criteria as well as male youth participants were excluded from this study.

### 3.4.2 Participants

From the sample of 22 female youth, a total of 11 female youth (between the ages of 18 and 35 years old), from Communiversity of South Africa participated in one FGD. Two FGD were conducted at the Sozo foundation, where a total of 11 female youth participated. The first FGD consisted of four female youth and the second FGD consisted of seven female youth. Therefore, the total sample of this study consisted of 22 participants. The total participants of this study as well as the FGDs conducted at each organization are tabulated and illustrated in table 3.1 below.

**Table 3. 1: Total participants and FGDs of the study**

<b>Organization</b>	<b>Number of focus groups</b>	<b>Number of participants in focus groups</b>
<b>Sozo Foundation</b>	2	11
<b>Communiversity</b>	1	11
<b>Total</b>	<b>3</b>	<b>22</b>

The information depicted in the above table is not a representation of all the female youth within the community of Vrygrond or the Western Cape Province. Therefore, this study only represents information gathered from the female youth participants at the Sozo Foundation and Communiversity of South Africa, within the Vrygrond community in Western Cape Province. Even though this study is limited to the two above mentioned organizations, this does not take away from the in-depth information gathered by the participants, with regard to PA and NCDs.

### **3.5 RESEARCH INSTRUMENT AND DATA COLLECTION PROCEDURE**

The success of a focus group is determined by the instrument that is being used (Liamputtong, 2011). In this study, a semi-structured question guide was adopted with open-ended questions to encourage meaningful discussions that are explanatory in nature, about PA and NCDs risk factors (Mack, Woodsong, MacQueen, Guest, & Namey, 2005; Nagle & Williams, 2011). Semi-structured question guides have been identified as one of the most suitable methods of data collection for FGDs, because they attempt to elicit discussion from the subgroups represented (Liamputtong, 2011; Mack et al., 2005). The semi-structured question guide found in (*appendix E*), contains preliminary questions and main questions that focus on the purpose of the study, i.e., PA and NCDs risk factor knowledge and perception. The first section of the question guide required participants' to record their personal information, regarding their age, marital status, education level, employment status, people living in the home, financial supporter of the family and number of people living in the home. The second sections of the question guide welcomed and thanked the participants' for taking part in the study, introduced the participants to the study and briefly went



through anonymity and the ground rules of participating in the FGD. Through the use of this instrument, the researcher was able to fully capture the perceptions and beliefs of the participants.

Data was collected in December 2017, by conducting a total of three FGDs. Participants were recruited in person from the Sozo Foundation and Communiversity of South Africa, in the Vrygrond community, to form part of the study. These organizations are a non-profit organizations that creates opportunities for holistic development through education, skills, youth and wellbeing and prepares young people for college and job placement, respectively. For the purpose of this study, the researcher deemed these organizations to be the most appropriate for the study, as they are both situated in Vrygrond, which is a low-resourced community and they provide the participant's with a familiar and comfortable discussion environment (Liamputtong, 2011). Furthermore, the organizations provided a secure and safe space, as a private room was made available with sufficient tables and chairs for the FGDs to take place. According to Liamputtong, (2011); Nagy, Hesse-Biber, & Leavy (2008), these are important aspects to consider as they enhance the quality of the FGDs and they positively impact participant's concentration and willingness to contribute openly to the discussions.

Ethical clearance and permission to conduct the study was obtained by the researcher from the Humanities and Social Sciences Research Ethics Committee at the University of the Western Cape. Prior to conducting the FGDs, participants were briefed about the study. They were informed of the aims and objectives of the study and what procedures would be followed. Written consent forms (*appendix B*) as well as focus group confidentiality binding forms (*appendix C*) were provided for all participants to sign, prior to conducting the study. The FGDs were facilitated by

the lead researcher and one female assistant moderator. According to Westat (1995), it is important to have an assistant moderator that is similar to the members of that group, to contribute to the group's openness and quality of the discussion. The assistant moderator acted as the time keeper and she was responsible for gathering handwritten field notes during all the FGDs. "Field notes can provide important context to the interpretation of audio-taped data and can help remind the researcher of situational factors that may be important during data analysis" (Sutton & Austin, 2015: pg 227). All the FGDs were conducted in English and with permission from the participants, they were audio recorded using an electronic voice- recorder. One FGD was conducted with each participant, lasting between 60-90 minutes long each. After the FGDs, participants were served with light refreshments, as a gesture of appreciation for their time and participation.

The data analysis is presented in the next section.



### **3.6 DATA ANALYSIS**

*“Qualitative data analysis (QDA) is the range of processes and procedures whereby we move from the qualitative data that have been collected into some form of explanation, understanding or interpretation of the people and situations we are investigating”* (Skinner, Edwards, & Corbett, 2015: pg 70). Sutton & Austin (2015) reported that the most important part of data analysis in qualitative research is to be true to the participants, because it is their opinions that the researcher needs to interpret and report for others to learn from. Data analysis for focus group data, typically includes a summary of the most important themes, noteworthy quotes and any unexpected findings (Breen, 2006).

The researcher adopted thematic analysis for this research study, as it has been identified as the most widely used qualitative approach to analysing qualitative data (Jugder, 2016). According to Braun & Clarke (2006: pg 79), “Thematic analysis is a method for identifying, analysing, and reporting patterns (themes) within data”. This method was useful as it extracted the meanings and ideas from the data collected and it minimally organised and described the data set in-depth detail (Javadi & Zarea, 2016). Theoretical thematic analysis was the data analysis strategy used for this study. The Health Belief Model theoretical framework was used as a lens for interpretation of data to align key concepts and themes that may arise in this study. This method of thematic analysis presents a description of the data with less richness and provides a more detailed analysis of some aspects of the data collected (Braun & Clarke, 2006; Javadi & Zarea, 2016).



The analysis of the FGDs commenced immediately after the data was collected. According to Nagle & Williams (2011), analysis of FGDs should begin straight after focus group closure. Permission from the participants allowed the researcher to record FGDs. Data collected in the field through the discussions were transcribed verbatim from the audio tape. Plummer-D’Amato (2008) reported that transcripts of FGDs should be transcribed as they were spoken, to avoid misinterpretation of useful information. The transcriptions were transcribed into English text. The audio tape was played several times, pausing it where necessary in order to fully capture the content of the recordings. The field notes were typed up, and the contents which were topic- based were integrated into the main transcripts for data comprehensiveness. The transcripts were thoroughly read several times by the researcher in order to get immersed and obtain the general sense of the information and the meaning it conveyed.

The transcripts became the primary documents from which an analysis was conducted to identify codes, themes and subthemes. This transpired both during and after the data collection period. According to Westat (1995), in analysing focus group data, common themes, points of interest and tendencies among participants' comments are sought out by the researcher. The researcher imported each transcript from Microsoft Office Professional Plus 2013, and exported them into ATLAS Ti 8.0 software programme [Computer-Aided Qualitative Data Analysis Software (CAQDAS) package for qualitative data analysis]. This assisted the researcher to group and assign codes to each emerging theme.

The researcher then embarked on initial coding by identifying codes within the raw data of each transcript. Phrases, which related to a specific idea or question, were grouped together. Similar or related concepts were clustered together in thematic categories. The thematic categories were synthesized and interpreted into an analytical narrative. This was aimed at illustrating and reflecting the perceptions of the participants by means of telling a story (Braun & Clarke, 2006). The researcher used these categories to give meaningful contributions to the themes derived from the data collected. This enabled the researcher to refer back to literature, in order to make an argument in relation to the research question. Data was analysed until theoretical saturation was reached.

### **3.7 TRUSTWORTHINESS**

The purpose of qualitative research is to express and elucidate a clear description of the personal experiences of participants of the study (Patton, 2015). Data collected in qualitative research,

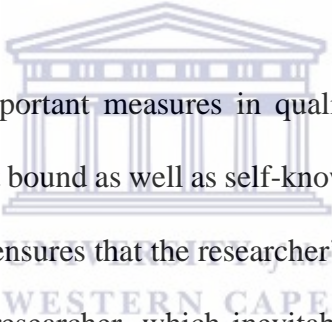
should undergo a rigorous process, which is used as a way for establishing accuracy and integrity of the qualitative research process (Robson & McCartan, 2016). This is completed in order to ensure that the quality of research performed is trustworthy, thus ensuring reliability. This was achieved in a number of methods according to Creswell (2009) data collection strategies. For the purpose of this study, the researcher made use of three strategies. The strategies utilized included:

**3.7.1 Peer review or debriefing:** This strategy involves examining the data by someone who is familiar with the research topic under investigation (Creswell & Miller, 2000). For the purpose of this study, a colleague and fellow post-graduate student, who was familiar with the phenomenon under investigation in this study, assisted the researcher as the peer reviewers. This allowed the peer reviewer to challenge the researcher by asking questions and exploring the interpretations of the researcher (Creswell & Miller, 2000). Through this the researcher was able to express their own perceptions and thoughts about the research study. Any instances of biasness reported by the researcher, was identified by the peer reviewers.

**3.7.2 Member checks:** Providing the respondents with a conclusion of the findings is the aim of this strategy. This is done, to ensure that the data are correctly interpreted (Creswell & Miller, 2000). Once all the data was transcribed, the researcher made descriptions, interpretations and findings available to the participants, so that they could determine if the researcher had accurately translated the participants interpretations into data. No rectifications were received, after the participants were given two working weeks to respond with rectifications.

**3.7.3 Prolonged engagement:** The researcher remained in the research setting for a prolonged period of time to build trust with the participants. The researcher spent two weeks leading up to data collection in the research setting, which assisted her in developing an ‘in-depth understanding of the phenomenon under study’ (Creswell, 2009: pg 192). This strategy provided the researcher with information that was not easily accessible, and improved her perspective and understandings of the participant’s views and circumstances (Creswell & Miller, 2000).

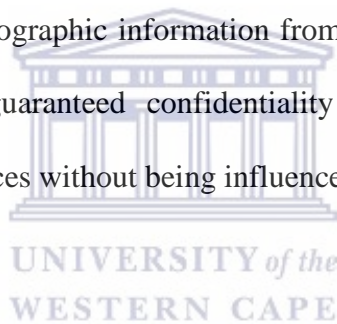
### 3.8 REFLEXIVITY



Reflexivity is one of the most important measures in qualitative research as it requires self-reflection that is critical and context bound as well as self-knowledge, to prevent research bias and ensure accuracy and validity. This ensures that the researcher’s assumptions and explanations are accounted for as they impact the researcher, which inevitably influences the research findings (Lucas, 2015). “Reflexivity is an awareness of the researcher’s role in the practice of research and the way this is influenced by the object of the research enabling the researcher to acknowledge the way in which he or she affects both the research process and outcome.” (Haynes, 2012: pg 72). In a qualitative study of this nature, research situations tend to be dynamic, making it crucial to analyse the context of the research to ensure that the gathering and analysis of data have not been influenced. Thus, contributing to the validity of the findings (Krefting, 1991).

In this study as the researcher, I was able to acknowledge that my preconceived assumptions, beliefs and biases about the research topic, may influence the results of this study. In relation to

the participants I realized that I was able to establish rapport with participants because racially and anatomically I was similar to them. The participants, like myself also came from a low-resourced community within the WC Province. All the FGD groups found that they could relate to me. The female participants who were in their early 20's were comfortable communicating with me, as I fell within their same age category. The manner in which I spoke came across as a slight barrier to one of the FGDs as the female participants sometimes struggled to understand my pronunciation of certain words. Throughout the research process, I remained conscious of my preconceived views and assumptions of the research topic, which may have influenced the data collection and analysis process. This encouraged me to make notes of the way I felt during each FGD. Each FGD started with the researcher obtaining demographic information from each participant. In each FGD the participants were assured and guaranteed confidentiality and trust. Each participant was encouraged to share their experiences without being influenced by my position as the researcher.



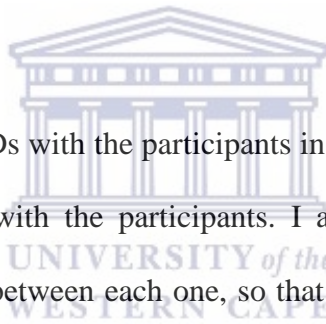
The first FGD took place at the Communiversity of South Africa in the community of Vrygrond. The FGD took place during the week, in the afternoon with 11 female youth participants, during an assigned class period time. The female youth participants were in the process of completing their final week at the Communiversity, before graduating and class participation during that final week was mandatory. The first FGD with the female youth participants started a few minutes late, as we waited for some of the other participants to arrive from their previous class. Once all the participants had arrived the FGD ran smoothly with no disturbances or interruptions in between. I observed that this group of female youth participants were very outspoken and during the discussion, they were not shy or afraid to share any information about their community and family, pertaining to the topic under discussion.

The second FGD conducted, took place at the Sozo Foundation in the community of Vrygrond. The FGD took place during the week, in the morning. By this point, all the foundations programs had already concluded. The FGD was delayed by a few minutes to allow time for any other participants that may arrive. The researcher anticipated collecting data with ten of the female youth participants, however on the day, only four female youth participants were present. The female youth participants had difficulty in talking about the topic under research. A lot of the participants were very shy and hesitant to contribute to the discussion. I found this extremely challenging as every time I tried to encourage discussion, most of the participants would look at me with blank faces and often use their body language as a pose to their words to relay information. This was the most difficult FGD to conduct in this study. I used various strategies to probe and elicit information from the participants, in an attempt to make them feel comfortable with talking to me. One of the strategies that worked involved addressing the participants using their local slang language and terminology to probe. This was done, to encourage the participants to contribute to the discussion in their slang or language they felt comfortable with. Another strategy that worked well was to encourage the participants to speak about their own friends and family circumstances. I observed that this strategy made the participants feel more relaxed and comfortable during the discussion.

The third and final FGD was also conducted at the Sozo Foundation in the Vrygrond community, with seven female youth. The discussion took place in the morning with all the female youth facilitators and volunteers that worked at the foundation. This group of participant's age ranges varied, which included a mix of young and older female youth. This FGD was also delayed by a few minutes as the discussion was conducted during the last week of the foundation operating and



most of the facilitators and volunteers had a few work related matters to address to. Once the FGD commenced, the participants were very enthusiastic and eager to contribute to the topic under investigation. During the discussion, there were a few disturbances as the phone calls received by some of the participants kept interrupting the FGD. My FGD with this group of female youth participants, offered me the most useful insights about PA and NCDs risk factors in their communities and homes. The participants did not hold back on any information given and clarified on any information I may have misunderstood or was not aware of. This was in my opinion, one of my most fulfilling FGD as the participants have so much passion and enthusiasm for the work they do in their community and their responses conveyed that.



During the course of all of the FGDs with the participants in this study, as the researcher, I made every effort to establish rapport with the participants. I also made sure that the FGD were conducted with sufficient time in between each one, so that I could have enough detachment to generate trustworthy and reliable information. My lack of skills as a FGD moderator, may have an influence on any limitations regarding the ability to elicit more useful information from the participants, rather than the lack of probing. Additional questions such as “What do you think?”; “How would you?” and “How often do you?” accompanied each core question to probe for more contribution from the participants. My views as the researcher, on the research topic and my reflexive thoughts assisted in guiding my ethical considerations.

### 3.9 ETHICS CONSIDERATIONS

Ethical clearance and permission to conduct the study was obtained from the Humanities and Social Sciences Research Ethics Committee at the University of the Western Cape. Permission was also sought from the Sozo Foundation as well as the Communiversity of South Africa, in order to gather data within the organizations. Once identified, all the participants were informed about the study verbally and via the information sheet (*appendix A*). The information sheet clearly explained the aim of the study and the procedures to be followed to conduct the FGD. Participants who consented to participate in the study were screened against the sampling criteria. Eligible participants received a consent form (*appendix B*) to sign concerning their involvement in the study. Participation in the study was voluntary, and participants were made aware that they could withdraw from the study at any stage with impunity. The participants were informed that confidentiality will be maintained throughout the study. Participants taking part in the FGDs were asked to sign confidentiality binding forms (*appendix C*). Numbers were allocated to each survey completed by the participants regarding their personal information. This information was only made available to the researcher and supervisors of the study. FGDs were audiotaped to support data analysis and anonymity was ensured using pseudonyms to identify participants when transcribing audiotapes. Audio-tapes, transcripts and all personal information obtained from the study were kept confidential, and only the researcher and the supervisors had access to this information. All data containing information about the participants was stored securely in a locked filing cabinet in the Sport Recreation and Exercise Science (SRES) department office, until the study report was completed. All the data collected will be kept for a minimum period of five years in the Sport Recreation and Exercise Science (SRES) department and thereafter, it will be destroyed. The information was used for research purposes only. The outcome of the study was

made available to all research participants. The researcher acted ethically, responsibly and professionally at all times ensuring the safety of participants. Participants were not harmed in any way.

### **3.10 CHAPTER CONCLUSION**

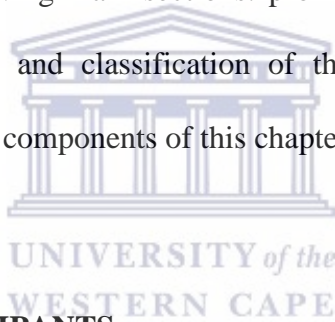
This chapter has outlined the explorative qualitative approach employed in this study to capture the female youth's experiences with regard to their knowledge and perception about PA and NCDs risk factors. The procedure for analysing qualitative data and data verification has also been outlined. In addition, the research setting and design have been described in detail. The sampling and population procedure as well as the method of data collection was explained. A total of 22 female youth participants from the Vrygrond community shared their perceptions and knowledge on PA and NCDs risk factors, through the use of three FGDs. The explanation of how the data was analysed through the use of thematic analysis has been provided. Transcripts were read and placed into thematic categories where it was synthesized and interpreted into an analytical narrative. This chapter has also covered aspects of trustworthiness, reflexivity and ethical considerations. The next chapter presents and discusses the research findings.

## CHAPTER FOUR

### FINDINGS AND DISCUSSION

#### 4.1 INTRODUCTION

This chapter presents the findings of the study, which were obtained through the FGDs as explained in detail in chapter three. The findings are partly presented in the form of direct excerpts from the FGDs. The researcher made use of thematic analysis, based on the health belief model (HBM) discussed in chapter two. Besides this introduction, and the conclusion, the researcher divided the chapter into the following main sections: profile of the participants; demographic characteristics of the participants and classification of the research findings. A sequential presentation of the aforementioned components of this chapter follows next.



#### 4.2 PROFILE OF THE PARTICIPANTS

Participants of this study comprised of 22 female youth (between the ages of 18 and 35 years old) from the community of Vrygrond. Each participant was either from the Sozo Foundation or Communiversity. Pseudonyms were used to ensure anonymity of participants. The details of the participants, with regard to age and the organization, to which they belonged, are depicted in table 4.1 below.

**Table 4. 1: FGDs participants**

<b>Pseudonym</b>	<b>Age</b>	<b>FGDs Number</b>	<b>Organization</b>
Angela	23	1	Communiiversity
Anna	26	1	Communiiversity
Chantal	18	1	Communiiversity
Elizabeth	20	2	Sozo Foundation
Gemma	21	3	Sozo Foundation
Gina	25	3	Sozo Foundation
Grace	20	3	Sozo Foundation
Gwen	24	2	Sozo Foundation
Lisa	21	1	Communiiversity
Melissa	27	1	Communiiversity
Molly	31	3	Sozo Foundation
Mondie	19	1	Communiiversity
Natalie	25	1	Communiiversity
Nicole	21	1	Communiiversity
Ntombi	20	2	Sozo Foundation
Oyintando	20	1	Communiiversity
Princess	19	1	Communiiversity
Rachel	35	3	Sozo Foundation
Radia	19	1	Communiiversity
Terri	23	3	Sozo Foundation
Tumi	35	3	Sozo Foundation



Valerie	18	2	Sozo Foundation
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### 4.3 DEMOGRAPHIC CHARACTERISTICS OF THE PARTICIPANTS

Table 4.2 illustrates the demographic characteristics of the participant's. A total of 22 female youth participated in this study. All of the participants were between the ages of 18 and 35 years old, and English was the predominant (n=14, 63.6%) language spoken amongst them. The majority of the participants were single (n= 19, 86.3%), unemployed (n=14, 63.6%) and secondary schooling was the highest level of education obtained (n=16, 72.7%) (Table 4.2).

**Table 4. 2: Participants demographic characteristics**

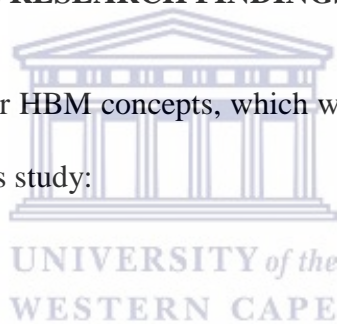
Demographics	Category	Number	Percentages
<b>Age group</b>	18-35	22	100%
<b>Gender</b>	Female	22	100%
<b>Language</b>	English	14	63.63%
	Afrikaans	5	22.72%
	isiXhosa	3	13.63%
<b>Marital status</b>	Single/never been married	19	86.36%
	Married	1	4.54%
	Divorced	1	4.54%

<b>Education</b>	Widow	1	4.54%
	Secondary School	16	72.7%
	Diploma and above	6	27.3%
<b>Employment status</b>	Employed	8	36.36%
	Unemployed	14	63.63%

#### 4.4 CLASSIFICATION OF THE RESEARCH FINDINGS

Illustrated in Table 4.3, are the four HBM concepts, which were adapted in this study, and could be linked with the objectives of this study:

1. Perceived susceptibility,
2. Perceived severity,
3. Perceived benefits, and
4. Perceived barriers



The first two HBM concepts (perceived susceptibility, perceived severity) links with the first objective, namely to explore the knowledge of PA and NCDs risk factors. The last two HBM concepts (perceived benefits and perceived barriers) links with the second objective which is to explore the perception of PA and NCDs risk factors. As previously mentioned in Chapter 2, the HBM specifies that an individual's health seeking behaviour is influenced by their perceived susceptibility and or severity to a disease, as well as their perceived benefits and barriers to

changing health behaviour (Rosenstock, 1974). The reasons individual's participate in health risk behaviours and the actions that they take to improve their health, is demonstrated through this framework.

**Table 4. 3: Classification of the research findings based on the HBM**

Adapted from (Glanz et al., 2008)

<b>HBM Concept</b>	<b>THEMES</b>	<b>SUBTHEMES</b>
<b>Perceived susceptibility</b>	Knowledge and perception of PA	<ul style="list-style-type: none"> <li>• Familiarity</li> <li>• Discrimination</li> </ul>
	Knowledge and perception of NCDs	<ul style="list-style-type: none"> <li>• Ignorance</li> <li>• Stigma</li> <li>• Poverty</li> </ul>
<b>Perceived severity</b>	Health effects of physical inactivity	<ul style="list-style-type: none"> <li>• Obesity and overweight</li> <li>• Effects brain function and ageing</li> <li>• Prone to injury</li> </ul>
	Health effects of NCDs risk factors	<ul style="list-style-type: none"> <li>• Causes illnesses and death</li> <li>• Increases risk of disease</li> <li>• Lack of threat appreciation</li> </ul>
<b>Perceived benefits</b>	Benefits of PA	<ul style="list-style-type: none"> <li>• Promotes healthier lifestyle</li> <li>• Weight Control</li> <li>• Recreational</li> </ul>
	Benefits of preventing NCDs risk factors	<ul style="list-style-type: none"> <li>• Promotes healthier lifestyle</li> <li>• Saves money</li> </ul>



<b>Perceived Barriers</b>	Barriers to PA participation	<ul style="list-style-type: none"> <li>• Time constraints</li> <li>• Lack of interest</li> <li>• Low self-esteem</li> <li>• Safety</li> <li>• Low awareness of opportunities</li> </ul>
	Barriers to preventing NCDs risk factors	<ul style="list-style-type: none"> <li>• Financial constraints</li> <li>• Convenience</li> <li>• Knowledge deficit</li> <li>• Parental influence</li> <li>• Peer pressure</li> <li>• Poverty</li> <li>• Lack of authoritarian</li> </ul>



The next section presents first HBM concept, perceived susceptibility, with the relevant themes and subthemes found in this study.

#### **4.5 PERCEIVED SUSCEPTIBILITY**

Perceived susceptibility emphasises the individual’s perception of the risk of experiencing a given disease or condition (Glanz et al., 2008; Rosenstock et al., 1988). For example, an individual must accept that there is a possibility of being at risk of having a disease, before he or she becomes interested in alleviating the disease. Health knowledge is an essential component in understanding and being able to interpret risks that determine an individual’s health related behaviour (Surka et

al., 2015). This theme was used to explore the participants' understanding and awareness of PA and NCDs. More specifically, this section refers to how the female youth from the community of Vrygrond comprehend and view PA and NCDs, and whether they are aware of being at risk of having a disease, because of their behaviour and lifestyle. The experiences of the participants in this study with regard to perceived susceptibility will be discussed under the following two themes: (1) knowledge and perception of PA and (2) knowledge and perception of NCDs. Findings for each theme and sub-theme are discussed in the next section.

#### **4.5.1 Knowledge and perception of PA**

Physical activity (PA) for the purpose of this study has been defined as any bodily movements produced by the contraction of skeletal muscles that substantially increases energy expenditure (Caspersen et al., 1985; Donnelly et al., 2018). In this particular section, the researcher specifically considered how the participants interpreted and perceived the term PA. The responses of the participants on their knowledge and perception of PA will now be discussed under the following subthemes: 1) familiarity and 2) discrimination

##### **4.5.1.1 Familiarity**

Familiarity refers to the feeling of knowing a word or the concept represented by the word (Kaushik, Gupta, Kharb, & Chahal, 2017). For instance, some of the female youth participants from this study, were able to recognize and understand what the term PA meant. Whereas, for some of the female youth participants, the term PA was only known as two separate terms. One of the female youth participants expressed the following about the term PA,

*I have heard about the word physical and activity but not the word combined (Radia)*

The above response indicates that the female youth participants were aware of what the term PA could insinuate, even though they were unable to provide the researcher with an exact definition of the term. Based on the definition of PA provided above, it was clear that one of the female youth participants had reasonable knowledge of what the term PA may imply, as she expressed the following,

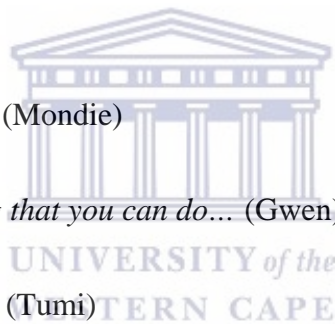
*It's something that keeps you active... it's something that you need to move to do it (Molly)*

In other responses provided by the participants, who were familiar with the term PA, they interpreted PA as the following:

*...being active physically... (Mondie)*

*...like physical is something that you can do... (Gwen)*

*...doing something active... (Tumi)*



From the above responses, it is clear that the female youth participants are familiar with term PA, and it can be interpreted and understood in various ways. According to Thomas, Nelson, & Silverman (2015), PA can be described in several ways and can be performed as hobbies or activities involved in daily living (Miles, 2007). Furthermore, PA includes all forms of movement, which can occur in occupational, home and family care, competing in sport and exercise, for transportation and in any leisure settings (ACSM, 2013; Silverman et al., 2005). This can be intentional or unintentional. One of the participants shared that PA is an activity she is involved in as part of her daily living:

*Like every day I do physical activities from the time that I stand up even here whole day and then I walk home and so I think I exercise enough (Rachel)*

Similar findings were reported in a study conducted in Langa, which is a low-resourced community in the Western Cape. In this study, walking for transportation was common among the participant's, because the distance they travelled was not that long and paying to use public transport for a 10 minute walk seemed like a waste of money to them (Brangan, 2012). Moreover, this particular participant is under the impression that the PA she engages in on a daily basis is satisfactory. However, according to the World Health Organization's (WHO) global recommendations on PA for health, ages 18 to 64 years old should do at least "*150 minutes of moderate-intensity aerobic PA throughout the week, or do at least 75 minutes of vigorous-intensity aerobic PA throughout the week, or an equivalent combination of moderate- and vigorous-intensity activity*" (WHO, 2010: pg 8). Based on this recommendation, it is evident that this particular participant is not meeting the global recommendations and she is unaware of the PA guidelines.

These observations imply that even though some of the female youth participants' are familiar with the term PA, there is still some ambiguity about what the term PA implies. Participant's responses about PA, were vague, and from that it is evident that promoting PA and healthy lifestyle behaviour among these female youth participants, could encourage regular PA.

#### 4.5.1.2 Discrimination

Discrimination emerged as a theme in this section, and it refers to treating people differently, (i.e. unfairly or unjustly) due to the perception that the individual is different from others (Chin, 2010; Liamputtong, 2011; ten Bokum & von Steinau-Steinrück, Bartelings, 2009). For example, participants from this study expressed that people from their community, who participate in PA by themselves, are often discriminated against, because it might be assumed that there is something wrong with that particular person. Therefore, they are frowned upon or judged by other community members for engaging in PA. The following was expressed by one of the participants:

*...you will always see them with someone... you won't see them alone because people will think you are crazy... (Gwen)*

When asked why this was the case, the following response was provided,

*Because people think you are weird when you start living that lifestyle, they literally think you are weird and what is wrong with you, you probably are supposed to be living in Marina De Gama...that's how it is. It is a very narrow minded like that's how it is. If you start something, you will never see people exercising here on the field and like a bunch of ladies doing it, no... because you don't want to look weird, because you live in Vrygrond Capricorn Park, that's just how it is. (Gemma)*

These negative attitudes, feelings and perceptions that the participants have about PA participation in their community, is seen to be a common observation when sexuality, ethnicity and disability are concerned (Women's Sport And Fitness Foundation, 2008). There are a number of ways that individual's cope with discriminatory experiences, which can result in engaging unhealthy practices, such as avoiding PA and problematic eating (Sutin & Terracciano, 2017). For instance,

from the above participant's response, it is evident that her way of coping with this discriminatory experience, is through avoiding participating in PA within the community. Based on these findings, it is evident that participants feel that by participating in PA in their community, they will be discriminated against, because PA is not a common activity people engage in within the community. Therefore, more awareness about the health effects and benefits of PA needs to be promoted in this community, to positively change people's mind-sets about PA and encourage the adoption of a healthy lifestyle.

#### **4.5.2 Knowledge and perception of NCDs**

For the purpose of this study, NCDs has been are defined as diseases that are non-infectious, are of long duration and generally with slow progression (Bloom et al., 2012). In this particular section the researcher sought out to explore what the youth female participants understood about the term NCDs and how they perceived it. The responses of the participants on their knowledge and perception of NCDs will now be discussed under the following headings: 1) ignorance, 2) stigma and 3) Poverty.

##### **4.5.2.1 Ignorance**

Ignorance refers to the participant's lack of knowledge of the term NCDs. The findings reveal that none of the participants were unaware of the term NCDs. Some of the participants thought Human Immunodeficiency Virus (HIV) and Tuberculosis (TB) were a type of NCDs, because they are the only two diseases that are often spoken about within the community. Furthermore, NCDs are also

described as diseases that are non-infectious, are of long duration and generally slow progression (Bloom et al., 2012). These diseases include cardiovascular disease, type 2 diabetes, cancer and chronic respiratory diseases and are caused by four common modifiable risk factors, which consist of: tobacco use, physical inactivity, unhealthy diets and harmful use of alcohol (Baldwin et al., 2013; Naik & Kaneda, 2015; Spires et al., 2016). Whereas, HIV and TB are diseases which are classified as communicable diseases, because they are illness that can be spread or transferred, through direct or indirect transmission (Hawker et al., 2012; Webber, 2016).

Participants used words such as “*Health*” and “*diet*” to explain NCDs. One of the participants shared that NCDs “*is a rare disease*” (Elizabeth). It is clear, from the participant’s responses that there is a lack of NCDs knowledge among youths. This to a large extent confirms what has already been found in research on the knowledge of NCDs among youths as also discussed in Chapter 2 of this study. In a study conducted in India, among rural adolescent students, it was evident that the majority of the students (76.2 percent) had a low level of awareness of NCDs risk factors (Ade et al., 2014a). According to previous literature this makes it difficult for the participants to comprehend the severity and understand the risks of the NCDs (Mengesha, 2015; Oelke et al., 2016; Surka et al., 2015).

#### **4.5.2.2 Stigma**

The feeling of being ashamed is often associated with diseases that are life threatening and in this section, it particularly refers to how the female youth participants perceived NCDs (DoH, 2013; Stern et al., 2010). Most of the participant’s shared their perception of NCDs as being diseases that

are health related due to poor lifestyle choices and unhealthy diets. Some of the participants perceived NCDs as diseases that people were too ashamed or embarrassed to discuss in public. Some expressed that NCDs could be diseases that are kept private, because people are afraid to disclose their health status to their family or community members. For example, the following perceptions about NCDs were expressed by some of the participants,

*Like they are not spoken about often (Princess)*

*A lot of people doesn't know about it (Melissa)*

*Like everybody don't speak about their status and diseases (Gemma)*

The above responses indicates that the participant's preconception of NCDs is associated with stigma, because they are misinformed and have a lack of awareness about NCDs. According to NCD Alliance (2011), stigma towards NCDs is known to be common in many countries worldwide, due to a lack of awareness and misinformation, preventing people with NCDs from playing an active role in society. Based on these findings, it is important to educate participants and the community members about NCDs and their risk factors, as well as encourage them to seek diagnosis and treatment, if they are infected by disease. Providing a comfortable platform for participants and their community members to openly and confidently disclose their health status, without feeling humiliated or ashamed, may also encourage these participants to disclose their health status and adopt preventative measures that will lead to practicing a healthy lifestyle (NCD Alliance, 2011; Shisana et al., 2013).



### 4.5.2.3 Poverty

Poverty was another prevalent theme mentioned by the participants of this study. Poverty plays a significant role in influencing participant's choices of leading a healthy lifestyle. According to Burton, Turrell, & Oldenburg, (2003) & Islam et al. (2014), people of lower socio-economic status (SES) are often incapable of living a healthy lifestyle and do not participate in regular PA. Further to this, Solomons, Kruger, & Puoane (2017), reported that people perceive leading a healthy lifestyle as being expensive, due to high rates of unemployment and lack of financial means. Participants reported the following about NCDs risk factors in their community,

*So they will eat anything, so with regards to finances, people tend to eat whatever there is... (Gwen)*

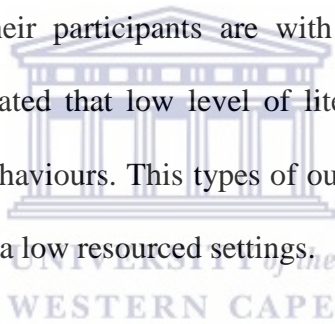
*...on the nutrition's side...unemployment and poverty is a leader also...like I am going to eat whatever I get when I am feeling hungry... (Gina)*

*They can't afford like you the cooking oil that has this and that...uhm and then also uhm I think we are very lazy or relaxed, so I won't go jog and whatever...and then the gym is also expensive so I would rather stay at home and sit and nibble on whatever so it's the environment (Rachel)*

*That is also because our community is...the poverty scale is very, very high with unemployment... so we don't blame them. We can't judge them you know? (Terri)*

The above responses indicates that there is a lack of financial resources and a lack of opportunities, in the community that the participants reside in. This has an influence on the health choices that the participants are forced to make. Better opportunities need to be made available, so that people are able to afford to make better health decisions.

Overall, this particular section reported that the even though participants were familiar with the term PA, they had insufficient knowledge of NCDs. For example, most participants had heard of the term PA, but when asked about NCDs, all of the participants stated that they had never heard the term before. Through probing, participants were able to break down the term and make better sense of it. This could be because most of the participants have only acquired secondary school education and they lacked the necessary health knowledge to understand what NCDs are as well as the risk factors associated with it. The participant's inadequate education level may be due to the fact that, Vrygrond is a low-resourced community, where availability of education, living standards and health care facilities are insufficient. Similar findings were reported by Kaba et al. (2017), where the majority of their participants are with lack of knowledge. Furthermore, Hosseinpoor et al., (2012) also stated that low level of literacy is one of the leading factors influencing unhealthy and risky behaviours. This types of outcome could influence participants' perceptions of PA and NCDs from a low resourced settings.

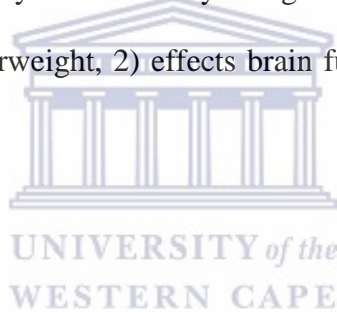


## 4.6 PERCEIVED SEVERITY

Perceived severity highlights the perception of the implication of the effects a given disease or condition would have on the individual's health (Glanz et al., 2008; Rosenstock et al., 1988). In this study, participant's knowledge and perceptions of the health effects of PA and NCDs risk factors are presented and discussed further in this section.

### 4.6.1 Health Effects of physical inactivity

The theme on the health effects of physical inactivity brought about the following three sub-themes in this section: 1) obesity and overweight, 2) effects brain function and ageing and 3) prone to injury.



#### 4.6.1.1 Obesity and overweight

The health effects of physical inactivity was eminent by a majority of the female youth participants from the FGDs. The participants identified overweight and obesity as the most common health effects of physical inactivity. One of the participants stated the following,

*Uhm I read on a page and it said “obesity doesn’t run in the family, it’s because no one runs in the family”.... (Princess)*

From the above quote, it is clear that the participants are fully aware that obesity and overweight has a major health implications. Studies illustrate that the prevalence of obesity and overweight is gradually increasing among adults and youth populations, as a result of physical inactivity (Belton,

O'Brien, Meegan, Woods, & Issartel, 2014; Hanson & Gluckman, 2015; Sedumedi, 2016). Thus, both healthy diet and involvement in PA are important components in maintaining a healthy weight and reducing the risks factor of obesity and overweight.

#### 4.6.1.2 Effects on brain function and ageing

In addition, brain function and ageing, was also discussed as a part of negative health effect of physical inactivity and the following was reported by the participants,

*Miss it can start affecting your brains also... (Princess)*

*If you have exercised, you don't get old quicker than a person that doesn't exercise....because a person that don't exercise is always complaining about joint pains and stuff like that and uhm... and also when you do exercise, your mind...the way the mind works, it works differently than a person who doesn't exercise...because they normally say if you do exercise, your brain thingy's whatever it is, I don't know... (Grace)*

*...when you are young, you look older than you think... (Elizabeth)*

In the above response, participants identified that an individual's mental health and ageing can be negatively affected due to physical inactivity. This finding was in line with Kinsman et al. (2015), findings which reported that ageing occurred rapidly in those who do not participate in regular PA. On the other hand, it has been reported that participants who became active or remained active, experienced healthy ageing, compared to their inactive counterparts (Hamer, Lavoie, & Bacon, 2014). Brain function is also greatly affected by physical inactivity (Bherer, Erickson, & Liu-Ambrose, 2013; Erickson, Gildengers, & Butters, 2013). Previous literature illustrates that PA has

consistent and robust effects on the brain, because it alleviates the negative impact of ageing on the mind (Bherer et al., 2013; Erickson et al., 2013).

#### **4.6.1.3 Prone to injury**

In contrast, participants also reported that too much PA can have negative long term health effects. One of the participants clearly reported that excessive PA, can result in long term damage to the body, due to injury.

*Sometimes it's like people overdo it... and sometimes like people hurt themselves and it can cause damage for the rest of their lives... (Chantal)*

It is clear from this response that this particular participant is aware of the effects of over exercising. Previous literature illustrates that obsessively passionate athletes as well as amateur athletes are susceptible to injury (Malan, 2015; Paradis, Cooke, Martin, & Hall, 2013). According to Gerche & Heidbuchel (2015), these injuries can lead to musculoskeletal injury, overtraining syndromes, and perhaps cardiac fatigue/injury, if the correct amount of PA and exercise is not performed.

Overall, the above responses clearly indicates that the participants are familiar with the health effects associated with physical inactivity. It is evident that participants perceive inadequate as well as excessive physical inactivity to have harmful long term, health effects on the body. Obesity, weight gain, ageing and brain function were the prevalent health effects of physical inactivity reported by the participants. These findings are consistent with results of a study conducted among

South African females, where 87 percent of the participants reported to being overweight, due to a lack of PA (Walter et al., 2011). Literature verifies that inadequate physical inactivity among females contributes to a number of health issues such as obesity, type 2 diabetes, cardiovascular disease, osteoporosis and some cancers including bowel breast cancer (Yeats, 2010). Ageing and the improvement of brain function are on the other hand, one of the more positive health outcomes of regular PA, mentioned by the participants. Furthermore, some participants of this study also reported that physical as well as long-term health complications can arise when doing too much PA. From the participants responses it is clear that they are aware and understand the positive as well as the negative health effects of physical inactivity.

#### **4.6.2 Health Effects of NCDs risk factors**



The theme health effects of NCDs risk factors along with the following sub-themes: 1) causes illness and death, 2) increases risk of disease, and 3) lack of threat appreciation, are discussed in this section.

##### **4.6.2.1 Causes illnesses and death**

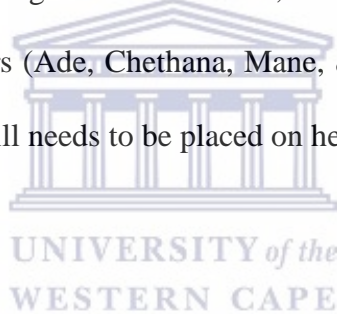
In this section, participant's understanding of the health effects of unhealthy eating, excessive alcohol use, tobacco use and physical inactivity is reported. The participant's cognizance of the health implications and severity of these NCDs risk factors was very distinct. Participants reported the following,

*You are going to get sick (Natalie)*

*...a person could possibly die... (Lisa)*

*...like your death will take long to come and then you will get sick... (Anna)*

Participants above responses, clearly indicates that they are aware and understand the severity and health implications associated with engaging in unhealthy eating, excessive alcohol use, tobacco use and physical inactivity. These four NCDs modifiable risk factors have been reported to have long-term harmful effects on health, contribute to the development of NCDs, which have been projected to be the leading cause of death globally. Even though participants of this study understood the severity of these NCDs risk factors, it was not always the case in previous studies. In a previous study conducted among rural adolescents, 76.2 percent of the learners had a low awareness of the NCDs risk factors (Ade, Chethana, Mane, & Hiremath, 2014). Based on these findings it is clear that emphasis still needs to be placed on health education to target these NCDs risk factors from an early age.



#### **4.6.2.2 Increases risk of disease**

Participants furthermore identified diseases such as cholesterol, cancer, diabetes, kidney failure and liver problems, as common health effects of engaging in NCDs risk factors. The following other diseases and illnesses were also mentioned,

*Like what also causes diabetic and high blood pressure is like how you eat fatty foods...*

(Radia)

*Your heart rate level would then drop (Oyintando)*

*I would assume, okay I am going to get cancer if I am smoking – that's a most definite. I am obviously going to end up with diabetes if I am just drinking too much and never exercising... (Gwen)*

The above responses indicate that participants are aware and are able to make the relevant associations, as to which NCDs risk factors, causes which diseases. According to previous literature unhealthy eating, excessive alcohol use, tobacco use and physical inactivity have been recognized to be directly related to NCDs and can lead to overweight and obesity, high blood pressure, and high cholesterol (Baldwin et al., 2013; DoH, 2013; Wagner & Brath, 2012; WHO., 2013).

#### **4.6.2.3 Lack of threat appreciation**



Additionally, participants felt that many people who engaged in these NCDs risk factors are unaware of the risks and repercussions, of these long term health effects.

*They don't know what alcohol does...it causes kidney problems... (Angela)*

*...and what the alcohol does is, when the mother is pregnant, it causes the baby to be Down syndrome... (Radia)*

Participants of this study were in many ways very knowledgeable and aware of the negative effects of NCDs risk factors. They were able to recognize what the four common modifiable risk factors for NCDs were as well as the diseases associated with NCDs. The findings of this study was similar to the findings reported in a study among Village Health Teams (VHT) in Eastern Uganda, where over 50 percent of the VHT had existing knowledge of NCDs and their risk factors (Ojo et al.,



2017). According to the World Health Organization (WHO) 2013, these four modifiable risk factors have been identified to make a large contribution to NCDs morbidity and mortality rates globally, if the probability of disease is not reduced.

Furthermore this study found that the female youth participant's perception of the severity of PA and NCDs was comprehensible. This could be because these diseases are known to be prevalent within their family and community, as some of the participants conveyed having had first-hand experience of the illness in self or with a relative. Interestingly, even though this was the case, almost all of the participant's conveyed that they were not physically active. Participants shared that being PA in their community is uncommon, because of the environment they live in and therefore engaging in PA is frowned upon and perceived negatively the community. This is concerning, as PA is known to help in preventing the development of NCDs and other chronic diseases (Alves et al., 2012; Knight, 2012; Pratt, Norris, Lobelo, Roux, & Wang, 2014).

#### **4.7 PERCEIVED BENEFITS**

Perceived benefits refers to the individual's perception of the benefits to be gained by reducing risk or seriousness of impact (Conner & Norman, 2005; Rosenstock et al., 1988). For example, it is important for the participants to understand the extent and value of the benefits of PA and preventing NCDs risk factors, in order to reduce the risk of developing NCDs later in life (Dobe, 2012). In this particular section, participants report their perceived benefits of PA and benefits of preventing NCDs risk factors.

## 4.7.1 Benefits of PA

Participants identified three benefits of PA, which are discussed as the sub-themes in this section. These sub-themes include: 1) promotes healthier lifestyle, 2) weight control and 3) recreational.

### 4.7.1.1 Promotes healthier lifestyle

Strong associations were made between the perceived benefits of regular PA and leading a healthy lifestyle. Participants of this study perceived that a healthy lifestyle is attainable through regular PA participation, which in turn improves quality of life. The participants expressed the following about the benefits of PA,

*...to keep fit...* (Angela)

*For you to think better and faster and stuff like that...* (Lisa)

*...being more healthier...* (Princess)



This clearly indicates that participants are knowledgeable and fully aware that with regular PA participation, individuals can achieve positive health outcomes. These responses to a larger extent confirm what has already been found in research on the benefits of regular PA. Regular moderate-intensity PA such as walking and running, carried out more often and for longer periods of has been widely reported to reduce the risk of a number of medical conditions and contribute to personal wellbeing (Al-Eisa & Al-Sobayel, 2012; Miles, 2007). In a study conducted on the long-term health benefits of PA, it was concluded that PA has positive long-term influence on all diseases and improving quality of life (Reiner, Niermann, Jekauc, & Woll, 2013). Similarly, in a study conducted among South Africans, their study findings emulate this study findings, as the

majority of the participants (69 percent) knew that PA is beneficial for all populations (Makamu, 2014). However, these benefits are only attainable, if individuals achieve the recommended PA and health levels, which is not always the case. In a recent study, it was reported that less than 50 percent of youth in South Africa were meeting the PA recommendations (Uys et al., 2016). Thus, even though participants are knowledgeable and understand the health benefits of regular PA, this does not always result in regular PA participation.

#### 4.7.1.2 Weight control

In addition to promoting a healthier lifestyle, one of the participants reported that regular PA can positively contribute towards achieving a healthier body weight,

*It can be good because if you were too thin now you gained some weight, now you can be living a better life (Oyintando)*

*...so I would be excited, oh I am going to lose weight ...but not lose weight to lose weight, but to be, feel healthier because when I was skinner, I felt healthier...so that is the whole thing, because now if I walk, I feel out of breath a bit or whatever, ... (Molly)*

In this response, it is clear that participants perceive PA as a positive influence in maintaining a healthy weight in order to lead a healthy lifestyle. The importance of PA for weight control, has been assessed and reported in numerous studies. These studies have focused on the role of PA for weight loss, energy balance and weight maintenance, to reduce the development of diseases. According to a report conducted on the role of PA for weight loss and weight maintenance, PA may be an essential component of weight maintenance after weight loss, if individuals engage in a regular exercise program and continuing that program as a lifestyle modification (Cox, 2017).

### **4.7.1.3 Recreational**

Furthermore, participants perceived the benefit of PA as being fun, despite all the effort and commitment that is required to being physically active,

*...miss like I was traumatized like I was on a four day camp and every day like twice a day we went on long hikes miss and it strained our legs and we had to do it... like I won't do it out of myself.... but it was fun... (Melissa)*

The above response indicates that even though participants found PA to be challenging and difficult at times, they still enjoyed participating in PA. Similar findings were reported on a study conducted on youth PA towards health. The participants in this study reported that they enjoyed participating in PA and they perceived PA as being fun (Belton et al., 2014). Previous literature illustrates that PA that are perceived as being fun, encourages long-term PA participation, which in turn benefits and promotes healthy living (Beni, Fletcher, & Ní Chróinín, 2017; Budd et al., 2018; Sundar, Løndal, Lagerløv, Galvin, & Helseth, 2018; Tannehill, MacPhail, Walsh, & Woods, 2015).

### **4.7.2 Benefits of preventing NCDs risk factors**

Promoting a healthier lifestyle and saving money were the only two sub-themes recognized by the participants and discussed in this next section.

#### 4.7.2.1 Promotes healthier lifestyle

Participants felt that there were limited positive benefits associated with preventing NCDs risk factors. NCDs risk factors were perceived as behaviours that are negative and the only benefit associated with its prevention, related to promoting a healthier lifestyle. The participants reported the following,

*...you are eating properly...* (Mondie)

*...to be, feel healthier...* (Gemma)

*...buy food that's healthy...* (Lisa)

Go jogging every day... (Angela)

The above participants response is similar to that of a study conducted among Senegalese women (Holdsworth et al., 2006). Participant's perception around the benefits of not partaking in NCDs risk factors correlates. These participants as well as the participants from the community of Vrygrond, have a poor knowledge of the benefits of eating plenty vegetables and fruit in preventing NCDs. Previous literature illustrates that immediate and lifelong benefits of protecting people from the risk of developing NCDs can be achieved through dietary patterns established in childhood and adolescence as well as increase in organized PA, which is known to continue during adulthood (Monyeki, 2014; Shisana et al., 2013). Participants also reported that through prevention, they are encouraged to lead a healthier lifestyle. This observation resonated with the Center for Disease Control and Prevention, as they reported that prevention of NCDs risk factors, encompasses health promotion activities that encourage healthy living and limit the initial onset of chronic diseases (CDC, 2009). According to Sedibe et al. (2014), an important factor to enable female youth to eat more healthily, is the knowledge of health benefits attached to traditional foods imparted by female

caregivers and their involvement in household agriculture and food preparation. Health knowledge and promotion can positively impact people's beliefs and behaviours in relation to diet, thus encouraging healthy dietary practices (Shisana et al., 2013).

#### 4.7.2.2 Saves money

In addition to promoting a healthier lifestyle, participants expressed that one could potentially save money if you do not purchase tobacco and alcohol products,

*Stop smoking and telling yourself you are wasting money... (Nicole)*

*...you don't waste your money... (Anna)*

It is clear from the above response that participants are aware of the financial costs associated with purchasing tobacco and alcohol products in their community. Further to this, Rosenthal et al. (2008), reported that “*saving the money spent on tobacco products*”, was endorsed as motivation to quitting smoking among women. The use of these substances are known to be common in low resourced communities, such as Vrygrond, because people are exposed to poverty and there are no strict policy's in place preventing purchasing of these substances (Islam et al., 2014; Moodie et al., 2013). In a recent study conducted on the lifestyle and income-related inequality in health, the researchers were able to illustrate that smoking and alcohol consumption contribute positively to income-related health, deteriorate health significantly, and are concentrated mainly among the poor, like the participants from Vrygrond (Mukong, Van Walbeek, & Ross, 2017). Furthermore, the purchasing of these substances may also hinder participant's ability to acquire more NCDs related information, to prevent use of NCDs risk factors. This was evident in a study conducted among young among adults in Diepsloot Township, Johannesburg, South Africa. Participants in

this study, would go out to look for money to be able to purchase alcohol and drugs, instead of being exposed to NCDs information (Kaba et al., 2017).

Overall, participant's poor perception and insufficient knowledge of the benefits of preventing NCDs risk factors is of concern. According to the health belief model, individuals who do not perceive themselves at risk underestimate the consequences of unhealthy behaviour and they are not aware of the benefits associated with behavioural change (Dobe, 2012; Glanz et al., 2008; Hayden, 2008). This therefore implies that participants of this study are unaware of the consequences associated with unhealthy eating, physical inactivity, harmful use of alcohol and tobacco use.



#### **4.8 PERCEIVED BARRIERS**

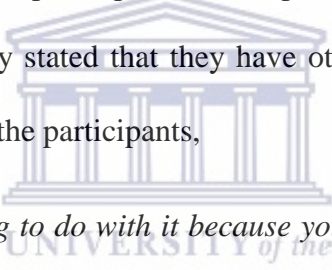
Perceived barriers relates to the hindering characteristics of a treatment or preventative measure that prevents exertion (Rosenstock, 1974). In this section, participants shared their opinions and experiences of the obstacles they are faced with, which prevents them to lead healthier lifestyles. These barriers affect female youth during various stages in life, as they assume roles of motherhood, academic challenges and old age (Moreno & Johnston, 2014; Smit., et al., 2011; VicHealth, 2014).

#### 4.8.1 Barriers to PA participation

In an attempt to be physically active, participants identified the following barriers preventing them from being physically active on a regular basis: 1) time constraints, 2) lack of interest, 3) low self-esteem, 4) safety, and 4) low awareness of opportunities.

##### 4.8.1.1 Time constraints

Time constraints due to family obligations, was one of the most common barriers to PA participation that was revealed by the participants. Participating in PA seems not always possible for some of the participants as they stated that they have other commitments to attend to. The following was expressed by one of the participants,



*The time also has something to do with it because you, like, like for instance most of the people that are staying in Vrygrond most of them are single parents, so they go and work, then when they get home they need to see that there is food, they cook, it is a lot of stuff that they have to do. For instances like talking about me now, because I won't have time like an hour and a half to go sit in the gym while I know that my kids are unattended to at home and stuff like that. So if it would be something that 30 minutes at least, but an hour and a half is too much. (Tumi)*

From the above responses it is clear that family obligations such as caring for children and taking care of household duties are negatively affecting these female youth participants from participating in regular PA. The family's needs are known to be time consuming, therefore preventing some females from being able to participate in PA during their leisure-time (Moreno & Johnston, 2014).



Most, if not all of the family needs in low-resourced communities such as Vrygrond, are attended to by the female. It has become common in these low-resourced communities for females to be the breadwinner of the family, supporting immediate as well extended family members, because they all live under the same roof. The females not only support the family financially, but they also do all of the household chores, which hinders them from enjoying leisure-time.

#### **4.8.1.2 Lack of interest**

Most participants expressed that even though they are aware that there are means and ways around being physically active, without having to financially commit to doing so, they still choose not to do so. Some participant's admitted that laziness, boredom and lack of interest hindered them from participating in PA on a regular basis. On the other hand, lack of self-motivation on living a healthy lifestyle was stated as one of the major barriers.

*We can totally do that...I mean like people, we see these stuff on YouTube, we have phones, and we always see how we can improvise with that you can use as let's say a step or whatever the case may be, we just choose not to do it... (Gemma)*

Numerous studies have reported lack of interest as a common barrier to PA (Sundar et al., 2018; Onagbiye et al., 2016; Madise, 2016; Awadalla et al., 2014). Similar results were also found in a study conducted among South African adolescent girls, and therefore they recommend that care should be taken to provide activities that would interest females of all ages and abilities (Kinsman et al., 2015). This in turn will promote and increase PA participation among female participants.

#### 4.8.1.3 Low self-esteem

Another important barrier which emerged from the FGD was low self-esteem. Low-self-esteem, for the purpose of this study refers to participants feeling self-conscious and insecure about their body image. This hindered the participants to take part in PA. Some of the participants stated that it was difficult for them to engage in PA because of the way they felt and their lack of self-confidence. Two of the participants shared,

*I feel weird about it... I feel, I'm skinny yes, probably people think Ja you look good...but I feel like no, no. Like yes everyone is looking at me, thinking, so why are you here? You don't need this...why are you showing off... I always feel like that... (Gemma)*

*Miss sometimes you are insecure about your body, you wanna play miss but... (Melissa)*

The responses from these participant's confirm what is already known in literature. Many females have reported to develop body dissatisfaction, low self-esteem and lack of confidence, particularly when they are referring to their body image. According to Moreno & Johnston (2014), feeling uncomfortable about the way one's body appears, especially whilst performing PA or engaging in certain types of activities is a significant barrier to PA. In a recent study conducted among Australian adults, lack of self-esteem was identified as a common barrier to PA (Hoare et al., 2017). According to the South African National Health and Nutrition Examination Survey (SANHANES-1), individuals can overcome these feelings of self-esteem through interventions that aim at improving body image. This in turn will increase PA participation, prevent the development of NCDs and improve an individual's self-esteem and physical health (Shisana et al., 2013).

#### 4.8.1.4 Safety

The community of Vrygrond is a low-resourced community and has been reported to have high crime rates, especially where women are concerned. The participants in the community expressed that it is not always safe for them to participate in PA on a regular basis, therefore safety is major issue for them. One of the participants who engages in PA, expressed that she can only do so during certain times of the year, when it is lighter, because she fears her safety can be compromised.

*... during the summer its fine because it is lighter than it is in Winter....So in winter I don't do it at all, because it is really dark and people are so dodgy out there (Molly)*

*You just walk in the road then you without your phone... and shoes... (Valerie)*

*...there is shootings... sometimes it's just cross fires... it's mostly gang related... (Terri)*

*...maybe they will just rob you if you didn't see them coming... (Elizabeth)*

Furthermore theft has also become a big issue in the community. Participants mentioned that the city put structures in place to facilitate outdoor PA, however that did not last long.

*There is a park here that was made with the exercise stuff but it didn't last long before they stole all the stuff... (Gemma)*

It is clear from the above response that the participants are concerned about their safety in the community, which is hindering them from participating in regular PA. Violence such as theft, shootings and abuse are common in this community and participants are afraid that, if they participate in PA, their lives will be threatened. According to previous literature, personal safety on the streets, on public transportation, and in and around sport and community centres is known

to be a problem for females (Women's Sport And Fitness Foundation, 2008). Female youth who reside in low-resourced communities that are not conducive and are unsafe are less likely to participate in PA than those who live in safe neighbourhoods (Yeats, 2010). Concerns such as crime, victimization, traffic, stray dogs and lack of group participation have been documented in previous studies (Wilson et al., 2004). In a study conducted among adolescent girls in rural South Africa, parents had a legitimate concerns about the well-being and safety of their daughters, because rape is a big concern in their neighbourhood (Kinsman et al., 2015). This fear, poses as a hindrance for PA among these participants.

#### **4.8.1.5 Low awareness of opportunities**

Participants felt that there is a lack of awareness with regards to the opportunities and facilities available in the community, which are used for sport and recreational purposes. Often they would have to travel to neighbouring communities to join their sports clubs or PA programs. Even when there are programs happening in the community, participants reported that they were unaware of them. One of the participants reported the following,

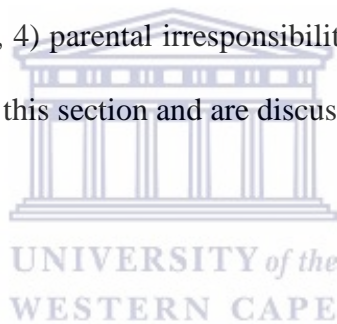
*...but the thing is miss, there is not a lot of programs like for that and people don't know about programs that they are... (Melissa)*

In the above response, it is clear that participants are uninformed about the PA programs and facilities available in their area. This is therefore seen as a barrier to PA. Similar findings were reported in a study conducted among participants in a deprived suburban neighbourhood. Participants felt uninformed about what was happening in their neighbourhood, where PA was concerned and they referred to word of mouth as their main source of information (Withall, Jago,

& Fox, 2011). According to previous literature, including more advocacy campaigns and increasing publicity of the PA program and facilities in the community, can increase PA participation (Monyeki, 2014).

#### **4.8.2 Barriers to preventing NCDs risk factors**

Barriers to preventing NCDs risk factors as a theme refers to participants perceptions of what hindered them as well their community from avoiding or stopping the use of tobacco products, consuming alcohol and eating unhealthy. Sub-themes such as 1) financial constraints, 2) convenience, 3) knowledge deficit, 4) parental irresponsibility, 5) peer pressure, 6) poverty, and 7) lack of authoritarian emerged in this section and are discussed below.



##### **4.8.2.1 Financial constraints**

Living in a low-resourced communities like Vrygrond, makes it difficult for most people to lead a healthy lifestyle because of affordability. Participants felt that the cost of buying healthy fresh food was more expensive than buying unhealthy food from the local Spaza shop. Spaza shops, are local informal convenience shops, commonly found in low-resourced communities, and they sell everyday small household items (Steyn, Labadarios, & Nel, 2011). Some of these Spaza shops sold fruit and vegetables, but these were not always fresh and appetizing, according to the participants. Thus, participants felt that purchasing healthier food is more expensive and not always affordable, despite the health outcomes. Some of the participants shared the same views around affordability with regards to purchasing healthy food. These participants expressed the following,

*Being healthy sometimes it cost a lot of money (Anna)*

*...and you always just have this in your fridge and you can make your own Gatsby or you make a sandwich...its junk food...and then also veggies is very expensive... (Molly)*

*...the stuff that you use, that you should use like she uses coconut milk or olive oil, that stuff is usually expensive... (Rachel)*

Conversely, one of the participant's, a mother from the community of Vrygrond, disagrees with the statements made by the previous ladies. Tumi believes that buying fast food and/or "junk food" is more expensive than buying healthy food. As the breadwinner of the family and the person responsible for doing all the grocery shopping, Tumi noticed that every time she bought unhealthy snacks for her children, it turned out to be more expensive and it didn't last as long, than buying healthy food.

*...I buy both....I buy junk food because I have kids who like to nibble on chips and stuff like that, so I buy that stuff and I buy the healthy food...but when I am cooking then in whatever I am cooking there is a lot of veggies and less of the starch so they would have their starch but I will have my veggies and my piece of meat... and then when I look at my slips, the veggies cost, the healthy stuff cost less than the fried chips, all the chocolates...all your junk food...that's the expensive stuff... (Tumi)*

This observation made by the participant, correlates with a study conducted on factors which influence the consumption of street foods and fast foods in South Africa. The females were mainly responsible for doing grocery shopping and considered a number of factors when purchasing foods that males considered less frequently. The price of a given food item was considered important as well as taking health considerations into account when purchasing food (Steyn et al., 2011).

Furthermore, most participants explained that it is cheaper to purchase unhealthy food, because it lasts longer and feeds more people, than purchasing healthy food. Purchasing and consuming fast foods such as “*slap chips*” and bread, “*Gatsby*” or “*Tshisa nyama*” from the Spaza shop, is cheaper and more filling than purchasing healthier food, like fruit and vegetables, (which are sometimes not even fresh anymore) and they “are very appealing to poor people who need to reduce their hunger as cheaply as possible” (Steyn, Labadarios, & Nel, 2011: pg. 5).

#### 4.8.2.2 Convenience

Participants felt that it was easier to prepare unhealthy food because it took less time to cook and did not require much effort. However, eating healthy and leading a healthy lifestyle is not always practical and convenient for most participants, as it takes time to prepare and cook food. This was perceived as a concern to one of the participants as she expressed the following

*...but now if you buy fruit and vegetables, you must still come home and cook it and then eat it... (Chantal)*

As a result of this, it has become more common for fast foods to be consumed in low-resourced communities because of the increasing cost of living, economic challenges, and increasing availability, access and popularity of fast foods (Sedibe et al., 2014). The Spaza shops, is where most participants would purchase their lunch, if they did not pack in lunch for that day. The Spaza shop is close to work and sells prepared affordable food options. These food items sold at the Spaza shops are not always the healthiest, but because the food is ready to eat and it is sold outside their place of work, participants feel that this option is more convenient and requires less effort. One of the participants shared the same perspective as Valerie and expressed the following:

*...and then is like, now you so busy or whatever, now you are eating bread and I mean you eat bread and that's like the worst, but it is so easy to pack it in at night and to have it the next day or to say to the girls can't you bring me a packet of hot chips... (Valerie)*

This particular participants admits that bread is not the healthiest option, but because it is effortless and doesn't require much preparation, she enjoys eating it with a packet of hot chips, bought from the local Spaza shop. The hot chips are usually made upon order and sold as takeaways, so that people can enjoy them in the comfort of their own homes, with their family members. This is usually a cheaper and more convenient alternative to purchasing potatoes and preparing them at home. These hot chips are usually eaten with bread, because it is more filling, can feed more than one person and are effortless to make. In low-resourced communities, where there is a lack of finances and lots of people to feed, fast foods like hot chips and bread, is one of the most affordable options, because it feeds many people. Some of the participants even mentioned that, when they are hungry and they do not have enough money to buy food, they would all put money together, to buy slap chips and bread or a Gatsby, because that way they can afford it and they can all enjoy a fulfilling meal.

Many of the participants also shared that they would rather eat fast food or unhealthy food, because they didn't like the taste of certain fruit and vegetables. Eating and cooking vegetables seemed to be something that only happened once a week, typically on a Sunday, for Sunday lunch. During the week participants hardly cooked because of time constraints and instead they preferred to buy food at the Spaza shop. Most of the participant's work or attend school all day, so it is difficult for them to prepare a healthy meal, after a long day. Instead they opt for eating something that is unhealthy and quicker to prepare. One of the participants expressed the following:



*...but for instance like we work until 5:30pm so when you go at home you don't feel like cooking anything...so then you do whatever, Vienna's or something and then there's one, like I only cook twice a week like food that will be once a week for food and on a Sunday. So the other days we eat whatever (Molly)*

From the above responses it is clear that participants find it difficult to prepare a healthy meal during the week due to other work and family commitments, thus it is more convenient for them to eat unhealthy and purchase processed foods, like Vienna's. Vienna's are processed sausages that are made out of pork or beef and are commonly eaten in low-resourced communities, because it is affordable and it requires no preparation time. They are often sold and bought prepared, so that they are ready to be eaten. They can be eaten cold or warmed up. People from middle to high income communities, usually use Vienna's to make hot dogs, whereas people from low-resourced communities will treat it as a protein that can be used in almost all meals, by putting it on a sandwich, in a Gatsby or even using it as protein filler in meals like spaghetti and meat balls. Instead of having beef meatballs, chopped Vienna's are used as the more affordable alternative. The consumption of processed foods like Vienna's which are high in saturated fats, low in fibre, and/ or having a-high glycaemic load is known as a poor diet (Mathur, 2011).

#### **4.8.2.3 Knowledge deficit**

One of the participants expressed that she would like to change, however her lack of dietary knowledge and fear of failure, got in the way of her improving her diet. One of the participants elaborated by stating:

*...there's a lot of people in this community they would like to see a change, but they are like so afraid of, okay like I am going to do this...but like of that failure part of everything or like what if it doesn't work out or what if I don't have the support or whatever the case might be...but if you are more knowledgeable...let's say I don't have anyone in my family that has diabetes, my uncle he is so fit, but he has cholesterol and I am like ja dude how did you get that and like he is healthy, eating healthy but he still has that... so for me it's like if you have knowledge of it and life experience about it then you can teach someone on the different like do's and don'ts... (Gemma)*

It is clear from the above response that participant's poor dietary knowledge is hindering them from eating healthy and preparing healthy meals. Poor dietary practices that have been closely linked to the development of chronic diseases include high-fat foods, lack of fruits and vegetables, together with the use of low-density cholesterol cooking oil (Tawa, 2010). These are common contributing factors associated with the increase in obesity, type II diabetes, metabolic syndrome, and cardiovascular diseases later in life (Sedibe et al., 2014; Shisana et al., 2013). Being more knowledgeable can positively influence beliefs and facilitate healthier food intake practices (O'Brien & Davies, 2006).

#### **4.8.2.4 Parental influence**

Parental influence refers to the impact parents have on encouraging or discouraging children from engaging in unhealthy behavioural practices (Mahabee-Gittens, Xiao, Gordon, & Khoury, 2013; Musaiger et al., 2013; Østbye et al., 2013). Parents in the community also contribute and encourage unhealthy habits in the community of Vrygrond, as they will send their children, who are under

the drinking and smoking age, to purchase them alcohol and cigarettes at the local shop, making it effortless for underage youth to obtain and engage in these substances. The participants felt that severer consequences should be implemented to shop vendors who sell alcohol and cigarettes to underage youth.

*Miss like they are not supposed to sell cigarettes to people under 18...they must make it more harder for people to get cigarettes because it's too easy... (Melissa)*

*So if the child can buy cigarettes and they send the inspector up then they must close the shop see... (Nicole)*

*The impact that it does is that the parents send the kids with money to go buy them cigarettes and now that also makes the child say okay my mommy is fine with me buying the cigarettes so I can rather just smoke... they must stop that... (Radia)*

Participant's responses indicate that parents are equally responsible and to blame for youth in their community to engage in these unhealthy habits. Smoking habits adopted at a young age are likely to continue through to adulthood, increasing the exposure to and risk for NCDs (Baldwin et al., 2013; Naik & Kaneda, 2015). Parents have been reported to have an influence on alcohol consumption and tobacco use among young people. Frequent use of alcohol and tobacco among parents is seen to increase the likelihood of young people being exposed to alcohol, tobacco and related risk behaviours. Additionally, heavy binge drinking was reported to be more likely among young people whose parents held permissive attitudes towards alcohol use (Ghuman et al., 2012).

#### 4.8.2.5 Peer pressure

All of the participants shared the same experiences around peer pressure and being negatively influenced by their friends to partake in consuming alcohol at an early stage. Ntombi, expressed that she has even lost friends along the way, because they were not willing to accept her in the friendship group, unless she also participated in drinking with her friends.

*Because me and friends when they are drunk and then when I stay with them then say you must take one glass and then I say no I don't drink, then I when I was grow up I didn't drink, so I can't drink now... so then they say no man, its better if you must go (Ntombi)*

Peer pressure has been as a common issue currently faced by many South African youth. Studies have reported that peer pressure plays a significant role in alcohol misuse (Chauke, van der Heever, & Hoque, 2015; Lewis & Lewis, 1984; Oluwamayowa, 2014). This was evident in a study conducted on the demographic factors and the influence of parents and peers, in KwaZulu-Natal, South Africa, where respondents reported that their peers offered them their first drink (Ghuman et al., 2012). According to Lewis & Lewis (1984), substance use during adolescence is increased by having friends who live closer to each other and are involved in illegal or rule-breaking activities. Similarly, Oluwamayowa (2014) stated that, facing peer pressure is inevitable and it happens to everyone, because it is part of the social and emotional development of an individual (Oluwamayowa, 2014). As people grow and develop, their thinking and behaviour is greatly influenced by their peers over the years (Ghuman et al., 2012; Osgood et al., 2014; Østbye et al., 2013). They can be positively or negatively influenced. However, in communities, such as Vrygrond, where poverty is rife, most young people do not have positive role models to look up

to, and thus, they find themselves in situations where they are negatively influenced by their environment as well as their peers.

#### **4.8.2.6 Poverty**

Participants felt that because of the circumstances they are faced with on a daily basis, many young people in the community use binge drinking as a way to overcome their issues. Take for example this quote by Natalie:

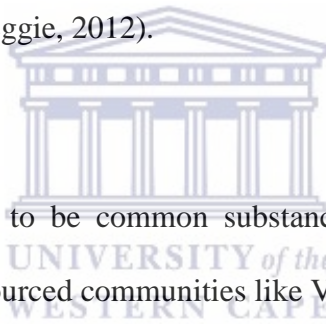
*Like people that are sitting at home, they like drinking every day. They don't eat food they just drink. They live for alcohol, so they don't buy food, they buy wine...but sometimes alcohol is taking their problems away...but it doesn't* (Natalie)

This finding is consistent with Ramsoomar & Morojele (2012) study, who reported that “the risk for youth drinking, and binge drinking, is exacerbated by environmental stressors such as poverty, unemployment and crime”. This observations were found to be similar Seggie (2012) study who reported that peer pressure, poor home environments and boredom, ignorance of alcohols harms and the relative cheapness of alcohol products, and their ease of access are some of the reasons associated with the use and misuse of alcohol among young people.

#### **4.8.2.7 Lack of authoritarian**

Lack of authoritarian for the purpose of this study refers to the failure to implement rules associated with purchasing alcohol and tobacco products in the community of Vrygrond. Participants felt that the laws and regulation around alcohol and tobacco sales and distribution are not strict enough,

especially in their community. This is therefore contributing to the use and misuse of these substances among youth in their community. Although the Tobacco Products Control Amendment Act (No. 63 of 2008) and the Liquor Act, 2003 (No. 59 of 2003) forms part of the national legislation on substance use, participants feel that this is not being implemented in their community. Participants expressed that there is no control and all the shop vendors care about is making money, thus selling alcohol and tobacco products to anyone, regardless of the age. This is against the law, as both these acts prohibit the sale of alcohol products and tobacco products to individuals under the age 18 years old. Furthermore, participants felt that these products are easily available and accessible at the local Spaza shops, “*shebeens*” and other unlicensed liquor outlets, which outnumber licensed ones (Seggie, 2012).



Alcohol and tobacco use seemed to be common substances abused in the community. The consumption of alcohol in low-resourced communities like Vrygrond, has a long social history in South Africa. Previously, the government had control over where people could purchase and consume liquor, how much they could purchase, who produced and procured it, and the quality of alcohol available to them (Schneider et al., 2007). These informal alcohol establishments originally sold home-brewed alcohol and were known as the meeting grounds for activist during apartheid. Operation of these Shebeens became “a form of resistance against oppressive laws” (Schneider et al., 2007: pg. 664). During that time, almost 70 percent of liquor outlets were unlicensed, making it highly available and accessible to large numbers of minors in low-resourced communities (Ramsoomar & Morojele, 2012).

High availability and accessibility of alcohol contributes to binge drinking among South African young people. Binge drinking refers to “the consumption, on one occasion, of less than five drinks for males and less than four drinks for females” (Ramsoomar & Morojele, 2012: pg. 551). Increasing taxation and legislating liquor outlet registration has still not reduced alcohol availability to minors in South Africa. Affordable price of alcoholic beverages, advertising, large-scale youth specific marketing, poor community policing and areas of access are influencing youths drinking patterns (Ramsoomar & Morojele, 2012).

The socioeconomic environment that participants are in, seems to have a great influence on participant’s health risk behaviours and the actions that they take to improve their health. The findings reported that a large number of the participants (63.6 percent) were unemployed and based on participants perceived barriers to PA and to preventing NCDs risk factors responses, the inequalities that are experienced by the participants hinder them from leading healthy active lives. Barriers such as time constraints, lack of interest and low-self-esteem were identified as some of the major reasons for physical inactivity among the participants. In addition, financial constraints, convenience and poverty were some of the reasons related to preventing NCDs risk factors. Similar findings were reported in a study conducted by Hosseinpoor et al. (2012). Participants with lower education levels or household income levels, reported to have high levels of PA. It is evident from this that the promotion of PA as an aspect of NCDs prevention in low-resourced communities, has been largely neglected (Hosseinpoor et al., 2012). Therefore, it is important to consider the impact poverty has on participant’s access to NCD related knowledge, in order to reduce and prevent the risk of developing NCDs later in life. Furthermore, there is a need to consider integrating and promoting PA and health knowledge at local schools, medical facilities and NGO’s in low-

resourced communities, such as Vrygrond. Since, it has been reported that physical inactivity and the development of NCDs is found to be more prevalent among females, programme developers and policy makers should address these health issues and implement interventions specifically focusing on females, to encourage PA and combat the development of NCDs. The conclusion of this chapter is next.





## 4.9 CHAPTER CONCLUSION

This chapter has presented a discussion of the participant's knowledge and perception of PA and NCDs risk factors, through the lens of the health belief model. Perceived susceptibility, perceived severity, perceived benefits and perceived barriers were the four HBM concepts adapted and discussed for each finding.

The participant's responses presented that they had inadequate knowledge and misconception about PA and NCDs risk factors. With regard to perceived susceptibility, the lack of knowledge about the term NCDs is evident and although participants had limited knowledge about the term PA, the misconception around PA is hindering participants from partaking in regular PA. Participants were able to identify the health effects of physical inactivity and NCDs risk factors and it was discussed further in this section. Participants expressed that if you do not participate in PA you can be at risk of being obese and gaining weight, ageing faster and be prone to injury. Being at risk of developing an illness and even dying are some of the more serious health effects of NCDs risk factors that the participants identified. Participants felt that money can be saved and one can lead a healthier lifestyle if NCDs risk factors are prevented. In addition, leading a healthy lifestyle, achieving a healthier body weight and enjoyment, were recognized as benefits for participating in PA. Although these benefits were identified, participants expressed that regular PA participation and NCDs risk factors prevention, is not always easy to do, as they are faced with many challenges that interfere and get in the way of leading a healthy and active lifestyle. Chapter five presents the study's conclusions and recommendations for further research.

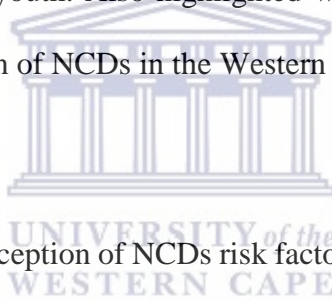
## CHAPTER FIVE

### SUMMARY, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

#### 5.1 INTRODUCTION

The primary focus of this study was to explore the knowledge and perception of PA and NCDs risk factors among the youth in a low-resourced community in the Western Cape Province.

This study consists of five chapters. Chapter one includes background, introduction and significance of the study. Chapter Two includes a review of literature which explored PA and NCDs risk factors among female youth. Also highlighted were the barriers to PA participation among female youth and the burden of NCDs in the Western Cape Province.



An overview of knowledge and perception of NCDs risk factors and PA was presented, and lastly, the Health Belief Model (HBM), which was the theoretical framework used in this study, was outlined and defined. Methodological considerations, research approach as well as the research design, were outlined in chapter three. A qualitative approach was selected to explore the knowledge and perception of youth in a low-resourced community in the Western Cape, regarding PA and NCDs risk factors. In Chapter Four, the findings of the study are presented and discussed, using the HBM as the lens to interpret the findings of this study. In this chapter, summary, conclusions and recommendations were presented below.

## 5.2 EVALUATION OF THE RESEARCH

In chapter 1, the research question, aim and objectives of this study were stated and the structure of this dissertation was explained. The general aim of the study was to explore the knowledge and perception of youth in a low-resourced community in the Western Cape, regarding PA and NCDs risk factors. This aim was achieved by making use of an explorative qualitative approach to gain an in-depth understanding and to capture the female youths' participants' experiences with regard to their knowledge and perception about physical activity and non-communicable disease risk factors. The sample was selected from the population by means of homogeneous purposeful sampling to ensure access of information rich data from the participant's thoughts and experiences. For the purpose of this study, FGD were used as the method of data collection with a semi-structured question guide. The semi-structured question guide adopted open-ended questions to encourage meaningful discussions that are explanatory in nature, about physical activity and non-communicable disease risk factors. The FGDs were voice recorded, transcribed verbatim and transcripts were read and placed into thematic categories where it was synthesized and interpreted into an analytical narrative to form the data for this study. After the data had been analysed, it was discussed in Chapter 4 with supporting literature. The process of data analysis helped the researcher gain an understanding, from the participants' perspective of their knowledge and perception of PA and NCDs risk factors. In order to achieve this aim, certain objectives were set. The following objectives were identified in Chapter 1:

1. To explore the youths' knowledge of PA and NCDs risk factors.
2. To explore the youths' perception of PA and NCDs risk factors.

The summary of findings were presented within the HBM framework detailed earlier, in order to explain how each objective was achieved by allowing the reader to gain insight into the knowledge and perception of youth on PA and NCDs risk factors in a low-resourced community in Vrygrond, Western Cape,

### **5.3 SUMMARY OF THE FINDINGS**

The summary of the findings is presented within the health believe model, which was used as a framework in this study. Participants of this study shared their knowledge and perception of PA and NCDs risk factors. This study was conducted with female youth population from a low-resourced community of Vrygrond.



#### **5.3.1 Perceived Susceptibility**

The first HBM concept highlighted participant's knowledge and perception of the term PA and NCDs. Two themes emerged from this concept namely: knowledge and perception of PA and knowledge and perception of NCDs. Perceived susceptibility was explored in the following ways:

1. Whether participants were knowledgeable and understood what the term PA meant
2. Whether participants knowledgeable and understood what the term NCDs meant
3. How participants perceived PA
4. How participants perceived NCDs

A definition by Rosenstock, Strecher, and Becker, (1988) refers to perceived susceptibility as an individual's opinion of chances of getting a condition or a disease condition. For example, an

individual must believe there is a possibility of being at risk of getting a disease, before he or she becomes interested in alleviating the disease. Therefore, for the purpose of this study, the participant's understanding and perception of PA and NCDs, is discussed in this concept. From the participant's experiences and responses of perceived susceptibility, the following key findings were raised:

1. Participants were familiar with the term PA
2. Participants had limited knowledge of the term NCDs
3. Even though participant's were familiar with the term PA, they reported to have negative experiences associated with PA
4. Participant's environment and lack of financial resources influenced their perception of NCDs as well as its risk factors

Findings from this study indicate that there is limited knowledge and misconception about PA and NCDs. Some of the participants were familiar with the term PA, whereas others expressed that they had only heard the term PA as two separate words, as a pose to one word. Additionally, participants were aware of what the term PA could insinuate, even though they were unable to provide the researcher with an exact definition. Participants expressed that the only form of PA that they were participating in was mainly for transport and doing house hold chores. This could be due to the fact that in a low-resourced community like Vrygrond, walking for transportation is a common way of getting around for many reasons: not many people cannot afford to own a car, the public transport is unreliable or inactive, the distance travelled is not long and paying in some in cases some people cannot afford to pay for public transport. Similar findings were reported in a study, where individual predictors for PA related to walking for transport and doing household chores (Micklesfield et al., 2014). This had an influence on participant's perception of PA, as

participants were under the impression that walking to work and doing house hold chores, was satisfactory and meet the global recommendations on PA for health. This finding is supported by previous literature, where researchers found that disadvantage population groups are less knowledgeable about PA and their guidelines (Hui & Morrow, 2001; Knox, Esliger, Biddle, & Sherar, 2013; Makamu, 2015). Furthermore, participants felt that by participating in PA in their community, they will be discriminated against, because PA is not a common activity people engage in within the community. Therefore, participants limited knowledge and misconception about PA is hindering them from adopting a healthy lifestyle.

With regards to NCDs, it was evident from the participant's insufficient responses that they were misinformed and had a lack of knowledge about the term NCDs. Participant's perception of NCDs related to their experiences with other diseases in their prevalent within their community such as HIV and TB. Some of the participants perceived NCDs as diseases by which people were ashamed or embarrassed to discuss in public. Furthermore, the socio-economic environment that the participants are exposed to had an effect on their perceptions of NCDs, which influenced their health behaviours. In addition, previous literature supports that there is a lack of NCDs knowledge and misconceptions about NCDs risk factors (Makamu, 2015; Puoane et al., 2013). This findings corroborates the findings of Ade et al. (2014), who reported low level of awareness of NCDs and their risk factors among youths from a low socioeconomic area in India. Moreover, participants experiences of stigmatization and poverty relating to NCDs within their community is known to be common in developing countries, because people are restricted in the decisions that they are able to make as a result of the socio-economic environment they find themselves (Burton et al., 2003; Islam et al., 2014; NCD Alliance, 2011).

### 5.3.2 Perceived Severity

The second HBM concept highlighted participant's knowledge and perceptions of the health effects of PA and NCDs risk factors. This was done by exploring the themes in the following ways:

1. Whether participants were knowledgeable and understood what the health effects of PA are
2. Whether participants knowledgeable and understood what the health effects of NCDs are
3. How participants perceived PA health effects
4. How participants perceived NCDs health effects

For the purposes of this study, the interpretation of perceived severity as offered by Glanz, Rimer, Viswanath, & Orleans, (2008) has been adopted. According to these researchers, perceived severity refers to an individual's opinion of how serious a condition and its consequences are. For the purposes of this study, this interpretation of perceived susceptibility was utilised.

Participant's knowledge and perception of PA and NCDs risk factors health effects, gave rise to the following key findings:

1. Participants identified overweight and obesity as the common health effects of physical inactivity.
2. Participants acknowledged that an individual's mental health and ageing can negatively be affected due to physical inactivity.
3. Participants are aware and understood the severity and health implications associated with unhealthy eating, excessive alcohol use, tobacco use and physical inactivity.

4. Participants are aware and able to link which of NCDs risk factors causes which diseases

Findings in this study indicated that physical inactivity and NCDs risk factors have negative health implications to an individual's overall health status. The following conditions were then identified by the participants as the health effects of physical inactivity: overweight and obesity, brain function and ageing and injury. This was supported by Henderson and Ainsworth (2003); WHO (2011), who also found the health risks of physical inactivity to be associated with being at risk of premature death, some chronic diseases and obesity. In addition, associations were made, as to which four modifiable NCDs risk factors (tobacco use, physical inactivity, unhealthy diets and harmful use of alcohol) causes which diseases. The World Health Organization (2013) stated that these four modifiable risk factors are known to make a large contribution to NCDs morbidity and mortality rates globally.



### **5.3.3 Perceived benefits**

The third HBM concept highlighted participant's perception of the benefits of PA and preventing NCDs risk factors. This concept was explored in conjunction with the study objectives and participant's perceptions and opinions were recorded in the followings ways:

1. How participants perceived the benefits of PA
2. How participants perceived the benefits of preventing NCDs risk factors

A definition by Conner and Norman, (2005) refers to perceived benefits as an individual's perception of the benefits to be gained by reducing risk or seriousness of impact. For example, the extent and value of the perceived benefits needs to be understood in order to reduce the risk of



developing a condition or a disease. Therefore, for the purpose of this study, the participant's understanding and perception of the perceived benefits of PA and preventing NCDs risk factors, was discussed in this concept.

From the participant's experiences and responses of perceived benefits, the following key findings were raised:

1. Participants are knowledgeable that with regular PA participation, individuals can achieve positive health outcomes
2. Participants perceive PA as a positive influence in maintaining a healthy weight in order to lead a healthy lifestyle.
3. Participants perceived the benefit of PA as being fun, despite all the effort and commitment that is required to being physically active.
4. Participants felt that there were limited positive benefits associated with preventing NCDs risk factors
5. Participants expressed that one could potentially save money if you do not purchase tobacco and alcohol products

It was found that there are positive benefits associated with participating in PA on a regular basis. Participants identified promoting a healthy lifestyle, weight control and recreational as their perceived benefits of participating in regular PA. However, these benefits are only attainable, if individuals achieve the recommended PA and health levels, which is not always the case. Most of the participants reported that the only PA that they engage in pertains to walking for transport or doing household chores, which they are aware is insufficient, thus making them unable to attain these benefits. Similar findings were described in studies conducted among South African youth,

where participants did not meet the recommended PA and health levels (Sedibe et al., 2014; Uys et al., 2016).

Along with promoting a healthier lifestyle, saving money was found to be one of the benefits of positive benefits associated with preventing NCDs risk factors. Due to the socioeconomic environment participants reside in, participants are fully aware of the financial implications associated with purchasing tobacco and alcohol products. Participants expressed that individuals should remind themselves that money is being wasted through purchasing these products as well as if individuals stop engaging in these NCDs risk factors, they can save money. This is supported by Aira, Wang, Riedel, and Witte (2013) were participants reported that saving money is preferable to purchasing alcohol or tobacco products.



#### **5.3.4 Perceived barriers**

The fourth HBM concept highlighted participant's perceived barriers of PA and preventing NCDs risk factors. This was done by exploring the themes in the following ways:

1. How participants perceived the barriers of PA
2. How participants perceived the barrier of preventing NCDs risk factors

For the purposes of this study, the interpretation of perceived barriers as offered by Glanz, Rimer, Viswanath, and Orleans, (2008) has been adopted. According to them, perceived barriers refers to an individual's opinion of the tangible and psychological costs of the advised action. In this

section, participants shared their opinions and experiences of the obstacles they are faced with, which prevents them to lead healthier lifestyles.

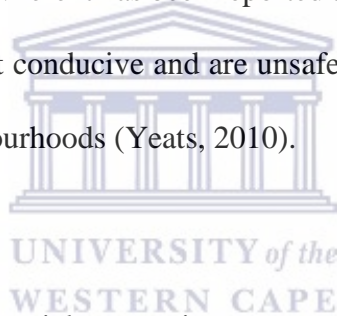
Participant's perceived barriers of PA and preventing NCDs risk factors, gave rise to the following key findings:

1. Family obligations such as caring for children and taking care of household duties are negatively affecting these female youth participants from participating in regular PA.
2. Even though participants are aware that there are means and ways around being physically active, without having to financially commit to doing so, they still choose not to do so.
3. Even though participants were interested in being physically active, it was difficult for them to do so because of the way they felt and their lack of self-confidence.
4. Participants felt that the cost of buying healthy fresh food was more expensive than buying unhealthy food from the local Spaza shop.
5. Participants felt that it was easier to prepare unhealthy food because it took less time to cook and did not require much effort.
6. Participants felt that parents are equally responsible and to blame for youth in their community who engage in unhealthy habits.
7. Participants also felt that the laws and regulation around alcohol and tobacco sales and distribution are not strict enough, especially in their community.

Participants in this study expressed that there were various barriers hindering their participation in PA. Barriers such as time constraints, lack of interest, low self-esteem, safety and low awareness of opportunities were identified by the participants. According to Moreno and Johnston, 2014; Smit et al., 2011; VicHealth (2014) these barriers are seen to effect female youth during various

stages in life, as they assume roles of motherhood, academic challenges and old age. Many of the participants in this study are unemployed and therefore are required to assist with household chores as well as family obligations. As a result, participants expressed that they found it difficult to participate in PA because of their daily commitments.

In some cases, participants felt that they lacked motivation and interest to participate in PA. This may be due to the fact that the environment that they reside in, is known to have high rates of crime, therefore participants do not feel safe to participate in PA within their community. This coincides with previous literature, where it has been reported that female youth who reside in low-resourced communities that are not conducive and are unsafe are less likely to participate in P.A than those who live in safe neighbourhoods (Yeats, 2010).



Furthermore, barriers such as financial constraints, convenience, knowledge deficit, parental irresponsibility, peer pressure, poverty and lack of authoritarian hindered participants from preventing them from engaging in NCDs risk factors. Many of the participants expressed that they cannot afford to lead a healthy lifestyle and they do not have the time to do so. This could be due to the fact that they lack the sufficient knowledge on how to purchase and prepare healthy cost effective meals. On the other hand, according to Aira, Wang, Riedel, and Witte (2013) the rising cost of groceries cause by the fluctuating economy and political conditions may also be a contributing factor.

It was also found that participant's socio-economic environment has an impact on their perceptions and decisions made with regards to preventing them from engaging in NCDs risk factors. The perpetuating cycle of poverty in the community of Vrygrond, contributes to these barriers faced by the participants. According to Hosseinpoor et al., (2012) poverty-reduction strategies may contribute to the success of policies addressing these NCDs risk factors that are prominent within these low-resourced communities, where education is utilized to reinforce healthier lifestyles.

#### **5.4 CONCLUSIONS RELATED TO THE RESEARCH FINDINGS**

The study set out to examine the research question: What is the knowledge and perception of youth in a low-resourced community in the Western Cape Province regarding PA and NCDs risk factors?



To this end, participants of this study were invited to participate in FGDs. The FGDs adopted semi-structured questions based on literature. Questions were guided by the HBM, which is the theoretical framework which was used to shape this study.

From the findings, it can be concluded that:

##### **5.4.1 Perceived susceptibility**

- Participants were reasonably knowledgeable about the term PA. However, they misunderstood the recommended amount of PA required to improve their health, corroborating with findings of Hui & Morrow Jr, (2001); Knox, Eslinger, Biddle, and Sherar, (2013); Makamu, (2015).

- There is a lack of knowledge with regards to NCDs, indicating that participants are uninformed about NCDs and their risk factors in their community and local healthcare centres. Being aware of NCDs and its risk factors is essential, in order to seek the necessary screening, diagnosis and treatment required. It can also assist with the establishment and implementation of intervention programmes that promote healthy lifestyles and prevent NCDs, corresponding to findings of Lorga, Aung, Naunboonruang, Junlapeeya, and Payaprom (2013); Shivalli et al., (2013).
- Participant's misconceptions about PA and NCDs is a result of their environmental influences and their lack of knowledge, indicating that the lack of financial resources and opportunities in the community, as well as participants inadequate education level influences unhealthy and risky behaviours. This finding is supported by Hosseinpoor et al. (2012).



#### **5.4.2 Perceived severity**

- The health effects of physical inactivity include obesity and overweight, effects brain function and ageing and individuals can become prone to injury. This is hindering participants from performing at their optimal level, thus also increasing their risk of sustaining a musculoskeletal injury or impairing their physical performance, corresponding to findings of Teyhen et al. (2016).
- Participants are aware of the health implications and severity associated with engaging in unhealthy eating, excessive alcohol use, tobacco use and physical inactivity. Individuals of

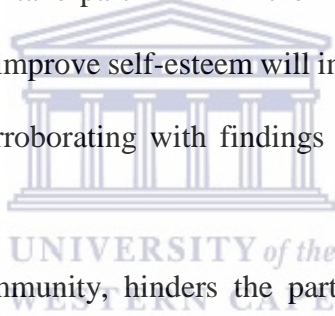
low socioeconomic status generally experience a higher burden of NCDs risk factors, corroborating with findings of Allen (2017).

### 5.4.3 Perceived benefits

- Participating in regular PA and preventing NCDs risk factors can promote a healthier lifestyle. Regular moderate-intensity PA, carried out more often and for longer periods of can therefore reduce the risk of a number of medical conditions and contribute to personal wellbeing corroborating with findings of Al-Eisa and Al-Sobayel (2012); Miles (2007).
- PA contributes positively to maintaining a healthy weight in order to lead a healthy lifestyle. PA may be an essential component of weight maintenance after weight loss, if individuals engage in a regular exercise program and continuing that program as a lifestyle modification as supported by Cox (2018).
- Participating in regular PA can be enjoyable. PA that are perceived as being fun, encourages long-term PA participation, which in turn benefits and promotes healthy living, as supported by Beni, Fletcher, and Ní Chróinín, (2017); Budd et al. (2018); Sundar, Løndal, Lagerløv, Galvin, and Helseth, (2018); Tannehill, MacPhail, Walsh, and Woods (2015).
- Engaging in negative health behaviours can be financially taxing. Purchasing of tobacco and alcohol products hinder participant's ability to acquire more NCDs related information, to prevent use of NCDs risk factors. This findings correspond with that of Kaba et al. (2017).

#### 5.4.4 Perceived barriers

- Time constrains hinder regular PA participation. Participating in PA is not always possible for some of the participants as they have other commitments to attend to, thus limiting their time, corresponding to findings of Moreno and Johnston (2014).
- There is a lack of interest with regard to PA participation. Participants mentioned laziness, boredom and lack of interest hindered them from participating in PA on a regular basis. Similar findings were reported by Awadalla et al. (2014).
- Participant's lack of self-confidence hindered them from being physically active. This hindered the participants to take part in PA in their community. Interventions aimed at improving body image and improve self-esteem will increase PA participation, prevent the development of NCDs, corroborating with findings of Hoare, Stavreski, Jennings, and Kingwell (2017).
- Personal safety in the community, hinders the participants from participating in PA. Participants mentioned that it is not always safe for them to participate in PA on a regular basis, in their community. This finding is supported by Yeats (2013).
- Healthy foods are more expensive to purchase than unhealthy foods. Thus, participants felt that purchasing healthier food is more expensive and not always affordable, despite the health outcomes. Access to healthy, affordable foods can encourage participants to consume healthy food, corroborating with findings of Seguin et al. (2014).
- It is more convenient for participants to eat unhealthy foods and purchase processed foods, due to time constraints. As a result of this, it has become more common for fast foods to be consumed in low-resourced communities because of the increasing cost of living,





economic challenges, and increasing availability, access and popularity of fast foods, as supported by Sedibe et al. (2014).

- Parents negatively influence and encourage unhealthy habits. Participant's responses indicate that parents are equally responsible and to blame for youth in their community to engage in these unhealthy habits, corresponding to findings of Ghuman, Meyer-Weitz, and Knight (2012).
- Lack of authoritarian encourages the use of alcohol and tobacco products. Participants also felt that the laws and regulation around alcohol and tobacco sales and distribution are not strict enough, especially in their community. Government structures that are put in place to increase taxation and legislate liquor outlet are not elevating the issue. This finding is supported by Ramsoomar and Morojele (2012).

Recommendations for further research as well as recommendations to benefit practice are made in the next section of this chapter.



## **5.5 STUDY LIMITATIONS**

This study set out to explore the knowledge and perception of PA and NCDs risk factors among youth in a low-resourced community in the Western Cape Province. The limitations that were recognized during the execution of this study, are discussed below. These may also serve as further methodological recommendations for the improvement and adjustment of the findings and conclusions of this study.

### **5.5.1 Language**

Firstly, even though the research was conducted in English and most (63.6 percent) of the participants indicated that English was their first language, the researcher still found it difficult to conduct the FGD, particularly with the Sozo Foundation participants. Participants might have been able to provide even richer descriptions of their knowledge and perception of PA and NCDs risk factors, if the research was conducted in a language(s) participants were more comfortable in.

### **5.5.2 Age**

This study only included female youth between the ages on 18 and 35 years old and therefore, describes the knowledge and perception of PA and NCDs risk factors, of that specific age group. Even though there were clear reasons why female youth of this age were chosen, this study does not give account on what the knowledge and perception of PA and NCDs risk factors are of older or younger female youth, and acknowledges that there might be other factors which impact the knowledge and perception of PA and NCDs risk factors of female youth of different age groups.

### **5.5.3 Participants**

Even though the researcher clearly indicated the reasons why it was important for this study to be gender specific, the focus was specifically on the knowledge and perception of PA and NCDs risk factors of female youth and the knowledge and perception of PA and NCDs risk factors of male youth, was therefore not addressed in this study. During the time period data was collected, most of the participants had already left the Vrygrond to go on holiday, making it difficult to conduct

each focus group discussion with ten participants. Setting focus group discussion times and days posed itself as a challenge as well.

#### **5.5.4 Demographic area**

This study was conducted in Vrygrond, a low-resource community in the Western Cape Province and acknowledges that it would not necessarily be possible to generalize the findings of this study to other South African provinces and low-resourced communities. Due to the researcher being a member of the neighbouring community, it was challenging to connect and engage with participants from the Vrygrond community, to participate in this research study.



### **5.6 RECOMMENDATIONS**

The following recommendations are being made on the basis of the findings with regard to the knowledge and perception of PA and NCDs risk factors among youth in a low-resourced community in the Western Cape Province. Recommendations for further research and for practice are discussed below.

#### **5.6.1 Recommendations for practice**

##### **5.6.1.1 Perceived susceptibility**

1. Participants should be encouraged to participate in regular PA from an early age. This may reduce the risk of developing NCDs later in life and increase PA participation.

2. PA and NCDs knowledge needs to be increased among participants. It is recommended that the Western Cape Health department and local health facilities develop and implement a health knowledge based intervention to education and create awareness about PA and NCDs risk factors. This will in turn positively influence participant's perceptions about PA and NCDs and encourage healthy lifestyle practices.

#### **5.6.1.2 Perceived severity**

1. It is suggested that the Western Cape Health department collaborates with local health facilities regarding future dialogue about the prevention of the health effects associated with physical inactivity and NCDs risk factors.



#### **5.6.1.3 Perceived benefits**

1. It is recommended that the Department of Cultural Affairs and Sport (DCAS) assign a specific focus to promote and encourage female youth in low-resourced communities, to participate in regular PA and lead a healthier lifestyle.
2. It is recommended that local recreational facilities and sports clubs host frequent PA activities and programmes that are enjoyable and focus specifically on female youth.
3. It is suggested and recommended that local recreational facilities in the community of Vrygrond and surrounding communities, work in partnership, perhaps once or twice a year, to host mutually financially beneficial festivals, fundraisers and events to create awareness around the benefits of PA and preventing NCDs risk factors, with a specific focus on female

youth. This will enable more female youth to work together and create supportive networks that will encourage regular PA participation and prevent unhealthy behaviours.

#### **5.6.1.4 Perceived barriers**

1. It is recommended that PA programmes that are available in the community accommodate the female youth's schedules and family obligations that they have to attend to. Perhaps initiating a day care facility will encourage females to participate more in PA because their children will be attended to.
2. It is recommended that local recreational facilities and sports clubs collaborate with the female youth to introduce new and fun activities that will encourage and create interest around PA participation.
3. It is suggested that more female instructors, of all shapes and sizes, as well as different ethnic backgrounds, are appointed to train and coach female youth participants, so that they feel more comfortable and confident to participate in PA. Participants who can relate to their instructor and are comfortable in the space that they are in, are more likely to participate in PA on a regular basis.
4. The Western Cape department of health in collaboration with local NGO's should develop workshops that educate female youth on how to grow their own vegetable gardens and how to prepare food in a healthy way. Therefore, leading a healthy lifestyle will become more cost effective.
5. It is recommended that meal prep workshops are provided in the community to educate and teach female youth on how to prepare healthy weekly meals. This will therefore increase the consumption of healthy foods and reduce the purchase of unhealthy foods.

6. Parents need to be educated about the health implications PA and NCDs risk factors have on their children. Parent and youth initiatives about the risk of unhealthy behaviours and the role parent's play in encouraging a healthy lifestyle need to be implemented in collaboration with local schools, NGOs and the Western Cape department of health.
7. It is suggested and recommended that stricter policies should be put in place to monitor the sales and distribution of alcohol and tobacco products, in communities such as Vrygrond. Increasing the tax on these products and enforcing server punishment for illegal and under age purchase of these products may reduce the purchase of alcohol and tobacco products in the community. Thus, decreasing the risk of developing NCDs.



### **5.6.2 Recommendations for future research**

Throughout the investigation the researcher came across different aspects which impacts female youth's knowledge and perception of PA and NCDs risk factors and on the basis of this would like to make the following recommendations for further research:

- From the findings, there is a need to conduct further research in order to explore the knowledge and perception of PA and NCDs risk factors among female youth in more low-resourced communities in the Western Cape, and on a larger scale, in South Africa. There is a lack of literature exploring the knowledge and perception of PA and NCDs risk factors among female youth in low-resourced communities within the Western Cape Province, in conjunction with the health belief model, this could therefore assist the researcher to provide further insight into the effect knowledge and perception of PA and NCDs risk

factors have on regular PA participation and prevention of the development of NCDs later in life.

- It is recommended that further research takes place by increasing the number of FGDs, thus increasing the sample size considerably, by including female youth participants from other low-resourced communities within the Western Cape, in order to gauge a more holistic view of the knowledge and perception of PA and NCDs risk factors among female youth in low-resourced communities in the Western Cape Province.
- As this study has illustrated that there are various barriers preventing regular PA participation and NCDs risk factors, it may be necessary to direct further research towards the impact these barriers could have on the increasing PA participation and reducing risk of developing NCDs in these low-resourced communities.
- It was revealed in this study that there was a lack of NCDs knowledge among the female youth participants, which had an influence on their perception of NCDs risk factors. Further research could be aimed at developing NCDs awareness interventions and programmes to educate female youth in low-resourced communities about NCDs and its risk factors, the risks thereof, prevention and management of NCDs.
- As this study was conducted qualitatively, further research could be aimed at conducting quantitative data in conjunction with qualitative data. This may strengthen the quality and richness of the data provided, as well as assist in developing intervention programmes that focus specifically on increasing female youth knowledge and perception of PA and NCDs risk factors, so that they can lead and enjoy a healthy quality of life.

## 5.7 RESEARCHER'S EXPERIENCE OF THE QUALITATIVE PROCESS

The exploratory nature of this study, warranted the utilization of a qualitative research design. Due to the nature of the information sought and the intricacies and variations of the participant's experiences with regards to their knowledge and perception of physical activity and non-communicable disease risk factors, a qualitative approach was indisputably the most feasible research method for this study. This study sought the experiences, understanding and opinions on physical activity and non-communicable disease risk factors from female youth participants residing in a low-resourced community.

The use of the HBM, as the theoretical framework of the study was useful to guide this research. This enables the researcher to design questions appropriate for the different concepts of health behaviour as illustrated in the HBM, for the female youth participants.

The facilitation of the data collected was assisted by the willingness shown by all the female youth participants. Participants were interested to contribute to this research and agreed to being audio recorded using an electronic voice- recorder. It is important to note that the findings presented in this research only apply to a set of purposefully selected participants. Generalizations to the study findings cannot be applied elsewhere, as they are only pertinent to the context of the community of Vrygrond, in the Western Cape Province. As a researcher I believe that female youth in low-resourced communities want to acquire more knowledge and have positive opinions about physical activity and non-communicable disease risk factors. This research was conducted from the idea that the lack of knowledge and misconception about physical activity and non-communicable diseases may play a role in the prevention or promotion of physical activity and non-communicable



disease risk factors. In addition, as the researcher I wanted to comprehend what participants understood and perceived about physical activity and non-communicable disease risk factors.

As the researcher, from my experience of this study, I found that most of the participants during the focus group discussions spoke openly and freely. I also noticed that the participants from the second focus group discussion found it difficult in the beginning to express themselves and later became more comfortable with engaging in the discussion. An opportunity for conversation was provided and the participant's viewpoints were understood holistically. Participants shared strong views about their experiences with physical activity in the community of Vrygrond as well as their lack of knowledge of the term non-communicable diseases. Some of the participants expressed that they have never heard of the term non-communicable diseases before and even though they have heard of the term physical activity, it did not promote or increase their desire to want to be physically active because of the low-resourced community they resided in.

During the data analysis of this study, it was clear that there was a lack of knowledge and misconception about physical activity and non-communicable disease risk factors, which in turn contributed to and affected the promotion of physical activity and prevention of non-communicable disease risk factors. This was discussed in detail in chapter four of this study.

An opportunity for further research is presented in this study. Possibly having more sports activities focused on females and more health awareness initiatives, would have expand the field of research and results considerably. A shortcoming of this study is perhaps that, as the researcher,

I could have collected data in other low-resourced communities within the Western Cape Province. This would have provided richer data, broadened results and findings of this study extensively. More focus group discussions could have been conducted to allow for more in-depth discussions and participant's views could have been challenged further. This study provides useful information with regard to knowledge and perception of physical activity and non-communicable disease risk factors to the provincial and national department of sport and recreation, sports federations, clubs, provincial as well as the national department of health. This may provide an opportunity for these stakeholders and governmental departments to create a better environment and atmosphere to facilitate physical activity participation and to create awareness about non-communicable diseases and its risk factors. As the researcher, I felt that my inexperience in research, hindered me the opportunity and foresight to motivate and probe for answers to questions around practical improvements that can be made, with the current resources that are available. Even though this may have been a missed opportunity, the data collected for this study is rich and considerable valuable.

## **5.8 STUDY CONCLUSION**

This study reveals that there is a lack of knowledge and misconception with regards to physical activity and non-communicable disease risk factors. The term NCDs was unknown by all of the participants and even though the participants were aware of what PA is, their perceptions of PA hindered them from being physically active on a regular basis. Participant's shared various PA and NCDs barriers that hindered them from participating in regular PA and leading a healthy lifestyle.

The results of this study provided insight into what the participants understood and perceived with regards to PA and NCDs risk factors and offered recommendations for further research and practice. The results and findings of this study can be utilized by government sport departments, sports federations as well as the government health departments within the Western Cape and South Africa, to improve and promote PA participation and create awareness about NCDs and the risk factors among female youth in low-resourced communities.

In conclusion, this study provides insight to the knowledge and perception of female youth in a low-resourced community with regards to PA and NCDs risk factors. This investigation aims to create awareness, and provide information with regard to the current knowledge and perception of female youth in a low-resourced community in the Western Cape Province, with regards to PA and NCDs risk factors.



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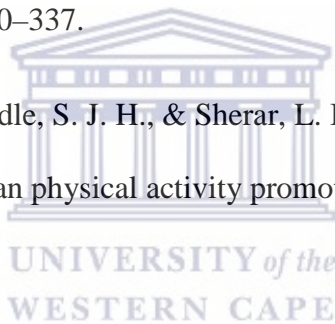
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### INFORMATION SHEET

**Project Title:** *Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape*



#### **What is this study about?**

This is a research project being conducted by Mpai Rampou at the Vrygrond community in the Western Cape Province, Cape Town. The purpose of this study is to explore the knowledge and perception of physical activity and non-communicable disease risk factors among the youth in a low-resourced community in the Western Cape. This study provides information about the risk for disease regarding physical activity and exercise, specifically for female youth across the lifespan. This study also provides awareness and an overall insight into lifestyle choices, health, diet, behaviour and exercise.

#### **What will I be asked to do if I agree to participate?**

Participants are free to contribute to this research through focus group discussions. The participant will be asked to sign a consent form as well as a confidentiality binding form to ensure their anonymity and protection of the information gathered. Participants will be asked to provide some personal information for demographic purposes. The focus group discussion will take place for approximately 90minutes and a semi-structured question guide will be used to facilitate the discussion.



### **Would my participation in this study be kept confidential?**

To ensure your anonymity, the use of pseudonyms (fake names) and/or numeric codes will be used to ensure anonymity of the participant. As part of the data collection phase of research, the researcher will use a Dictaphone or audio-recording device to record the discussion. The researcher is the only person who will have access to this recording, and these audio files will be stored in a locked cabinet at the Department of Sport, Recreation and Exercise Science, to ensure the safety of the audio-files. Your identity is protected throughout the research process.

### **What are the risks of this research?**

There may be some risks for participating in this research study. The study may include risks that may be better described as things that could make the participant feel uncomfortable such as disclosing information that you don't want to share. You may then ask to move to the next question and are under no obligation to answer. You may withdraw from the study at any time. Other than that there are no known risks associated with participating in this research project.

### **What are the benefits of this research?**

Your contribution to this research study will enable us to provide the community at large with information about health, physical activity and the risk for non-communicable diseases. Participants of this study will receive the opportunity to share their experiences of physical activity and contribute to the body of knowledge in Sport, Recreation and Exercise Sciences.

### **Do I have to be in this research and may I stop participating at any time?**

Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participation at any time.

**What if I have questions?**

This research is being conducted by Mpai Rampou of the Department of Sport, Recreation and Exercise Science at the University of the Western Cape. If you have any questions about the research study itself, please contact:



Mpai Rampou

Cell: 063 444 2151

Address: 29 Sand Olive Road, Steenberg, 7945

Should you have any questions regarding this study and your rights as a research participant or if you wish to report any problems you have experienced related to the study, please contact:

Head of Department: Dr Marie Young

Address: Department of Sport, Recreation & exercise Science, University of the Western Cape,  
Private Bag X17, Bellville 7535

Email: [myoung@uwc.ac.za](mailto:myoung@uwc.ac.za)



Dean CHS: Prof Rina Swart

Address: Faculty of Community and Health Sciences, University of the Western Cape, Private Bag  
X17, Bellville 7535

Email: [chs-deansoffice@uwc.ac.za](mailto:chs-deansoffice@uwc.ac.za)

This research has been approved by the University of the Western Cape's Senate Research Committee. (REFERENCE NUMBER: **HS17/9/5**)



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### CONSENT FORM

**Title of Research Project:**



*Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape*

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits.

Participant's name:

Participant's signature.....

Date.....





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### FOCUS GROUP CONFIDENTIALITY BINDING FORM

**Title of Research Project:**

*Physical activity and non-communicable disease risk factors: knowledge and perceptions of youth in a low resourced community in the Western Cape*

The study has been described to me in language that I understand. My questions about the study have been answered. I understand what my participation will involve and I agree to participate of my own choice and free will. I understand that my identity will not be disclosed to anyone by the researchers. I understand that I may withdraw from the study at any time without giving a reason and without fear of negative consequences or loss of benefits. I understand that confidentiality is dependent on participants' in the focus group maintaining confidentiality.



I hereby agree to uphold the confidentiality of the discussions in the focus group by not disclosing the identity of other participants or any aspects of their contributions to members outside of the group.

Participant's name.....

Participant's signature.....

Date.....



**PERSONAL INFORMATION**

This information is being requested in accordance with the research study that will be conducted.

The information is voluntary and confidential. Please **tick** the appropriate box for each question.

Date:

Participant number:



**1. Age Group**

18 to 20 years old

24 to 26 years old

30 to 32 years old

21 to 23 years old

27 to 29 years old

33 to 35 years old

**2. What language do you speak?**

English

isiXhosa

Other

Afrikaans

isiZulu

**3. Marital Status**

Single/never been married

Divorced

Married

Widow

**4. Education Level**

- |   |  |
|---|--|
| <input type="checkbox"/> Primary School   | <input type="checkbox"/> Diploma and above |
| <input type="checkbox"/> Secondary School | <input type="checkbox"/> No Schooling      |

**5. Employment status**

- |   |  |
|---|--|
| <input type="checkbox"/> Full-time employed | <input type="checkbox"/> Self-employed |
| <input type="checkbox"/> Part-time employed | <input type="checkbox"/> Unemployed    |

**6. Who do you live with?**

- |                                 |   |                                   |
|---------------------------------|---|-----------------------------------|
| <input type="checkbox"/> Mother | <input type="checkbox"/> Sibling (sister/brother) | <input type="checkbox"/> Guardian |
| <input type="checkbox"/> Father | <input type="checkbox"/> Grandparents             |                                   |

**7. Who financially supports the family? (Breadwinner)**

- |                                 |   |                                   |
|---------------------------------|---|-----------------------------------|
| <input type="checkbox"/> Mother | <input type="checkbox"/> Sibling (sister/brother) | <input type="checkbox"/> Guardian |
| <input type="checkbox"/> Father | <input type="checkbox"/> Grandparents             |                                   |

**8. How many people live in your home?**

- |  |  |
|--|--|
| <input type="checkbox"/> I live alone  | <input type="checkbox"/> 3 to 4 people |
| <input type="checkbox"/> 1 to 2 people | <input type="checkbox"/> 5 and more    |

*Thank you for taking the time to complete this questionnaire*

## **SEMI-STRUCTURED QUESTION GUIDE**

**Welcome** and thank you for volunteering to take part in this focus group. You have been asked to participate as your point of view is important. I realize you are busy and I appreciate your time.

**Introduction:** This focus group discussion is designed to assess your current thoughts and feelings about physical activity and non-communicable diseases. The focus group discussion will take no more than two hours. Before we start, please can you fill out a short questionnaire, with your personal information? Lastly, may I tape the discussion to facilitate its recollection?

**Anonymity:** Despite being taped, I would like to assure you that the discussion will be anonymous. The tapes will be kept safely in a locked at the department of Sport, Recreation and Exercise Science at UWC, until they are transcribed verbatim, then they will be destroyed. The transcribed notes of the focus group will contain no information that would allow individual participants to be linked to specific statements. You should try to answer and comment as accurately and truthfully as possible. I and the other focus group participants would appreciate it if you would refrain from discussing the comments of other group members outside the focus group. If there are any questions or discussions that you do not wish to answer or participate in, you do not have to do so; however please try to answer and be as involved as possible.

### **Ground rules**

1. The most important rule is that only one person speaks at a time. There may be a temptation to jump in when someone is talking but please wait until they have finished
2. There are no right or wrong answers

3. You do not have to speak in any particular order
4. When you do have something to say, please do so. There are many of you in the group and it is important that I obtain the views of each of you
5. You do not have to agree with the views of other people in the group
6. Does anyone have any questions? OK, let's begin

### **Opening question**

First, I'd like everyone to introduce themselves. Can you tell us your name and where you are from?

### **Key questions**

1. What is physical activity?
2. Is physical activity beneficial? Explain how?
3. What do you understand or know about diseases that are non-transmittable or cannot be passed on through direct contact (non - communicable diseases)?
4. Is there a connection between physical activity and non -communicable diseases? If so, what is the connection?
5. Which lifestyle behaviours that can be controlled (modifiable risk factors) do you know of, and will increase your chance of getting non-communicable diseases?
6. Which diseases can be classified as non - communicable diseases?
7. Who is most likely to develop/have non - communicable diseases?
8. Can non - communicable diseases be prevented? Explain how?

### **Ending question**

- Of all the things we've discussed today, what would you say are the most important issues you would like to express about physical activity and non-communicable diseases?

### **Conclusion**

- Thank you for participating. This has been a very successful discussion
- Your opinions will be a valuable asset to the study
- We hope you have found the discussion interesting
- If there is anything you are unhappy with or wish to bring to my attention, please do not hesitate to
- I would like to remind you that any comments featuring in this report will be anonymous
- Before you leave, please hand in your completed personal details questionnaire

