IMPLEMENTATION AND EVALUATION OF A HEALTH EDUCATION PROGRAMME ON CHRONIC DISEASES OF LIFESTYLE IN HIGH SCHOOLS LEARNERS IN THE NORTHERN CAPE

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A thesis submitted in fulfilment of the requirements for the degree of Master of Science (Physiotherapy) in the Department of Physiotherapy, University of the Western Cape

Supervisor: Professor J.M. Frantz

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KEYWORDS

Implementation

Evaluation

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DECLARATION

I declare that *implementation and evaluation of a health education programme on chronic diseases of lifestyle in high schools learners in the Northern Cape* is my personal work, this work has not been submitted before for any degree at any other university, and that all sources used or quoted have been indicated and acknowledged as references. Berenice Lee- Ann Sauls May 2013

..... August, 2013

Berenice L Sauls

..... August, 2013

Supervisor: Professor .J.M. Frantz

DEDICATION

I dedicate my work to my husband Ezra Shalmino Sauls, my “Liefie” for his tender love and constant support throughout my masters. Thank you for understanding and for your love towards me. Love you…

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I would firstly like thank God for His blessings and provision throughout this year in ways I could not image. “Our heavenly Father has a thousand ways to provide for us of which we know nothing” (E G White writings).

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ABSTRACT

Introduction: Non-communicable disease (NCD's) accounts for 80% of the deaths in low and middle socio-economic countries. Emphasis should be placed on the prevention of behavioural risk factors for chronic diseases like alcohol consumption, physical inactivity and smoking to control health risk behaviours in order to lower the amount of deaths caused by NCD's. In South Africa adolescents indulge in behavioural risk factors that may increase their risk for subsequent chronic diseases of lifestyle. Adolescents should be primary targets for preventative interventions as prevention interventions are usually targeted at healthy individuals. Health education taught in the early years of life is believed to influence the health decisions that individuals make later in life. Health education programmes are currently being implemented worldwide but not many are evaluated to determine the effect of the programme. Thus the aim of this study is to implement and evaluate a health education programme on chronic diseases of lifestyle in a high school in the Northern Cape province of South Africa.

Methods: The study used an explanatory sequential mixed method design**.** The study population consisted of all grade 10 learners from three high schools in the Municipality of Hantam (N=200) as well as the grade 10 life orientation educator in Hantam municipality (N=1) within the Northern Cape Province. The high schools were divided into an intervention and control group. Learners (N = 121) from one school was used as the intervention group and learners (N = 36) from two school served as the control group. At the intervention school a health education programme was implemented by the educator. Prior to the intervention the educator received a workshop on the health education programme's content. The tools used for the quantitative data collection of this study was a knowledge questionnaire on chronic diseases of lifestyle and a modified youth risk behaviour survey referred to as a Health Risk

behaviour questionnaire. The knowledge questionnaire was valid and reliable (Chronbach's alpha of 0,897). The statistical analysis programme SPSS® was used to analyse quantitative data from the questionnaires. Data obtained from the questionnaires were coded and then entered into Microsoft Office Excel 2007 and was then exported to SPSS® for descriptive and inferential statistical analysis. The qualitative data was collected by means of focus group discussions with learners and an interview with the educator. The steps in analysing the qualitative data was transcription , coding of the data, after which thematic analysis was done which allowed for grouping of the theme and lastly a reports was written about the findings.

Results:

The health risk behaviour survey revealed that learners are engaging in high levels smoking and alcohol consumption and few of them were physically inactive. Although overall knowledge mean scores of participants was improved, there was not statistical difference between the control and intervention groups.

Qualitative data revealed both facilitating factors and hindering factors to the implementation of the health education programme. Within the facilitating factors were empowerment, freedom of choice and social responsibility. Within the hindering factors the following factors emerged including logistics, methods of sharing and quality of intervention implementation.

Conclusion: The results of this study highlighted that careful attention also needs to be given to the implementation of the intervention. The necessary support structures needs to be put in place in order to ensure good collaboration of the health and education sectors.

Recommendations for the improvement of an effective delivery of health education programmes were also brought to light as a result of this study.

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CHAPTER ONE: INTRODUCTION

1.1 Background

The World Health Organization (WHO) (2011a) noted that 80% of deaths are caused by non-communicable disease (NCD's), are found in countries with low and middle socio-economic status. Non-communicable disease (NCD's), also defined as chronic diseases of lifestyle, include cardiovascular attacks, cerebrovascular disease, cancers caused by tobacco and diet, several respiratory conditions and renal failure (Medical Research Council (MRC), 2006). The health risk behaviours of chronic diseases of lifestyle are modifiable which means that these risk behaviours can be altered by an intervention (Bradshaw et al., 2002).

Chronic diseases of lifestyle are commonly found in countries with a low and middle socio-economic status (WHO, 2011a). South Africa is classified as a country with an upper middle socio- economic status (The World Bank, 2011). Poverty within the Northern Cape is an enormous problem (National Development Agency, 2011; Northern Cape Government, 2002), even though South Africa is a country with an upper middle socio-economic status. Literature has established that the risk factors for chronic diseases of lifestyle are inadequately identified and inadequately treated amongst the poor (Schneider, Bradshaw, Steyn, Norman & Laubscher, 2009). Generally, those who are poor are also the least educated about the harmful effects of health risk behaviours when compared to people who are rich (Siahpush, McNeil, Hammond & Fong, 2005). Educational interventions to improve the knowledge of disadvantaged groups of people needs to be implemented in order to inform the least educated about the harmful effects of health risk behaviours such as smoking (Siahpush et al., 2005). The World Health Organization (2005) has advised that interventions are needed to avoid negative effects of chronic diseases of lifestyle on economic development,

the family and the individual. Chronic diseases of lifestyle cause loss on a national economic developmental level as affects the gross domestic product (WHO, 2005), the household (family) and the individual level as it causes economic loss which encumbers the development of the society and the economic status of the country (WHO, 2011a).

The public health burden linked to chronic diseases of lifestyle impacts upon the individual, the family, the community and the country (World Health Organization, 2005). In South Africa, the burden of non-communicable diseases form part of the quadruple burden of disease (Lawn & Kinney, 2009) and is increasing especially within the poor communities (Mayosi, Flisher, Lalloo, Sitas, Tollman & Bradshaw, 2009). The quadruple burden identified is as result of infectious diseases; non-communicable diseases; deaths caused by violence and maternal, neonatal and child health diseases (Lawn & Kinney, 2009). Deaths as result of non-communicable diseases exceed the other deaths within the quadruple burden of disease (WHO, 2012) thus preventative measure needs to be put in place.

Competent preventative measures are needed to control health risk behaviours like alcohol consumption, physical inactivity and smoking (Boutayeb, 2005; Yach, 2002). Health promotion intervention programmes are intended to decrease the burden of disease by encouraging healthier lifestyles, which would result in a healthier population. The focus of the health promotion and prevention programmes should be placed on vulnerable groups which are pregnant women, the young, elderly and disabled individuals (International Federation of Red Cross and Red Crescent Societies, n.d). Adolescents form part of the young and are also generally in good health thus they should be primary targets for preventative interventions as these are usually targeted at healthy individuals.

The best available learning environment for learners is at schools. Research has shown that preventative health education for adolescence can be successfully implemented at high schools (Angley, 1996), and school-based initiatives have led to significant improvements in health among learners (Tang et al., 2008). Action should therefore be taken by local school communities in terms of health promotion as every child has the right to health and education (Tang et al., 2008). Previous similar studies to this study have implemented health education programmes which were conducted by health professionals who were not associated with the schools (Frantz, 2011; Chutergon, 2010). The health promoting school concept encourages all schools to participate in health promotion at school (WHO, 2006). Based on the health promoting school concept, teachers are responsible for promoting health education as it is believed that what individuals are taught in the early years of life, can influence their subsequent decisions later (WHO, 2006). For effective health promotion to take place, the health, education and other sectors such as the government should work together (Tang et al., 2008). Health education programmes are currently being implemented worldwide but one also needs to evaluate health education programmes to determine the effect of the programme. Evaluation aids in determining what works thus allowing room for improvement. Thus the emphasis of this study is to implement and evaluate a health education programme on chronic diseases of lifestyle by an educator in an identified high school.

1.2 Research problem statement

Health care services and the accessibility to health services in the Northern Cape particularly in rural areas are inadequate. Northern Cape Health Minister's aim is to focus on improving access to health services and while this is addressed attention should be targeted towards health promotion measures. Previous actions from the South African government in the

prevention of chronic diseases of lifestyle have been ineffective and there is a need to adhere to the suggestions from Lawn & Kinney (2009). According to these authors universities and training institutions are urged to support research in the area of health interventions in terms of implementation and assessment of interventions (Lawn & Kinney, 2009).

Ideally both the health and the education sectors should be involved in introducing health intervention programmes as the health sector has the medical knowledge and the educational sector has the pedagogical knowledge. With the evidence of an increase in risk factors for chronic diseases of lifestyle among young people there is a need for health education programmes that combine the skills of both the health sector and the education sector. The health sector has the medical knowledge and the education sector the pedagogical knowledge. The school environment offers the opportunity for the health sector and the education sector to combine their skills through the concept of health promoting schools.

1.3 Aim of study

The aim of this study was to implement and evaluate a health education programme on chronic diseases of lifestyle in high school learners.

1.4 Study objectives

1.4.1 To determine the prevalence of risk behaviours that are risks for chronic diseases of lifestyle amongst high school learners in the Northern Cape Province;

1.4.2 To determine the knowledge of high school learners regarding the risk factors relating to chronic diseases of lifestyle prior to intervention;

1.4.3 To implement a health education programme for high school learners;

1.4.4 To evaluate the effects of a health education programme on the knowledge of high school learners;

1.4.5 To evaluate the implementation of the health education by exploring the learners' and an educator's experiences of the implementation process.

1.5 Rationale and significance of the study

As a community service physiotherapist within the Hantam Municipality in 2010 I have observed that members of the community frequently indulge in health risk behaviours of chronic diseases of lifestyle. This study aimed to implement and evaluate a health education programme on chronic diseases of lifestyle in high school by educating the learners on the effects of health risk behaviours and how these relate to chronic diseases of lifestyle. This health education programme was implemented by an educator which is different from Frantz (2011) study in which a health professional implemented the health education programme. A health awareness activity formed part of the health education program implemented as part of the life orientation curriculum. This health awareness activity was aimed at improving the knowledge among unaffected community members as well as to improve awareness among already affected individuals to encourage health changes to their lifestyles. The significance of this study is to provide suggestions for improvement of the health education programme when implement through the education system. As health professionals, health education and health promotion activities are a fundamental requirement for management. Health promotion can be achieved by advocacy (WHO, 1986). Advocacy has two main goals, firstly to protect the vulnerable groups or those who are discriminated against and secondly to empower people by allowing them to make decisions (Scottish Health Service Advisory Group, 1997). In order to achieve advocacy a combined social action needs to take place by the individual, institutions, policy makers and relevant stakeholders (WHO, 1995). The health education

programme to be implemented in this study is in line with the objectives of the 2008 to 2013 Action Plan for the Global Strategy for the Prevention and Control of Non-communicable diseases of the World Health Organization (2008). The six objectives are:

1) to raise awareness of non-communicable diseases;
2) to aid in the planning of prevention of non-communicable diseases;
3) to encourage implementation of interventions to reduce modifiable risk factors for non-communicable diseases;
4) to encourage research for non-communicable prevention and control;
5) to promote partnership and
6) lastly to monitor and evaluate the progress of non-communicable diseases (WHO, 2008).

Thus through our efforts as health promoters and raising awareness we are trying to combine the health sector and the education sector in implementing this health education programme. If successful a partnership between the sectors can be achieved through which would allow for the training health promotion at the schools.

1.6 Summary of the chapters

Chapter One

The first chapter presents an introduction to the research topic of this study in terms of providing a definition of chronic diseases of lifestyle also highlighting the risk factors for chronic diseases of lifestyle. This is followed by a brief introduction to chronic disease of lifestyle as it relates to the economic status and the quadruple health burden. The introduction section ends highlighting the need for interventions for chronic diseases of lifestyle especially at schools. Chapter One ends with the problem statement, aim of the study, study objectives and the rationale of the study.

Chapter Two

The second chapter is a review of the current available literature which highlights that prevalence of chronic diseases of lifestyle are increasing internationally as well as nationally and that these deaths exceeds the deaths of communicable diseases. Secondly it highlights that the adolescents are engaging in risk factors of chronic diseases at increasing rates. Furthermore the literature review states that multiple factors influencing involvement in health risk behaviours and thus prevention strategies should be multifactorial. Chapter Two concludes with information about health education and health promotion in high schools as it is seen as an excellent setting for health promotion.

Chapter Three

This chapter represents the research design and setting employed in this study. It continues with a description of the study population and the data collection methods followed by stating the tools used and the collection procedure for both quantitative and qualitative data during data collection. The data analysis is also discussed in this chapter. Chapter Three ends with a description of ethical considerations.

Chapter Four

The fourth chapter is a presentation of the results according to the study objectives and presents results from health risk behaviour questionnaire, knowledge questionnaire and the experiences of learners during the implementation of the health education programme. Both quantitative and qualitative results are presented in this section.

Chapter Five

Within this chapter is found the discussion of this thesis as related to the results findings. It starts with the discussion of the current study's findings on the prevalence of health risk behaviour and compares the findings to other studies' results. The chapter continues by discussing the effects of the health education programme on the knowledge of learners. Lastly this chapter discussed the learners' and educator's experiences during the health education programme.

Chapter Six

The sixth provides a summary of the study. Suggestions for re-implementation of this current study are given followed by suggestion of improvement of the health education program. The chapter then ends of by stating the limitations of the current study.

CHAPTER TWO: LITERATURE REVIEW

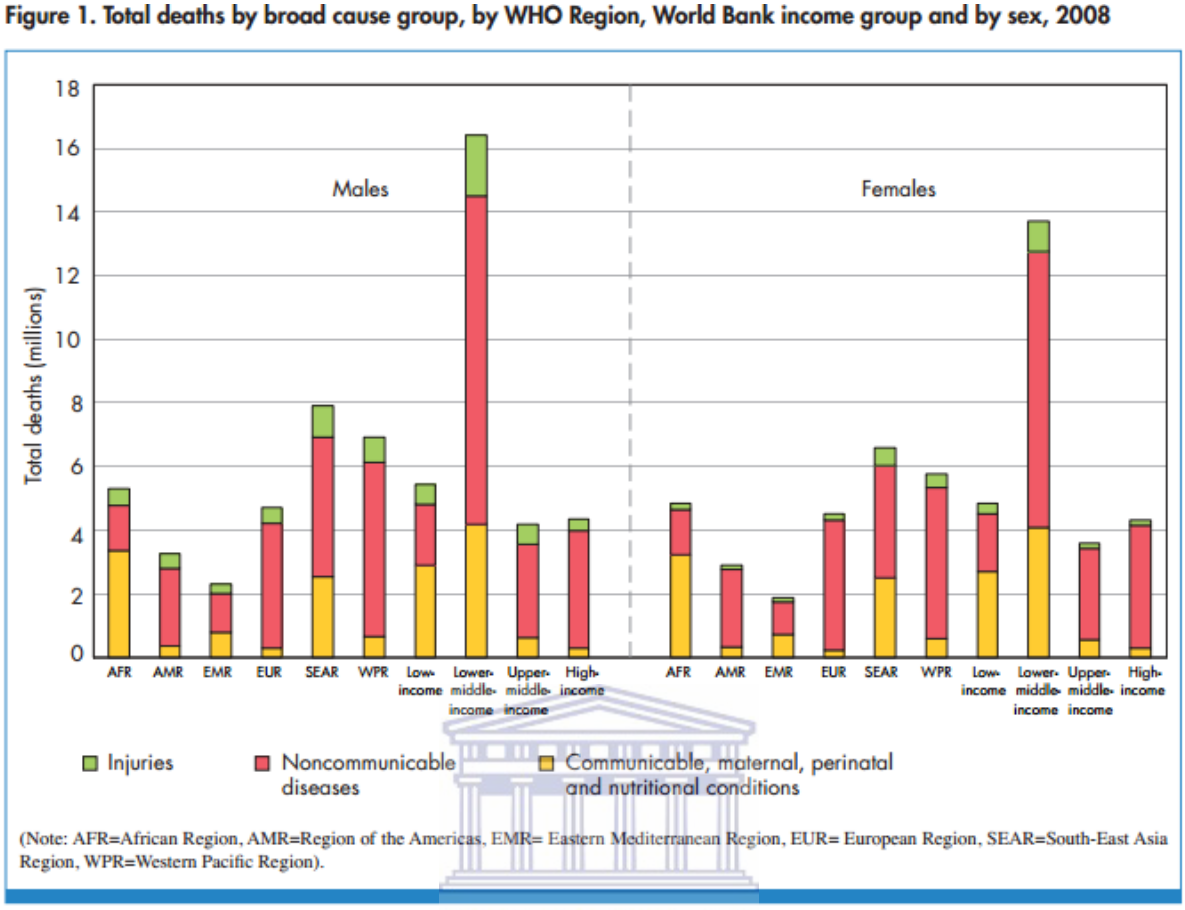
2.1 Introduction

This chapter examines the literature related to chronic diseases of lifestyle in the context of this study. Firstly the prevalence of chronic diseases of lifestyle is discussed, followed by the review of the literature on risk behaviours in adolescents, factors influencing involvement in health risk behaviour, and prevention strategies for chronic diseases of lifestyle. Lastly the chapter concludes with findings from literature on health education and health promotion at schools.

2.2 Prevalence of chronic diseases of lifestyle

The highest mortality rates of chronic diseases of lifestyle occur in low and low to middle income countries (WHO, 2011b). Eighty percent of deaths caused by chronic diseases of lifestyle occurred in low to middle income status countries. Lower percentages of chronic diseases of lifestyle deaths occur in upper middle and high income status countries although the death rate is lower, most all the deaths in these countries are attributed to non-communicable diseases as seen in Figure 1 (WHO, 2012). It has been estimated that the yearly mortality rates as a result of chronic diseases of lifestyle will have escalated to 55 million by 2030 (WHO, 2012). Within the African Region (AFR), more deaths are caused by communicable than by non-communicable diseases (WHO, 2012). In South Africa, of 23% of all deaths that occur is as result of non-communicable diseases, with 28.7 % of those deaths occurring among women and 39.7 % among men (WHO, 2011b).

Figure 1: World Health Organization (2012) findings of mortality rates



According to the report of Statistics South Africa (2010), tuberculosis is the major cause of death (11.6%) in the Northern Cape. The diseases of chronic diseases of lifestyle are reported on as separate diseases (heart disease, cerebrovascular diseases, diabetes mellitus, chronic lower respiratory diseases and hypertensive diseases) and thus tuberculosis appears to be the major cause of death. However the percentage of total deaths from chronic diseases of lifestyle within the Northern Cape is highlighted at 17.3% and this exceeds the death rates of tuberculosis (Statistics South Africa, 2010). These figures confirm the global results which indicate that non-communicable disease death rates exceed those of communicable diseases.

It is clear from the literature that deaths occurring as result of chronic diseases of lifestyle are increasing and are predicted to continue to increase if no preventative interventions are implemented. However, before such measures can be put in place one needs to have an

understanding of the current risk factors that result in chronic diseases of lifestyle and the individual's level of engagement with these risk factors.

2.3 Risk factors for chronic diseases of lifestyle among adolescents

Individuals engage in the health risk behaviours of chronic diseases of lifestyle such as physical inactivity, unhealthy diets, tobacco smoking and alcohol consumption (WHO 2011; MRC, 2006). Globally, physical inactivity results in 3.2 million deaths per year, unhealthy diets in about 1.7 million deaths, tobacco smoking in 6 million deaths and alcohol consumption in 2.3 million deaths (WHO, 2011a). The highest prevalence of the behavioural risk factors found in South Africa was physical inactivity rates of 51.1 % and the highest metabolic risk factor of the South African population was a rate of 65.4% overweight individuals (WHO, 2011b). Several studies have been conducted in South Africa on the health risk behaviour among high school learners (Reddy et al., 2003; Frantz, 2006; Chutergon, 2010; Reddy et al., 2010; Pharaoh, Frantz & Smith, 2011). In these various studies, the prevalence of risk factors for smoking, alcohol consumption and physical inactivity ranged from 21%-99%. They all found that adolescents were indulging in health risk behaviours like smoking, alcohol consumption and physical inactivity. The results also indicate that the percentage of adolescents participating in these unhealthy behaviours has increased over time. Although several studies have been conducted in South Africa, the primary focus of these studies has been in the Western Cape (Frantz, 2006 & Pharaoh et al. 2011) and KwaZulu Natal (Chutergon, 2010).

An overview of the methodology and findings of the various studies are found in Table 1 below (Reddy et al., 2003; Frantz, 2006; Chutergon, 2010; Reddy et al., 2010; Pharaoh et al., 2011).

Table 1: Summary of methodology and findings of studies identifying health risk behaviours in SA

Study	Study design	Sample population	Sample Strategy	Study instruments for data collection	Intervention	Data Analysis	Findings
Youth Risk Behaviour Survey (YRBS) (Reddy et al., 2003)	Cross sectional prevalence study	Grade 8-11 learners in 9 provinces N=10699 youth in SA Western Cape, Eastern Cape, North West, Limpopo, Mpumalanga, Free State,	Stratified two stage cluster	By self-administered questionnaire (YRBS) To obtain prevalence data on several behaviours that place young people at risk such as	None	Epi-info To check for prevalence variables P scores for difference between prevalence estimates	This study reported a smoking prevalence of 31%, alcohol consumption prevalence of 41% and physical inactivity of 38%

		Gauteng, Northern Cape, Kwa-Zulu Natal		unintentional injury, nutrition and weight perception substance abuse, physical activity and hygiene			
Frantz, 2006	Cross sectional design	N = 951 high school learners in the Western Cape	Conveniently selected	Questionnaire with questions on Socio-demographical information, daily habits/ risk factors of chronic disease	None	SPSS – descriptive statistics, ANOVA to test differences in year groups	A smoking prevalence of 31%, a alcohol consumption prevalence of 21% and physical inactivity level

				of lifestyle, physical levels			of 32% was reported
Reddy et al., 2010	Cross sectional national prevalence study among learners in public school	N=10270 youth in SA. From Grade 8-11 learners in 9 provinces	Stratified two stage cluster	By self-administered questionnaire (YRBS) To obtain prevalence data on several behaviours that place young people at risk such as unintentional injury, nutrition	None	SPSS P scores for difference between prevalence estimates	This study found 30% of the participants smoked, 50% consumed alcohol and 42% were physically inactive.

				and weight perception substance abuse, physical activity and hygiene			
Chutergon, 2010	Experimental study using a pretest-posttest control group design	The study was conducted in two conveniently selected high schools, Newcastle, KZN. All learners at schools Invention :N =	Conveniently selected Grade 8 Learners at schools Invention :N = 298 Control: N = 177	**Tool 1** Knowledge questionnaire for risk factors, which assessed the knowledge of learners regarding CDL. **Tool 2**	The health education programme, a standardized programme designed by Frantz, 2008	Quantitative results, descriptive statistics presented in frequency & tables. Inferential statistics in the form of cross-	Sixty percent (60%) of learners smoked, 67% of consumed alcohol and 33% were physically inactive

		1050 Control: N = 945		The second being the Youth Risk Behavioural Survey which assessed the learners' diet information, tobacco use, alcohol use and physical activity levels		tabulations using the chi-square. Difference in knowledge score was compared using Mann-Whitney U test.	
Pharaoh et al., 2011	Cross-sectional survey	Learners at 10 secondary	Conveniently sampling	**Tool 1** Life	None	Descriptive statistics with	This study reported that

		schools in Paarl, WC	Grade 8-10 learners N=1027	effectiveness questionnaire (LEQ) – Measures the use of life skills to manage his/ her life **Tool 2** Youth Risk behaviour survey (YRBSS) – Instrument to measure the		frequencies & percentages Regression analysis to assess if life skills predict risk behaviours	64% of the learners smoked, 99% consumed alcohol and 39% were physically inactive

				engagement of health risk behaviours			

From the evidence, it is clear that South African adolescents continue to indulge in behavioural risk factors that may increase their risk for subsequent chronic diseases of lifestyle. These health behaviours, fostered in adolescence, are usually continued into adult life (Reddy et al., 2010). Before a successful integrated intervention is implemented to reduce the burden of chronic diseases of lifestyle, early identification of the risk factors is necessary (MRC, 2006). The studies highlighted in Table 1 indicates a trend in engagement in risk factors that may contribute to cardiovascular disease and cancer, such as smoking and alcohol consumption, is increasing among high school learners (WHO, 2011a).

In the following paragraph, the national and Northern Cape Provincial findings of Reddy et al. (2010) with regards to health risk behaviours are highlighted. The Northern Cape findings were not collected in this current study's population. The findings are as follows: Physical inactivity levels for the Northern Cape were found to be 48.6% whereas national average for physical inactivity was 41.5%. Besides being physically inactive learners were also indulging in unhealthy eating habits. The national percentage of adolescents who bought food at tuck shops is 44.7%, 44.2 % adolescents eat cake, biscuits or doughnuts at each serving and 53.5% learners consume two glasses of sweet cold drinks at each serving. This indicates that close to half of the adolescents participating in the surveys were indulging in unhealthy eating behaviours. The Northern Cape Province had the highest rate of adolescents (44.6%) eating fast foods or luxuries. The national statistics also revealed that 34.9% adolescents and 45.6 % adolescents within the Northern Cape Province consumed alcohol in the previous month.

Furthermore, the survey found that 27% of adolescents in the Northern Cape were current smokers compared to the national rate of 21% of adolescents. The statistics indicate that

lifestyle behaviours which lead to chronic diseases of lifestyle risk factors are prevalent in Northern Cape. Interventions are needed to educate adolescents with regards to the detrimental effects of currently fostered lifestyle behaviours as health behaviours formed during childhood years may carry into adult life (DeGenna, 2005). A habit like tobacco smoking that commenced in childhood can become addictive before adulthood (DeGenna, 2005).

In order to have a better understanding of the health risk behaviours that could lead to chronic diseases of lifestyle and to ensure an effective prevention strategy to address the problem, one needs to have an awareness of the factors that influence this involvement in health risk behaviours. Situational influence, friends and involvement of parents in risk factors, to name a few, may contribute to the possibility that adolescents will indulge in health risk behaviours (Maglica, 2011).

2.4 Factors influencing involvement in health risk behaviours

Engagement in health risk behaviour is multifactorial, especially in adolescence, as this is a transition stage from childhood to adulthood. Adolescents encounter significant changes with regards to social involvement, psychology and physiology (Delisle, Chandra-Mouli & de Benoist, 1997). Adolescence is the stage in which adolescents experience physical and hormonal changes as they develop from childhood into physical maturity (Mannheim, 2011). These changes may cause the adolescents' concern with regards to body image; they become moody, sensitive, self-conscious and compare themselves to their peers (Mannheim, 2011). It is also during adolescence that individuals start to separate from parents to establish their

personal identity and they form peer groups within which they tend to act like each other and partake in similar activities (Mannheim, 2011).

Involvement in health risk behaviours among adolescents is dependent on various factors that could be either negative or positive factors on the individual, family, peers, school and community levels. These factors are stated under the following two headings:

2.4.1 **Negative factors**

Negative factors on an individual level are early indulgence in risk behaviour, academic difficulties, social-emotional and social-cognitive deficits and acculturation stress (Terzian, Andrews & Anderson-Moore, 2011). Acculturation is defined as the process by which an individual adopts the behaviour or culture of a specific society (Merriam-Webster, 2012). Family violence, maltreatment and ineffective family management are negative factors on the family level (Terzian et al., 2011). Negative factors found on the peer level are associations with anti-social peers or negligent peers whereas on school level it is lack of school connectedness (Terzian et al., 2011). Unsupportive and unsafe neighbourhoods are classified as negative factors on the community level (Terzian et al., 2011).

2.4.2 **Positive factors**

On the individual level social and emotional competence are found to be positive factors. Positive factors on the family level are positive parent-child relationship and effective family management (Terzian et al., 2011). Friendships with positively socialised individuals and school correctness are positive factors on the peer and school level, respectively (Terzian et al., 2011). On the school community level, connections to caring adults and involvement in community or after school activities are classified as positive factors (Terzian et al., 2011).

As noted above there are a number of factors that influence individuals to indulge or prevent health risk behaviours. Thus in order to address the factors a multifactorial approach needs to be taken in the prevention of health risk behaviours. A multifactorial approach requires strategies within the family, community and school in terms of relational and educative support. This will further be discussed in 2.5.

2.5 Prevention strategies

Preventative strategies for chronic diseases of lifestyle are currently encouraged worldwide with recommendations of a multifactorial approach. The definition of prevention is to act in advance to stop something from happening. Preventative education is not merely a transfer of knowledge but it encourages mutual communication with the individual, peers and community which allows for integration of knowledge and feelings (UNESCO, 1994).

Seven prevention strategies have been suggested based on a multifactorial approach:

1. To improve family function
2. To encourage and promote connections between learners and their school;
3. To create safe and supportive communities;
4. To encourage engagement in out-of-school activities;
5. To encourage relationships with caring adults;
6. To allow for enrichment of social and emotional competencies and lastly
7. To provide learners with a high quality of education (Terzian et al., 2011).

According to the World Health Organization (2006) individuals from the community who have been incorporated as facilitators in an interventions, and who as a result understand the

culture and social context, can lead to increased effectiveness of intervention. During a study aimed at improving awareness on malaria with the intention of decreasing the prevalence of malaria, educators from the research community were used as programme leaders or facilitators (Ayi et al., 2010). The children who participated in the study, engaged with the knowledge given them concerning the prevention of malaria, they made posters and shared knowledge with those in their community. After this intervention, there was an improvement in the knowledge of both the learners and the community members (Ayi et al., 2010). From this study it can be concluded that incorporating community members such as educators, giving knowledge to participants and allowing participants to share knowledge with the community assisted in ensuring an effective strategy for improving knowledge. Thus this study aimed at having a health education programme implemented by an educator having learners participate in a health awareness activity as part of the health education programme.

Preventative interventions that take place at school level have been shown to produce a health promoting school. Within the South African context, Frantz (2011) found that the knowledge of a learner can be improved after the implementation of a health education programme at schools. However, the health education programme implemented by Frantz (2011) was implemented by health professionals within an urban setting whereas this current study aimed to implement a health education programme by an educator within a rural setting.

2.6 Health education and health promoting schools

The Ottawa Charter for Health Promotion has impacted health education in schools by encouraging the education sector to focus on building the health of young people and encouraged a holistic approach to school health (WHO, 1986). Various studies have indicated that health education provided by teachers has an immediate effect on the learners and may

influence lifestyle changes as adults (Nutbeam, 1992; Nutbeam 1998). According to Schall (1994) health education should be introduced early and be continual. Health education should also be relevant for the children's lives and situation (Schall, 1994).

In a public health perspective, the promotion of learners' health is an important task, and the Swedish curriculum includes health education (Tossavainen, Turunen, Jakonen, Tupala & Vertio, 2004). Group activities have an influence on young people's habits. To promote learners' health, training and information is a mutual task for all school personnel, together with the parents (Tossavainen et al., 2004). According to the World Health Organisation (2005) health promotion empowers and encourages people to make decisions affecting their health. Learners' participation in health promotion allows them to develop ownership of their own health, if there is no ownership it will result in the information having no effect on the learner's actions and practices (Mwanga, Jensen, Magnussen & Aagaard-Hansen, 2007). There is a distinct change when learners' participate as change agents and develop ownership of their educational approach (Mwanga et al., 2007).

For successful implementation of health promoting programmes, health promotion needs to be embedded into the schools' mission (Jourdan, Stirling, Mannix Mcnamara, & Pommier, 2011). When schools set out health policies it will result in more effective health promoting schools (Adamson, Mcaleavy, Donegan & Shevlin, 2006). The health promotion programmes should also be meaningful to the targeted population by addressing the specific needs of the setting and be relevant to the educators to result in the successful implementation of the programmes (Jourdan et al., 2011).

Adolescents are part of the group which is generally described as having a low risk for poor health (The World Bank, 2003). This implies that they are usually healthy individuals. As a result preventative interventions that are received by this group will reduce the risk of their subsequent development of health conditions (Sassi & Hurst, 2008). Healthy lifestyle habits applied in adolescence can improve or prevent health problems later in life (The World Bank, 2003). The groundwork for a healthy adult life could be prepared during adolescence by shaping and reinforcing healthy lifestyles and eating behaviours (Delisle et al., 1997). Healthy eating and physical activity habits can be promoted at schools (WHO, 2006). The healthy lifestyles of adolescents can affect communities, family members and siblings (Delisle et al., 1997; WHO, 2006).

The current curriculum at high schools in South Africa incorporates the Life Orientation subject for grade 10-12 learners through which health education promotion and prevention can be done. The Life Orientation subject has a holistic approach towards learners which focuses on mental, spiritual, emotional and physical well-being. Life Orientation aims to educate learners on health promotion and prevention of diseases for the self and the community (Department of Education, 2011). Health education can effectively be conveyed to learners through the collaborative efforts of experts who have the knowledge, teachers who know best how to educate and parents who have a relationship with the school learners (Jarvis & Stark, 2005).

According to the Basic Education in South Africa Curriculum and Assessment Policy Statement (CAPS) Life Orientation contains the following six topics in Grades 10-12: 1. Development of self in society, 2. Social and environmental responsibility, 3. Democracy and human rights**,** 4. Careers and career choices, 5. Study skills and 6. Physical education

(Department of Education, 2011). Within this study, topics 2, 3, 5 and 6 will be incorporated during the implementation of health education programme. Learners will be encouraged to share information learnt with the community addressing topic 2. Topic 3 is incorporated by providing the learners their own right to health education but also when the learner presents an awareness activity they will be able to educate the community on chronic diseases of lifestyle allowing other's right to health education. Study skills (topic 5) will be encouraged by the problem based learning incorporated in the health education programme. Reflections on the learners' personal indulgence in health risk behaviour and the effects thereof as well knowledge sharing through the awareness activity will be part of the learners' learning process. Lastly topic 6 is incorporated in the health education programme by making learners aware of keeping their bodies healthy in terms of regular exercise and having healthy eating habits.

2.7 Conclusion

As seen in the literature review it is evident that chronic diseases of lifestyle are both a global and a local problem. The health risk behaviours that could lead chronic diseases are on the increase among adolescents in South Africa and within the Northern Cape Province. In order for an effective preventative strategy to be implemented one needs to have a good understanding of the health risk behaviours currently indulged in and the possible reasons why individuals become involved in health risk behaviours. Preventative strategies should have a multifactorial approach for chronic diseases of lifestyle are currently being encouraged within the school setting by means of a health education programme which actively involves educators, learners and community members.

CHAPTER THREE: METHODOLOGY

3.1 Research setting

This research project was conducted in one conveniently selected local municipality within Namakwa district in the Northern Cape. There are nine provinces in South Africa namely the Eastern Cape, Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, Northern Cape, North West and Western Cape Province. The Northern Cape Province covers 30.5% of South Africa's land surface making it the largest province, while at the same time contributing the lowest Gross Domestic Product (GDP) when compared to the other provinces in South Africa (National Development Agency, 2011). According to The World Bank (2011), South Africa is classified as an upper-middle socio-economic country yet poverty within the Northern Cape is a significant problem (Jacobs, Punt, Uchezuba & Bashi, 2009; National Development Agency, 2011 & Northern Cape Government, 2002). Between the fourth quarter of 2010 and first quarter in 2011, 17000 jobs were lost in the Northern Cape (Statistics South Africa, 2011). During the first quarter of 2011 the Northern Cape had the largest rise in the unemployment rate in any province in the country (Statistics South Africa, 2011).

Over the past decade the prevalence of chronic diseases in the Northern Cape has been increasing (Northern Cape Government, 2002). Currently in the Namakwa district, a rural area in the Northern Cape, there is only one Primary Health Care facility which is situated in Calvinia. This hospital serves Hantam and the Karoo Hoogland local municipalities in the Namakwa District of the Northern Cape. The doctors and allied health professionals visits satellite clinics situated in these municipalities weekly or fortnightly, depending on a variety of factors. The variety of factors are, transport availability, weather conditions and medical professionals' schedules.

The Northern Cape Education Department consists of five districts, namely Frances Baard, John Taolo Gaetsewe, Namakwa, Pixley-ka-seme and Siyanda; these districts are divided into 30 circuits. The Namakwa district consists of 22 high schools and is divided into six local municipalities. Hantam Municipality is one of six local municipalities. The research done in this study was conducted in the Hantam municipality where there are only four high schools. The information on the research setting was retrieved via email (H. Cockrell personal communication, May 12, 2011).

3.2 Research design

The study used an explanatory sequential mixed method design. More specifically this study had a large quantitative component and a small qualitative component was embedded after the analysis of the quantitative aspect. Explanatory sequential timing allows for the quantitative method to be implemented, being followed by a qualitative method, this aims to better understand the reasons for the quantitative results (Cameron, 2009; Creswell, 2009). Improved understanding is achieved when the trends from quantitative data are related to the qualitative details (Creswell, 2009). In addition the results from the quantitative data are better explained by the in-depth results from the qualitative data (Creswell, 2009).

3.3 Population

The study population consisted of all grade 10 learners from three high schools in the Hantam municipality (n=200) as well as the grade 10 Life Orientation educator in Hantam municipality (n=1). School A formed part of the intervention group and the targeted population size for School A was n=145, School B and C formed part of the control group and the group's population size was n=55. The fourth school rejected the invitation to participate in the study.

3.4 Study sample

The reason for choosing grade 10 learners was because they form part of the adolescent group who indulge in health risk behaviours that could induce chronic diseases of lifestyle (Reddy et al., 2010).

3.4.1 Sampling for the quantitative part

The sample of the control group was 36 participants and the intervention group was 121 participants. The reason for the difference between the intervention and control sample sizes was because of the limited number of high schools and high school that decided not to participate would have formed part of the control group.

3.4.2 Sampling for the qualitative part

The educator was purposefully sampled for the in-depth interview as she was responsible for implementing the health education programme. Learners were purposefully selected to form part of the focus group discussion, which included 12 boys and 10 girls. Learners who were selected were those who participated and did not participate in the awareness activity. Furthermore learners were selected per class groups and gender.

3.5 Methods and tools

3.5.1 Phase 1: Pre-education programme knowledge testing

During this phase a questionnaire was administered to both the control and intervention groups which assessed the participants' knowledge on chronic disease of lifestyle (Appendix 1).

3.5.2 Phase 2: Implementation of health education programme

The implementation phase commenced with a workshop to train the one educator with regards to the health education programme. The content of the training workshop can be found in Appendix 2. During the workshop the following topics were included: an introduction to chronic diseases of lifestyle; the prevalence of chronic diseases of lifestyle; facts and information regarding diabetes, stroke and hypertension. The facts and information covered causes, risk factors and management of chronic diseases of lifestyle. This workshop was presented to the educator by the researcher. Support was given to the educator by regular telephonic conversations with the researcher. During these telephonic calls the researcher also asked the educator to provide feedback on the progress of the implementation of the health education programme. The health education programme that was used in this study is a standardised programme designed by Frantz (2008). The health education programme was implemented in the intervention schools over a period of three weeks within the Life Orientation curriculum periods of the schools. Life Orientation periods were scheduled twice a week and lasted for 45 minutes each. In the last week only one of the periods were used allowing for a total of five periods for the implementation of the health education programme. The content of the health education programme, which included an overview of chronic diseases of lifestyle, was provided. Learners were required to identify their own

personal risk factors and research information related to chronic diseases of lifestyle after which they were divided into several groups. Each group had to plan and implement a health awareness activity over a period of two weeks. The awareness activity had to include information about chronic diseases of lifestyle in terms of types, causes and risk factors. Participants had a choice to participate in the awareness activity or not. The majority of those who agreed to participate in the study refused to participate in the awareness activity resulting in only 18 learners participating in this activity. These learners presented the health awareness activity to those in their school community which were the grade 8 learners at the same school. A description of the health education programme can be found in Table 2 below:

Table 2: Health Education Programme

Step	TOPIC	CLASS WORK/ GROUP WORK	HOME WORK
1	Introduction – information for learners	PowerPoint presentation	
2	Case studies	Divide learners in three groups	Every group should research each disease - diabetes, hypertension and stroke - in terms of: Cause; Signs and symptoms; Risk factors; Treatment
3	Personal risk factors	Learners are to complete health risk behaviour questionnaire	Learners need to identify risk factors present in group members Learners need to identify the chronic disease of lifestyle that the group is more prone to develop as result of their risk factors

4	Planning of awareness activity	The following are examples of awareness activities: Drama/ roleplay, talk, march, sharing information with family and friends by means of a having a conversation	Plan awareness activity covering the concepts of risk behaviours and chronic diseases of lifestyle (learners can also choose not to participate in this activity)
5	**Awareness activity**		After activity learners are to complete the knowledge questionnaire
6	Small group discussion		

3.5.3 Phase 3: Post-education knowledge

After the intervention the knowledge questionnaire was again administered to the control and intervention groups, to assess knowledge.

3.5.4 Phase 4: Qualitative data collection

In addition, focus group discussions were conducted with the learners of the intervention group (Appendix 3). Two focus group discussions were conducted by the researcher. One in-depth interview was conducted with the educator who implemented the health education programme (Appendix 4). The aim of both the focus group discussions and the interview was to explore the experiences of the participants in terms of the implementation of the health education programme, as well as concerns and suggestions for the improvement of the health education programme. The health awareness activity is embedded within the health education

programme hence the learners' experiences of the health awareness activity was also specifically explored.

3.5.5 Data Collection Tools

Reliability and validity

This knowledge questionnaire evaluated the knowledge of the learners on risk factors for chronic diseases of lifestyle and was a validated and reliable questionnaire (Chronbachs alpha of 0,897) that had been used in the South African context (Frantz, 2008). In addition, the prevalence of risk behaviours in the identified cohort was also determined using the modified youth health risk behaviour questionnaire (Appendix 5) piloted by Frantz (2008). The knowledge and health risk behaviour questionnaires were translated into Afrikaans (Appendix 6 and 7) by an independent translator, a high school Afrikaans teacher and back to English by another translator, a linguist.

3.6 Procedure

Ethical clearance (Appendix 8) for the study was obtained from the University of the Western Cape Ethical Committee (registration no: 12/3/13), and permission to conduct the study was obtained from the Northern Cape Department of Education (Appendix 9), circuit leader of Hantam Municipality Education Department and principals of the participating schools. The grade 10 learners and grade 10 Life Orientation educator were invited to participate in the study. Attached with this invitation was an information sheet (Appendix 10) and consent forms (Appendix 11). The information sheets and consent forms were completed by the participants and parents of the participants who were younger than 18 years old. The participants were clearly informed that they were under no obligation to participate in this study and that they were able to withdraw from the study and programme at any time.

3.6.1 Quantitative Procedure

Intervention Group

Prior to the intervention, an assessment of the learners' knowledge of chronic diseases of lifestyle was done after which the health education programme was implemented. Post-intervention knowledge questionnaires were then administered to participants two months after the administration of the pre-intervention knowledge questionnaire. The health risk behaviour was administered during the implementation of the intervention within the intervention group. All the questionnaires were administered to the intervention group in the class by either the researcher or the educators who were trained in the administration of the questionnaires. The face-to-face administration of the instrument allowed learners to ask questions for clarification and reduced errors resulting from respondents misunderstanding the instructions.

Control Group

Learners were informed prior to giving consent that they would be requested to complete a knowledge questionnaire on chronic diseases of lifestyle on two separate occasions, and once complete a questionnaire on their involvement with health risk behaviours. Prior to the invention the control group also completed the knowledge questionnaire on chronic diseases of lifestyle. After the completion of the knowledge questionnaire learners were asked to complete the questionnaire on health risk behaviour. Two months after the first administration of knowledge questionnaire the knowledge questionnaire was re-administered to the control group. The questionnaires were administered by either the trained educators at control schools or the researcher.

3.6.2 Qualitative Procedure

All learners at the intervention school were invited to participate in focus group discussions and the few who volunteered were selected to participate in two separate focus group discussions. Only the educator who implemented the health education programme was invited to participate in the interview. Evaluation of the health education programme was discussed during the focus groups with learners and in the interview with the educator.

3.7 Data analysis

3.7.1 Quantitative Data Analysis

The statistical analysis programme SPSS® version 19 was used to analyse the quantitative data from the questionnaires. The answers to the questionnaires were coded and then entered into Microsoft Office Excel 2007. This was done twice to eliminate potential errors arising from data capturing. The data on the Microsoft Office Excel document was then exported to SPSS® for descriptive and inferential statistical analysis. Descriptive statistics were run to acquire frequencies and percentages on the demographic details and the health risk behaviours of the participants. Interferential statistics were obtained by using Chi-square test and independent t tests. The Chi-square test used cross-tabulations to identify associations between different variables. Associations were checked between each health risk behaviour and gender of participants. Independent t tests were done according to Levene's test for equality of variance. The Levene's test measured for difference between the overall mean scores of the two samples for the pre- and post-knowledge scores for the intervention and control group.

3.7.2 Qualitative Data Analysis

The steps in analysing the qualitative data were as follows: (1) transcription of the data (2) coding of the data; (3) thematic analysis of the data; (4) grouping of the themes according to the weight and extent of the problems identified and categorizing themes into categories; (5) writing a report about the findings. The researcher took detailed notes during the focus group discussion. The voice recordings were transcribed following the focus group discussion, by an independent research assistant, who was not familiar with the objectives of the study. As far as possible the notes and recordings were transcribed verbatim. The transcripts were then coded and themes identified, this was done by the researcher and an independent researcher. Coding and themes were then compared between the two researchers.

Trustworthiness

Babbie and Mouton (2001) refer to trustworthiness as the need for dependability, credibility and transferability. *Dependable* data is data that "if it were to be repeated with the same or similar respondents (or subjects) in the same (or a similar) context, its findings would be similar" (Babbie & Mouton, 2001, p 278). A thorough description of the research methods were given to improve dependability.

Credibility is the collection of data that is compatible with the "constructed realities that exists in the minds of the respondents" (Babbie & Mouton, 2001, p 277). To ensure c*redibility,* member checking was used. At relevant points in the discussions the researcher summarised the discussion to check that the interpretation was correct. The data collected was also compared with other research in the field and was peer-reviewed by the supervisor. The focus group discussions with the learners were continued until saturation of the data was achieved to strengthen credibility of the study. Conformability of the study was strengthen by

having the transcripts read and checked against the audio recordings. Furthermore, conformability was ensured through having the data analysed by another researcher who was not part of data collection.

Transferability is the "extent to which the findings can be applied in other contexts or with other respondents" (Babbie & Mouton, 2001, p 277). The use of purposive sampling helped to ensure *transferability* as the considered selection of participants helped to ensure that appropriate participants were included in the study so that the findings could be applied in other contexts or with other respondents.

3.8 Ethical considerations

Ethical clearance for the study was obtained from the University of the Western Cape Ethics Committee (registration no: 12/3/13), and permission to conduct the study was obtained from the Northern Cape Department of Education, circuit leader of Hantam Municipality education department and principals of the participating schools. Information sheets were given to the participants and relevant parties to inform them of the value and benefits of the study. Participants were informed that they could choose whether or not to participate, and were thoroughly informed about the study. Participants were assured that their confidentiality would be preserved. Participants signed consent forms to allow the results of the study to be published. Parents of participants who were minors were requested to sign a parental permission (Appendix 12) and consent form. Participants who were part of a focus group and the individual who transcribed the notes agreed to keep the information that was discussed confidential and this prevented them from disclosing any information gathered during the discussions (Appendix 13). No harm was done during this study but if any participant were to

have been traumatised by this study, referral of the affected participant would have been made to an appropriate professional.

3.9 Dissemination

A report of the study's findings will be sent to the Department of Health and Department of Education in Calvinia for the planning of a follow-up health awareness days and for future curriculum development of the life orientation syllabus. Specific findings of health risk behaviour involvement and an adapted health education programme will be sent to the Department of Education and Department of Health in Calvinia to aid in future health promotion measures.

CHAPTER FOUR: RESULTS

SECTION A: QUANTITATIVE RESULTS

4.1 Introduction

The results of is divided into two main sections A and B presenting quantitative and qualitative results. Section A presents the demographic characteristics of learners followed by the statistics on health risk behaviour engagement and ending with results from the knowledge questionnaire. The quantitative results are presented in both descriptive and inferential statistics are within tables. Section B starts with a description of the learners who were involved in the qualitative data collection. Thereafter the results of the qualitative data are presented according to themes and categories. Lastly a summary for both sections is provided

4.2 Demographic characteristics of learners

The table below (Table 3) depicts the socio-demographic characteristics of the learners who participated in this study. As seen in the table below the majority of the learners within the control group were female (61%) whereas most of the learners in the intervention group were male (55%). The mean age for the control group was 15.89 years and 16.30 years for the intervention group respectively**.**

Table 3: Socio-demographic characteristics of learners (N=157)

VARIABLE		CONTROL GROUP n=36	INTERVENTION GROUP n=121
Gender	**Male**	14 (39%)	67 (55%)
	Female	22 (61%)	54 (45%)
Age	**15 years**	14 (39%)	17 (14%)
	16 years	13 (36%)	61 (51%)
	17 years	8 (22%)	33 (27%)
	18 years	1 (3%)	10 (8%)
Race	**Black**	0 (0%)	0 (0%)
	Coloured	36 (100%)	121 (100%)
	Indian	0 (0%)	0 (0%)
	White	0 (0%)	0 (0%)

4.3 Health risk behaviour questionnaire among learners

The health risk behaviours presented in Table 4 is reported as an entire sample because there was only one data collection point for the control and intervention groups. Furthermore the aim of the health risk behaviour questionnaire was to obtain a general combined representation of the current involvement of health risk behaviours for the entire sample group and to determine if there were any associations between the gender of learners and

their involvement in health risk behaviours. Only 123 of the total sample (n=157) learners completed the health risk behaviour questionnaire, thus resulting in a response rate of 78%. The control group response rate was 100% (n=36) and for the intervention group it was 72% (n=87/121).

Table 4: Health risk behaviour according to gender (N=123)

	Male **(n=70)**	**Female** **(n=53)**	**Combined** **Gender (**n=123)	**P-values** Chi-Square
Smoking				0.061
Yes	37 (52%)	19 (36%)	56 (45.5%)	
No	33 (47%)	34 (64%)	67 (54.5%)	
Drink Alcohol				0.982
Yes	49 (70%)	37 (70%)	86 (69.9%)	
No	21 (30%)	16 (30%)	37 (30.1%)	
Physically active				**0.018***
Yes	57(81%)	33 (62%)	90 (73.3%)	
No	13(19%)	20 (38%)	33 (26.8%)	

***significant (p<0.05)**

Table 4 above presents the harmful lifestyle behaviours that the high school learners engaged in, according to gender. There was no significant association between gender and smoking

and alcohol consumption. More than half of the males (52%) were smokers and more than half of the females (64%) were non-smokers. Both males and females consumed alcohol in high percentages (70% for both gender groups). Statistical significance was found for physical activity levels. More males were found to engage in physical activity than females (p=0.018). Furthermore, the following results are worthwhile noting but not included in the table: most of the learners (35%) who smoked started smoking between the ages of 14-15 years and were social smokers (80%). Social smokers were defined as smoking while socialising (Waters, Harris, Hall, Nazir & Waigandt, 2006). Similarly, the majority of those who drank alcohol (40.7%) started drinking alcohol when they were older than 15 years. Most (99%) of those who consumed alcohol, were social drinkers. Similarly social drinkers were defined as learners who drank while socializing.

Table 5 represents associations between control and intervention groups for the learners' involvement in health risk behaviours.

Table 5: Health risk behaviour according to control and intervention group

	Control **n=36**	**Intervention** **n=87**	**P-values** Chi-Square
Smoking			0.808
Yes	17 (47%)	39 (45%)	
No	19 (53%)	48 (55%)	
Drink Alcohol			0.720
Yes	26 (72%)	60 (69%)	
No	10 (28%)	27 (31%)	
Physically active			0.879
Yes	26 (72%)	64 (74%)	
No	10 (28%)	23 (26%)	

***significant (p<0.05)**

No significant association between control and intervention groups for smoking, alcohol consumption and physical active levels were found. At baseline the two groups are comparable as there is no significance in their involvement in health risk behaviours.

Table 6 represents the associations between learners' involvement in health risk behaviours as per gender within the control and the intervention group. No significant association within the control group was found for any health risk behaviours.

Table 6: Health risk behaviour according to gender within control (N=36) and within intervention (N=87)

	CONTROL (n=36)			INTERVENTION (n=87)		
	Male n=16	**Female n=20**	**p-Values Chi-Square**	**Male n=54**	**Female n=33**	**pValues Chi-Square**
Smoking			0.709			**0.010***
Yes	7 (44%)	10 (50%)		30 (56%)	9 (27%)	
No	9 (56%)	10 (50%)		24 (44%)	24 (73%)	
Alcohol consumption			0.244			0.401
Yes	10 (63%)	16 (80%)		39 (72%)	21 (64%)	
No	6 (37%)	4 (20%)		15 (28%)	12 (36%)	
Physical active			0.279			**0.032***
Yes	13 (81%)	13 (65%)		44 (81%)	20 (61%)	
No	3 (19%)	7 (35%)		10 (19%)	13 (39%)	

***significant (p<0.05)**

4.4 General knowledge on chronic diseases of lifestyle of learners

All learners completed the pre-intervention knowledge questionnaire, both in the control and intervention groups, resulting in a 100% response rates for both groups. Within the control group a response rate of 81% was achieved for the post-intervention knowledge questionnaire as (n=29/36). Only 109 of the 121 learners within the intervention group completed the post-intervention knowledge questionnaire resulting in a response rate of 90%. Table 7 represents the answers as to whether they had heard or have been taught about chronic diseases of lifestyle.

Table 7: Pre-intervention knowledge questionnaire results on the general section

		Control n= 36	Intervention n=121
Heard of CDL	**Yes** **No**	4 (11%) 32 (89%)	56 (46%) 65 (54%)
Heard of Stroke	**Yes** **No**	33 (92%) 2 (8%)	98 (81%) 23 (19%)
Heard of Hypertension	**Yes** **No**	30 (83%) 6 (17%)	108 (89%) 13 (11%)
Heard of Diabetes	**Yes** **No**	33 (92%) 3 (8%)	109 (90%) 12 (10%)
Can CDL be prevented	**Yes** **No**	33 (92%) 3 (8%)	104 (86%) 17 (14%)
Have you been taught at school about CDL	**Yes** **No**	2 (6%) 34 (94%)	52 (43%) 69 (57%)

Higher percentages of learners within the control and intervention group had not heard of the term chronic diseases of lifestyle. However, higher percentages of learners have heard of the specific chronic diseases of lifestyle namely, stroke, hypertension and diabetes. The majority

of the learners in both control and intervention group knew that chronic diseases can be prevented.

Table 8 explores the means knowledge scores of the all learners both in control and intervention who have indicated they have been taught and have not been taught about chronic diseases of lifestyle.

Table 8: Pre-intervention mean scores of learner who were taught and were not taught about chronic diseases of lifestyle

	Taught **M (SD)**	**Not taught** **M (SD)**
Hypertension	2.54 (1.34)	2.17 (0.98)
Diabetes	4.65 (2.11)	4.16 (1.93)
Stroke	5.41 (2.30)	4.74 (2.53)
Final Score	12.59 (4.69)	11.59 (4.49)

As seen in the table above the mean knowledge scores per section and final scores of those who indicated they were taught on chronic diseases of lifestyle were higher than those who indicated that they were not taught.

Table 9 presents the factors that the learners thought contributed to the chronic diseases of lifestyle and are separated into correct and incorrect factors. These results presented here are from the pre-intervention knowledge questionnaire.

Table 9: Factors contributing to chronic diseases of lifestyle

	Control **n= 36**	**Intervention** **n=121**
Which factors contribute to CDL (Correct Factors)		
Smoking	27 (75%)	96 (79%)
Obesity	21 (58%)	64 (53%)
Alcohol	25 (69%)	94 (78%)
Stress	28 (78%)	81 (67%)
Which factors contribute to CDL (Incorrect Factors)		
Physical Activity	3 (8%)	8 (7%)
Loud Music	3 (8%)	16 (13%)
Balanced diet	6 (17%)	13 (11%)
Medication	4 (11%)	9 (7.4%)

More than 50% of learners in both the control and intervention groups could correctly identify contributing factors to developing chronic diseases of lifestyle. High percentages (defined as ≥75%) of learners within the control group and intervention group could identify the correct contributing factors of chronic diseases such as smoking, obesity, alcohol and stress. Lower percentages (defined as ≤20 %) of learners had misperceptions about the contributing factors that lead to chronic diseases of lifestyle in both the control and intervention groups. The learners thought that the following factors contributed to chronic

diseases of lifestyle: physical activity instead of physical inactivity, loud music, balanced diet instead of unbalanced diets and medication.

4.5 Knowledge scores

4.5.1 Interferential statistics according to Levene's test for equality of variance

The differences between pre- and post- knowledge scores within the group could not be measured as per participant basis because participant codes did not remain the same at each point of data collection, hence only the difference between the overall mean scores of the two samples could be measured (Field, 2005). The inferential statistics were retrieved by doing independent t tests giving. Table 10 and Table 11 compare the post- and pre- intervention knowledge scores within the control group and intervention group, respectively.

Table 10: Comparison of post- and pre- intervention knowledge scores within the control group

CONTROL GROUP						
	POST scores		**PRIOR scores**		**t**	**pValue**
CDL	**M**	**±SD**	**M**	**±SD**		
Hypertension	2.55	1.24	2.33	1.01	0.781	0.438
Diabetes	4.48	2.37	4.61	2.00	-0.237	0.814
Stroke	5.17	2.33	4.944	2.20	0.404	0.688
Grand Total	12.20	4.51	11.88	4.00	0.301	0.764

Table 11: Comparison of post- and pre- intervention knowledge scores within the control group

INTERVENTION GROUP						
	POST scores		PRIOR scores		t	pValue
CDL	**M**	**±SD**	**M**	**±SD**		
Hypertension	2.58	1.26	2.28	1.16	1.881	0.061
Diabetes	4.60	2.03	4.24	2.00	1.356	0.176
Stroke	5.30	2.46	4.98	2.54	0.995	0.321
Grand Total	12.49	4.68	11.50	4.64	1.614	0.108

As seen in both Tables 10 and 11, no statistical significance was found between post- and pre- intervention knowledge scores both within the control and intervention groups.

Table 12 depicts the results of the knowledge scores pre- intervention between the control and intervention groups. Knowledge scores post-intervention between the control and intervention are presented in Table 13.

Table 12: Comparison of pre-intervention knowledge between control and intervention groups

	CONTROL Scores		INTERVENTION scores		t	pValue
CDL	**M**	**±SD**	**M**	**±SD**		
Hypertension	2.33	1.01	2.28	1.16	.244	.808
Diabetes	4.61	2.00	4.24	2.00	.978	.330
Stroke	4.94	2.20	4.98	2.54	-.066	.948
Grand Total	11.89	4.00	11.50	4.64	.460	.646

Table 13: Comparison of post-intervention knowledge between control and intervention groups

	CONTROL Scores		INTERVENTION scores		t	pValue
CDL	**M**	**±SD**	**M**	**±SD**		
Hypertension	2.55	1.24	2.58	1.26	-.100	.921
Diabetes	1.48	2.37	4.60	2.03	-.320	.750
Stroke	5.17	2.33	5.30	2.46	-.164	.870
Grand Total	12.21	4.51	12.49	4.68	-.260	.795

As seen in the tables above (Table 12 and Table 13) there is no significant difference between the groups' pre- and post-intervention scores. Possible reasons for the lack of significant difference will be explored in the qualitative section of this chapter, Section B.

4.6 Summary of section A

Chapter Four (Section A) presented the demographic details, health risk behaviours and the knowledge scores of chronic diseases of lifestyle pre- and post-intervention in both control and intervention groups. It was found that 70% of the participants have consumed alcohol, 46% had smoked, and 27% were physically inactive. Furthermore it was found that there was no significant difference with regards to knowledge of chronic disease of lifestyle between the control and intervention groups. The reason for this is explored in the qualitative section of this chapter (Section B) below wherein learners described their experiences during the implementation of the health education programme.

SECTION B: QUALITATIVE DATA

4.7 Introduction

A semi-structured interview with the educator and focus group discussions with learners were completed for the qualitative phase of this study. The interview and focus group discussion guides were merely guide and not all the questions presented were asked. This section of the chapter aims to discuss emerging themes and categories. Findings are presented according to themes, categories and verbatim quotes from the participants. During the qualitative part of this study participants were asked to express their opinions, experiences, and suggestions for improvement of the health education programme.

4.8 Description of participants

The semi-structured interview was done with the only educator involved in the implementation of the health education programme during this study. Learners were selected

from volunteers to participate in the focus group discussions, there were 12 boys and 10 girls selected.

4.9 Qualitative results

4.9.1 Themes from interview and focus group discussions

Based on the interview and focus group discussions, the following two key themes and three categories per theme emerged as found in Table 14

Table 14: Themes and Categories

Themes	**Categories**
Facilitating factors	Empowerment
	Freedom of choice
	Social responsibility
Hindering factors	Logistics
	Methods to share knowledge
	Quality of intervention implementation

Facilitating factors

Empowerment

The educator experienced the programme as a self-empowering experience, while she presented the health education she felt she learned more.

> *"It was beneficial for me, because we spoke about chronic lifestyles illnesses - e.g.; I suffer from high blood pressure and now I have new information regarding high blood pressure*

Furthermore, the educator believed that learners lacked knowledge of chronic diseases of lifestyle. She noted that it was important for individuals to have knowledge of chronic diseases of lifestyle so that this knowledge can informed the individual's management of chronic diseases and health risk behaviours.

> *" In our community there are a great number of children who were diagnosed with diabetes and people who had strokes and I think that you children who are more informed and enlightened about these illnesses are equipped to inform these people how to handle and treat these ailments / illnesses"*

Learners experienced the health awareness activity as a self- empowerment activity. They felt that the health education programme allowed them to receive more information on chronic diseases of lifestyle and the effects of health risk behaviours and this enabled to improve their lifestyles

> "*…to broaden our knowledge…"*

Freedom of choice

Learners were of the opinion that if they received more knowledge they would be able to improve their health behaviour choices.

> *"If we know everything and every detail about chronic illnesses and to deal with it and how to treat them, we will be in a better position to maintain a healthy life-style – prevention is better than cure"*

The learners were of the opinion that they had a freedom of choice to choose healthy lifestyle behaviours.

> *"Because as we are growing we must know to live healthy, we must eat healthy in order to have life abundantly when we are adults*".

Social responsibility

Learners acknowledge that they have a social responsibility to share knowledge. It was clear that the learners felt a responsibility towards their community to inform them. Their social responsibility was exercised during health awareness activity and this was an uplifting experience for them.

> *"We must inform the members of the community."*

> *"We feel very good about ourselves, because we gave them good information and the fact that most of the pupils were serious and quite involved really made my day, the seriousness and commitment was great."*

"Rather good, because I was doing something good and kind for someone else or to the grade 8 learners who knew little or very little about chronic illnesses

Hindering factors

Logistics

The educator suggested that the health education programme form part of the Life Orientation syllabus so that it becomes part of the educator's workflow and noted that the programme should be implemented within the first or second week of a new term.

"...be included in a school programme in order to ensure that the pupils acquire this knowledge and information".

"A programme like this magnitude should be implemented very early in the quarter - preferably during the first week"

Lastly educator noted that she felt rushed during the implementation of the health education programme as she still had to cover quite a few topics of the school Life Orientation curriculum before the exams.

Methods to share knowledge

Only one method was employed during the awareness activity which was a talk, however other methods to share knowledge were highlighted. Suggestions for improvement from the learners were that sharing methods with the community should be done via pictures and posters. These suggestions were originally part of the health education programme but not implemented by these groups indicating that the health education programme was not completely implemented or followed. The educator suggested that knowledge sharing within the community should be done by means of printed pamphlets.

"...we can inform the parents via letters to look at and read it and we can also offer talk shops (workshops) where the parents can hear it for themselves"

"Yes, but I would love to have big and good posters so that the community can get the message - too much talking can be a distracting - people are inclined to lose interest and attention if speeches are long."

"I would say to show more pictorial information to illustrate the negatives effects of smoking and alcohol-use - maybe or hopefully, that will force us to change our mind-set."

Quality of intervention

The quality of the intervention was a concern to the learners who highlighted the points below. With regards to the quality of the implementation of the health education programme, the educator indicated that she was not aware if all the groups completed the tasks as she had only seen some of groups' tasks. In addition, the learners noted that they did not complete tasks given to them.

"We never went to the library to obtain the necessary information in order to show it to the other people"

Learners' felt nervous before the presenting of the health awareness activity as they were not thoroughly prepared as they have not completed all tasks given to them.

"Nervous, because I didn't know what to say about chronic illnesses."

"If we had gone out to do what was supposed to be done and do it the proper way (be prepared) then I think the talk would have very much better and would have had a far greater impact."

The learners who formed part of the focus groups represented four different class groups at the intervention school as this school has four class groups for grade 10 learners. There was conflicting feedback given from the representatives of the different class groups, some representatives noted they were instructed to do tasks, activities, assignments whereas others stated they were not informed by the educator. Even when tasks were given to some class groups, no follow-up was done to ensure that the tasks were completed.

Furthermore the learners indicated that they experienced a lack of clarity and noted that the explanations from the researcher were sufficient but not that from the educator.

4.9.2 Health awareness activity

The health awareness activity formed part of the health education programme. However, only 15% of the learners (18/121 learners) volunteered to participate in the health awareness activity, by presenting a talk to the grade 8 learners. This talk briefly covered stroke, diabetes and hypertension in terms of their common risk factors. The learners who presented the health awareness activity were not prepared and they took time to read through the hand out given to them for the health awareness programme. No themes emerged during the focus group discussion but below are the findings of questions asked to learners during the focus group discussions on their participation in the health awareness activity.

Learners acknowledged that they had to do more for an improvement in their health awareness activity and that they did not complete the tasks given to them. However they still valued the health awareness activity as a self- empowerment activity which they enjoyed.

4.10 Summary of section B

The following paragraphs are a brief summary of the findings in terms of the opinions, experience and suggestions for improvement of the health education programme supplied by the educator and learners. The educator believed that learners lacked knowledge of chronic diseases of lifestyle. She noted that it was important for individuals to have knowledge of chronic diseases of lifestyle so that this knowledge can inform the individual's management of chronic diseases and health risk behaviours. The educator highlighted that learners were engaging in health risk behaviours and that at grade 10 level they had a desire to practice their freedom of choice. Hence the educator felt that the grade targeted was an appropriate age group.

The educator experienced the health education programme as a self-empowerment opportunity in terms of improving her own knowledge on chronic diseases of lifestyle. With regards to the quality of the implementation of the health education programme, the educator indicated that she was not aware if all the groups completed the tasks as she had only seen some of groups' tasks. She suggested that the health education programme form part of the Life Orientation syllabus so that it becomes part of the educator's workflow and noted that the programme should be implemented within the first or second week of a new term. Lastly she suggested that knowledge sharing within the community should be done by means of printed pamphlets.

The learners were of the opinion that they had the freedom to choose healthy lifestyle behaviours and noted that they have a social responsibility towards the community to share knowledge with them. For risk behaviour change, the learners were of the opinion that behaviour change will take place if individuals are occupied with recreational activities to keep them busy, if the detrimental effects of the risk behaviour are shared with them, and lastly if more information was received.

During the health education programme the learners' experienced self-empowerment through receiving knowledge. They indicated that some class groups were asked to complete tasks whereas others were not. Furthermore, learners noted that they did not complete tasks given to them.

Suggestions for improvement from the learners were that sharing methods with the community should be done via talks, pictures and posters. These suggestions were originally part of the health education programme but not implemented because of the challenges experienced by learners. Lastly, both the educator and learners suggested that the health education programme be implemented within the first or second week of the new term.

4.11 Summary of result in section A and section B

Both learners and educator thought that the health education programme is a beneficial programme for themselves and their community. There where however a few concerns highlighted by both learners and educator. The results from the qualitative aspect of the study highlighted the fact that not all learners knew about the tasks that they were required to do within the health education programme. Completion of these tasks would have allowed them to learn more about chronic diseases of lifestyle. Not all those who knew about the tasks

completed them as there was no follow-up on the completion of the tasks given. Those who knew of the tasks did not complete the tasks. As a result not all the components of the tasks were completed resulting in a poor quality of the intervention implementation of the health education programme. This validates the quantitative results which indicated that there was no significant difference between the control and intervention groups with regards to knowledge. As result of a poorly implemented health education programme by the educator there was no statistical difference present in the knowledge of the intervention group.

CHAPTER FIVE: DISCUSSION

5.1 Introduction

The aim of this study was firstly to identify the engagement of high school learners in harmful lifestyle behaviours related to chronic diseases of lifestyle and secondly to evaluate the effects of a health education programme on the knowledge learners gained with regard to chronic diseases of lifestyle in Calvinia, Northern Cape Province. The study was motivated by the fact that chronic diseases of lifestyle are increasing and that learners are increasingly engaged in harmful lifestyle behaviour that leads to chronic diseases of lifestyle like stroke, diabetes and hypertension. Lastly the findings of the learners and educators' experiences of the implementation health education programme will be discussed.

5.2 Prevalence of health risk behaviours

Health risk behaviours that contribute to the leading causes of morbidity and mortality among youths and adults often are established during childhood and adolescence and extend into adulthood. Understanding the prevalence of these health risk behaviours among the youth will assist in enabling health professionals, educators, policy makers, and researchers to assess trends in health-risk behaviours over time, evaluate and improve health-related policies and programs. The current study's findings indicated that 45.5% of learners smoked, 69.9% of learners consumed alcohol and 26.8% learners were physically inactive. The findings of the current study raises alarm bells as the reported prevalence is higher than a national study conducted among high school learners in South Africa in 2008 (Reddy et al. 2010) but tends to be in-line with the findings of more recent studies (Chutergon, 2010; Pharaoh et al., 2011). The study by Reddy et al (2010) found 21% of learners smoked, 34.9% of learners consumed alcohol and 41.5% learners were physically inactive (Reddy et al., 2010). Chutergon's (2010)

study conducted (2010) in New Castle, Kwa-Zulu Natal reported similar findings with 60% of learners smoking, 67% of learners consuming alcohol and 33% of learners being physically inactive. Furthermore a study conducted in Paarl, Western Cape by Pharaoh et al. (2011) found that 64% of the learners smoked, 99% of the learners drank alcohol and 39% of the learners were physically inactive.

The majority of the learners within the current study didn't smoke; this may be attributed to the fact that smoking is not a common practice within this community as compared to the consumption of alcohol which appears to be a more common practice. Within the intervention group statistical significance was found for smoking according to gender, much higher percentages (74%) of females were non-smokers as compared to lower percentages (44%) of boys. This could be because females were judged more harshly than males when it comes to smoking. High percentages of learners within this current study consumed alcohol. Most of the parents of the learners and members of the community work on farms, where the "tot system" was previously in place. The "tot system" also known as the "dop system" was a common means of payment of farm workers for their labour done instead of receiving cash and there are still farmers who continue with this system (Western Cape, n.d). Calvinia in the Northern Cape is mostly a farming area, similarly to Paarl situated in the Western Cape and New Castle in Kwa-Zulu Natal, hence the possible reasons for these communities having high alcohol consumption rates. As adolescents imitate those they are surrounded by or just simply engage in common practices within their communities this could thus be the cause of high alcohol consumption rates. This is supported by a study by Brooks, Magnusson, Spencer and Morgan (2012:55), "that participation in health risk behaviours for young people extend beyond those adults with direct responsibility for young people and can be linked with the actions of adults in the local community". The authors further highlight the need for adults

other than parents as protective assets for the health and well-being of young people, especially in relation to the significance of having a personal connection to a teacher in instances when parental connectivity may be low. This might thus be affected by interventions driven by adults such as teachers that adolescents may trust.

In addition, contextual and environmental factors also impact on participation of behaviours among adolescents. In the current study, the physical activity levels amongst the participants were high, which is a contradiction to other findings. In this instance, the high percentages of participation in physical activity could be attributed to the fact that most of the individuals walk to school and around the town instead of driving as there is no public transport system found within the research community. In addition, the new Life Orientation school curriculum requires the learners to participate in some sort of physical activity. The high percentages of boys being physically active could be attributed to the fact that sport such as rugby is one of the primary sports encouraged to be played and most of the participants in rugby are males.

When comparing the current findings to international statistics, similar trends in health risk behavior by young people. A study among high school learners in the United States in 2011 reported that 44.7% of the learners smoked, 70.8% of the learners consumed alcohol and 13.8% of the learners were physically inactive (Centers for Disease Control and Prevention, 2012). In a study in the United Kingdom among high school learners, a 25% prevalence of smoking and 45% prevalence of consuming alcohol was reported (Health & Social Care Information Centre, 2012). It is thus evident that the learners that participated in this study are similar to their national and international counterparts who are engaging in health risk behaviours.

There is ample evidence in the literature that modifiable health risk behaviours negatively affects the health of those who indulge in these behaviours (WHO, 2011; WHO, 2011a; MRC, 2006). The challenge facing societies is that these modifiable lifestyle behaviours fostered in childhood may be retained into adulthood (DeGenna, 2005). Smoking of tobacco products is highly addictive (DeGenna, 2005) and if commenced in adolescence there is a good probability that it will continue into adulthood. Early intervention is thus imperative in order to prevent undesired health consequences. According to Siapush et al. (2005), the majority of people are aware of the association between engaging in health risk behaviour and the possible disease consequence. In the current study, some of the participants were aware that alcohol, obesity, smoking and stress were risk factors for chronic diseases of lifestyle; yet they still engaged in behaviours like smoking and drinking alcohol. It may be evident that these high school learners lacked the ability to comprehend the lasting effects of the harmful lifestyle behaviours they indulge in.

The engagement in health risk behaviours among learners is of a concern as it places them at risk for chronic diseases of lifestyle which causes a burden on the national, community, household and family levels in terms of health and economic growth. Less healthy individuals are less efficient to take care of self and family which could then place an even greater strain on the current economic status of South Africa.

5.3 Effects of the health education programme on the knowledge of learners

Health education programmes can be used to provide the participants with the opportunity to think about health and be provided with the choice to make voluntary changes to their health-related behaviours based on the information they receive. This section aims to discuss the

objective focussing on the knowledge of high school learners regarding the risk factors relating to chronic diseases of lifestyle prior- and post- intervention.

Knowledge about chronic disease of lifestyle and their risk factors varied amongst the participants. Although a large percentage of the participants had heard about individual diseases like stroke, hypertension and diabetes, the term chronic diseases of lifestyle was not as commonly known. As schools are one of the primary sources of knowledge provision among adolescents, it would be expected that if chronic diseases of lifestyle is to be better understood like HIV/AIDS, it should be targeted to in order to obtain the same level of significance as HIV/AIDS, in the school curriculum.

In the current study it was evident that learners who indicated that they have been taught about chronic diseases of lifestyle scored higher knowledge score per sections (stroke, hypertension and diabetes) and final scores. This confirms that learners who are taught on a specific subject matter at schools are more knowledgeable on that subject than those who are not taught at schools.

Most (53% - 79%) of the learners within the control and the intervention group identified the correct contributing factors to chronic diseases of lifestyles. Worthwhile noting is that 69% learners in the control group and 78% of learners in the intervention group knew alcohol consumption is one of the contributing factors of chronic diseases of lifestyle. However, many of these same learners were still engaging in these health risk behaviors. This indicates that knowing about the contributing factors of chronic diseases of lifestyle will not necessarily lead to behavioural change. Behaviour could possibly be more based on habits learnt from role models, peer pressure and common practices of the individuals they

surrounded by rather than just knowledge. However, in order to consider and influence behaviour change it would be important to consider wider issues of health education such as individual perceptions and reasons of exposure to health risks and risky behaviour. This means that if an individual understands the risks at hand, the person will make better choices.

In the current study, the pre-intervention knowledge mean scores were low for both the control (M=11.89) and the intervention (M=11.50) group. In comparison to other studies the scores found by Frantz (2011) reported pre-intervention knowledge scores of 13.08±3.48 in the Western Cape, South Africa. It is evident from the findings that intervention strategies were needed and thus a health education program was designed and implemented. The main goal of health education is to enable each individual to exercise their right to develop and achieve their physical, mental and social potential through knowledge. As alluded to in the introduction section of this thesis those who are least educated are also least knowledgeable in health related conditions. Thus a introduction of a five week health education program as part of the school curriculum to improve the knowledge of learners as it relates to risk factors for chronic diseases of lifestyle was implemented.

No statistical significance difference was found between pre- and post- intervention scores for the intervention group in the current study. This was only expected to happen within the control group but also occurred in the intervention group possibly indicating an ineffective implementation of the intervention. Post-intervention mean knowledge scores of Frantz (2011) (M=18.90) and Chutergon (2010) (M= 24.65) were found to be significantly higher than pre-intervention scores of the intervention group. Plausible reasons for the difference in outcome between the current study and the ones implemented by Frantz (2011) and Chutergon (2010) could be that the facilitator of the health education programme was a health

professional who was educated in the content and had a clear understanding of the importance of transferring the relevant knowledge to the learners. In the current study, the health education programme was implemented by an educator who may have had a vested interest in the project but not necessarily a clear understanding of the content and relevance of the information. In the current study, the educator may have had the pedagogical skills but she might still have lacked the knowledge in chronic disease as she was not assessed on her knowledge after the training and before the implementation of the health education programme. The learners also alluded to the point that the knowledge the educator attempted to transfer to them was unclear but they better understood the researcher when a brief overview was given to the learners by the researcher. The researcher who is also a health professional was well acquainted with the knowledge of chronic diseases of lifestyle and this could be the reason for the improved understanding noted by the learners when the researcher presented the overview. There is thus evidence that when implementing a health education program all aspects should be considered which includes the message, the content as well as the messenger. It is essential that the facilitators of health education programmes should demonstrate that they can engage youth in interactive activities and use teaching strategies that are appropriate to the cognitive, language, and literacy levels of participants (Kirby, Rolleri, & Wilson, 2007). Teachers are usually considered as appropriate facilitators but in this current study, this did not prove to be as successful as using other facilitators such as health professionals.

Both the control and the intervention group had a similar minimal increase mean knowledge score post intervention. By completing the knowledge questionnaire learners in both groups could have been made more aware of the terms found in the questionnaire and when they came across these terms in social media or within their communities they may have paid

more attention to the discussions surrounding this topic. During the pre- and post-intervention knowledge questionnaire administration time period there was a show on chronic diseases of lifestyle on SABC 3 that both the learners in the control and intervention groups might have been exposed to. It is also important to note that learners within the control and intervention group were not likely to have been in contact with each other as the schools are between 71 kilometers to 133 kilometers apart from each other.

When health education programmes are implemented various aspects should be considered to allow for effective implementation of intervention. One of these aspects that require further consideration is the qualifications of the facilitator in terms of the health education programme.

5.4 Learners and educators' experiences of the implementation health education programme

This section aims to discuss the experiences of learners and the educator during the implementation of the health education programme. The emerging themes were facilitating factors and hindering factors for effective implementation of the health education programme. Within facilitating factors theme, were the categories of empowerment, freedom of choice and social responsibility. The hindering factors had the following categories: logistics, methods of knowledge sharing and quality of intervention implementation.

5.4.1 Facilitating factors: Empowerment, freedom of choice and social responsibility

Within the category of "empowerment" both the educator and learners believed that the health education programme was to be a self-empowering experience and furthermore the educator noted that the health education programme was necessary as she and learners lacked knowledge. According to the World Health Organisation in Africa, healthy lifestyle changes

can be fostered by empowering learners and educators (WHO Africa, n.d). Schools form an important and influential role in the lives of their learners (Royal Automobile Club of Victoria, 2006)

The category of "freedom of choice" was noted by the learners and they were of the opinion that the more knowledge they have on health conditions the better lifestyle choices would be made by them. Learners should be educated to allow them to make informed choices with regards to healthy lifestyle behaviours.

Learners were of the opinion that they had a "social responsibility" towards members of the community to educate them on the knowledge they have and they felt good about presenting a health awareness activity. This social responsibility when acted upon will lead to improved knowledge of learners and members of the community. The community and parents can be empowered if children share their knowledge on diseases with parents and the community (World Health Organization, n.d). Learners experience a greater amount of empowerment if they participate in their own learning and are allowed to have control in terms of their own learning experience (St. Leger, Kolbe, Lee, Mccall & Young, n.d). The use of an awareness activity within a health education programme allowed learners to be active participants during the programme and allowed them to act upon the social responsibility by empowering members in their community.

5.4.2 Hindering factors: Logistics, methods of knowledge sharing and quality of intervention implementation

Within the category of "logistics" it was found that the timing of the intervention should have been at another time, such as the first or second week of term. As part of the guidelines to establish a health promoting school one needs to allocate adequate time for activities, organisation and out of class activities (International unit for health promotion and education, n.d.). Thorough implementation of a school programme can be compromised because of time constraint and timing of the intervention resulting in failure to complete tasks set out (Buston, Wight, Hart & Scott, 2002). Furthermore the educator felt that the health education programme should form part of the school curriculum and noted that she was rushed to complete the curriculum content while simultaneously attempting to implement the health education programme. For a more effective implementation of a health education programme, the program should form part of the school curriculum and be implemented at a more suitable as it relates to the school calendar.

The category of "methods of sharing knowledge" highlighted the fact that learners wanted to share knowledge by means of posters, pictures and pamphlets. These methods of sharing knowledge were part of the original health education programme. It seems evident that the complete health education programme was not presented to the learners. Although an effective health education programme is designed it will not be realized if it is not implemented according to plan. Monitoring systems needs to be included as part of the strategies for intervention programmes

Lastly, within the category of "quality of intervention" it was highlighted by learners that not all learners completed the task that was given to them and this also led them to be nervous before presenting the health awareness activity as they did not feel prepared. The task given to them would have allowed them to gain more knowledge on chronic diseases of lifestyle. Successful implementation of an intervention is dependent on the quality of the delivery of the intervention (Carroll et al., 2007). Quality of delivery is defined as to whether an intervention was delivered as intended in order to achieve the desired outcome of the intervention and is another indicator of intervention fidelity (Carroll et al., 2007). The authors define fidelity as the measure as to whether an intervention was delivered as planned and highlighted that when the content of the intervention is poorly delivered, the desired outcome of the intervention would not be achieved (Carroll et al., 2007).

This current health education programme was not delivered as it was intended resulting in an resulting in an undesirable outcome of no statistical significance for knowledge scores of learners within the intervention group. For learners to effectively transfer knowledge through health awareness activity learners should be thoroughly prepared by completing tasks given to them in order to have the required knowledge on the topic being presented.

5.5 Conclusion

Within this study it is evident that learners in both the control and intervention groups engaged in harmful lifestyle behaviours such as smoking, alcohol consumption and physical inactivity. The knowledge scores of the intervention group had no significant difference when comparing pre- and post- intervention schools scores indicating that the health education programme was ineffective in improving the knowledge of learners. The qualitative data revealed facilitating and hindering factors for the implementation of the health education programme that could have led to the ineffective implementation of the programme. From

this study necessary recommendations can be done to improve the effectiveness of the health education programmes.

Health promotion programmes should be a collaborative approach from both the educational and health sectors. For successful implementation, both sectors require being well involved in the planning and implementation of the content and should be well acquainted with the aim, content and objectives of the programme. Regular evaluation of a health education programme should be done through the implementation process to achieve all aims and objectives.

CHAPTER SIX: SUMMARY, RECOMMENDATIONS, LIMITATIONS

6.1 Summary

The harmful lifestyle behaviours fostered by learners within the control and intervention groups such as smoking, alcohol consumption and physical inactivity will make these participants more prone to developing chronic diseases of lifestyle in adulthood. Intervention was put in place to improve the knowledge of the learners to allow them to make an informed decision on the lifestyle behaviours. The intervention however yielded no statistical significance in the knowledge of learners with the intervention group because of the hindering factors as noted according to experiences of the learners and the educator. As result of this study necessary recommendations are made for the improvement of this study and the health education programme when implemented by an educator.

6.2 Recommendations

6.2.1 Study improvement

If this study is to be repeated the following recommendations are suggested:

1. Constant observation of the implementation of the health education programme should be done by a non-participant who is well acquainted with the topic, thereafter feedback and corrections should be provided to all for improvement content deliver to allow high quality and further enhance the fidelity of the intervention.

2. When health education is presented by an educator, the educator should be assessed on the knowledge of the health education programme after the attendance of a workshop and before the implementation of the programme.

3. In terms of this timing challenge faced, it would be more beneficial to have the implementation of the programme during the first week of the term instead of a week or two just before the start of the examination period.

4. The planning and implementation of the health education programme should be as a collaborative effort of stakeholders in the health and education sectors as well as community members including study participants. Together as a team they should decide on the topic, activities embarked on and an evaluation of the effectiveness of the programme.

5. There should also be a more in-depth exploration of the reasons learners get involved in health risk behaviours that can contribute to chronic diseases of lifestyle.

6. Exploration in the requirements for behavioural change should be incorporated in the health education programme.

6.2.2 Health education programme implementation

As result of the implementation and evaluation of the health education programme the following are recommended:

1. Health education programmes should form part of the Life Orientation school curriculum
2. Testimonies should be provided to the learners by community members who are already experiencing the effects of chronic diseases of lifestyle through harmful lifestyle behaviours.

3. The health education programme must be promoted within the communities surrounding the schools so that the individuals, family, communities and societies may take an interest in, gain knowledge and benefit from the health education programme.
4. Where possible after-school sports, life skills, craft or other programmes should be set up at schools to provide alternate opportunities for socialisation, as the learners had noted that they required activities to keep them busy to avoid engaging in health risk behaviours.

6.3 Limitations

- Findings are limited because the research was only conducted at three of the high schools in the Namakwa district. As the study was implemented in rural schools, the results cannot be generalised to both rural and urban schools.
- Research was dependent on the educator's implementation of the project.
- Sampling limitation caused by a discrepancy in intervention and control group size as one of the schools who were to form part of the control group rejected the invitation.
- Participant codes per participant did not remain the same at each point of data collection hence only mean scores could be compared for pre- and post-intervention knowledge scores.
- With regards to the training workshop, the educator was not tested on the knowledge that was given to her during the workshop.
- Monitoring of the intervention within this current study was challenging as the researcher was not present during the implementation of the intervention which was carried out in another province to that in which the researcher resided.

- The educator was regularly contacted telephonically by the researcher and the educator informed the researcher that the health education programme was going according to plan. Telephonic evaluation of the implementation is not sufficient and a health professional should be a constant observer during the implementation of the health education programme.

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APPENDICES

Appendix 1: Knowledge questionnaire

Please answer the following questions to the best of your ability

BIODEMOGRAPHIC DATA

1	What is your gender?	Male	
		Female	
2	How old are you?	13 years	
		14 years	
		15 years	
		16 years	
		17 years	
		18 years and older	
3	What grade are you?	8	
		9	
		10	
		11	
		12	
4	What race are you?	Black	
		Coloured	
		Indian	
		White	

GENERAL KNOWLEDGE

5	Have you ever heard of chronic diseases of lifestyle	Yes	
		No	
6	Have you ever heard of the following diseases?		
	stroke	yes	
		no	
	hypertension	yes	
		no	
	diabetes	yes	
		no	
7	Which of the following factors contribute to chronic diseases? Tick as many answers as you think		
		smoking	1
		physical activity	1
		loud music	
		obesity	1
		balanced diet	
		alcohol	1
		stress	1
		medication	
8	Can chronic diseases of lifestyle be prevented	Yes	
		No	
9	Have you been taught in school about chronic diseases	Yes	
		No	

	STATE WHETHER TRUE OR FALSE OR DON'T KNOW		
	HYPERTENSION		
10	Hyptertension is another name for high blood pressure	TRUE	1
		FALSE	0
		Don't know	0
11	The following blood pressure is considered to be high 130/80		
		TRUE	1
		FALSE	0
		Don't know	0
12	Hypertension can be treated with medication, exercise and weight loss		
		TRUE	1
		FALSE	0
		Don't know	0
13	Lifestyle changes such as stopping smoking, loss of weight can decrease blood pressure		
		TRUE	1
		FALSE	0
		Don't know	0
14	Damage to the kidney is a sign of high blood pressure		
		TRUE	1
		FALSE	0
		Don't know	0
		Score	5
	DIABETES		
15	Diabetes is commonly known as "sugar" sickness	TRUE	1
		FALSE	0
		Don't know	0
16	The following is normal blood glucose levels 3.8 - 7.7	TRUE	1
		FALSE	0
		Don't know	0
17	Eating to much sugar and other sweet foods is a cause for diabetes	TRUE	1
		FALSE	0
		Don't know	0
18	Diabetes can be cured	TRUE	0
		FALSE	1
		Don't know	0
19	Shaking and sweating are signs of high sugar levels	TRUE	1
		FALSE	0
		Don't know	0
20	Kidney produce insulin	TRUE	1
		FALSE	0
		Don't know	0

21	The usual cause of diabetes is lack of effective insulin in the body	TRUE	1
		FALSE	0
		Don't know	0
22	Diabetes causes poor circulation	TRUE	1
		FALSE	0
		Don't know	0
23	Medication is more important that diet and exercise to control diabetes	TRUE	1
		FALSE	0
		Don't know	0
24	There are 2 types of diabetes namely Type 1 and Type 2	TRUE	1
		FALSE	0
		Don't know	0
25	Diabetes can damage my kidneys	TRUE	1
		FALSE	0
		Don't know	0
		Score	11

STROKE

26	The most common type of stroke is when the blood supply to the brain is blocked	TRUE	1
		FALSE	0
		Don't know	0
27	Another name for stroke is cerebrovascular accident	TRUE	1
		FALSE	0
		Don't know	0
28	Signs of a stroke include blurred vision, paralysis on one side of the body and severe headache	TRUE	1
		FALSE	0
		Don't know	0
29	You are at risk of getting a stroke if you are obese	TRUE	1
		FALSE	0
		DON'T KNOW	0
30	The most common known risk factor for stroke is high blood pressure	TRUE	1
		FALSE	0
		Don't know	0
31	If you drink lots of alcohol you are less likely to have a stroke	TRUE	0
		FALSE	1
		DON'T KNOW	0
32	To reduce the risk of stroke you need to eat well and exercise regulary	TRUE	1
		FALSE	0
		Don't know	0
33	Right arm paralysis could be a physical disability caused by stroke	TRUE	1
		FASLE	0
		Don't know	0
34	If you stop smoking you decrease the risk of harm a stroke	TRUE	1
		FALSE	0
		DON'T KNOW	0

35	Diabetes and stroke are closely linked	TRUE	1
		FALSE	0
		DON'T KNOW	0
		Score	10
		TOTAL	26

THANK YOU FOR YOUR PARTICIPATION

Appendix 2: Content of training workshop

STOP THE EPIDEMIC OF CHRONIC DISEASES OF LIFESTYLE IN THE NORTHERN CAPE

1

PREVALENCE OF CDL IN AFRICA

2

PREVALENCE OF CDL IN AFRICA

- Total projected chronic disease related deaths in WHO Region for
  Africa, 2005 = 2,446,000
- WHO projects that in the WHO Region For Africa, over the next 10 years:
  28 million people will die from a chronic disease
- Deaths from chronic diseases will increase by 27% - most markedly, deaths from diabetes will increase by 42%

3

PREVALENCE OF CDL IN SOUTH AFRICA

4

PREVALENCE OF CDL IN SOUTH AFRICA

- Total deaths in South Africa, 2002 = 680,000
- Total chronic disease-related deaths in South Africa, 2002 = 190,000
- In South Africa, chronic diseases accounted for 28% of all deaths in 2002

5

NORTHERN CAPE

6

Leading cause of death in NC

- In 2000 report it was found that 51% of deaths were caused by NCD, which are CDL, in Northern Cape

Risk Factors for CDL

- Increased blood pressure
- Increase sugar levels
- Increased cholesterol
- Obesity

Lifestyle behaviours which lead to the Risk factors of CDL

- Insufficient physical activity
- Unhealthy diets (sweet, salty & fatty foods)
- Tobacco smoking and
- Alcohol consumption

Northern Cape Surveys regarding lifestyle behaviours which cause CDL risk factors

- **Physical inactivity** levels increased to 42% of adolescence who are inactive.
- Close to half of the adolescence participating in the surveys were engaging in **unhealthy eating** behaviours
- Northern Cape Province was listed second highest in terms of the number of adolescence consuming **alcohol**. Of the national results 50% of adolescence indicated that they consumed alcohol.
- The survey found that 30% of adolescence has **smoked** and it also indicated that Northern Cape Province had the highest prevalence on current smokers.

10

10 FACTS ABOUT CHRONIC DISEASES OF LIFESTYLE WORLDWIDE WHO, 2005

11

1-5 FACTS

1. Chronic disease is responsible for 60% of all deaths worldwide
2. 80% of chronic disease deaths occur in low and middle income countries
3. Almost half of the chronic diseases occur in people under the age of 70 years
4. Around the world, chronic diseases affects women and men almost equally
5. The major unhealthy lifestyle behaviours that induce risk factors for chronic diseases are an unhealthy diet, physical inactivity and tobacco use

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6-10 FACTS

6. Without action, 17 million people will die prematurely this year from chronic diseases
7. One billion adults are overweight – without action, this figure will surpass 1.5 billion by 2015
8. 22 million children under five years old are overweight
9. Tobacco use causes at least 5 million deaths each year
10. If the major risk factors for chronic disease were eliminated, at least 80% of heart disease, stroke and type 2 diabetes would be prevented and 40% of cancer would be prevented

13

DIABETES

14

DIABETES AND YOUR ORGANS

- Diabetes affects many organs of the body including the kidneys.
- Kidney damage and bladder problems are long-term complications that may affect people with diabetes.
- Diabetic kidney disease (also called diabetes nephropathy) can lead to kidney failure.

15

WHAT IS DIABETES?

- Diabetes (or sugar sickness) is a condition of the body, where sugar is not used correctly to provide energy for living and growing.
- You develop diabetes when your body doesn't produce enough insulin.
- Without insulin your body cannot get the energy it needs from your food.
- Normally, a gland called the pancreas makes insulin which carries the sugar in the blood into the cells. In diabetes, the pancreas fails to supply enough insulin, or

WHO GETS DIABETES?

- Anyone, anywhere, at any age can get diabetes. Being overweight and having a family history of diabetes increases the risk

TYPES OF DIABETES

There are two major types of diabetes:

- Type I, commonly called juvenile diabetes,
- Type II, commonly called adult onset diabetes.

Both have similar symptoms but very different causes.

TYPE 1 DIABETES

Type I diabetes, usually diagnosed in childhood, is a disease whereby the body's own immune system attacks and kills the cells in the pancreas which produce insulin, leaving a person's body without insulin, and unable to regulate its blood sugar levels.

19

TYPE 2 DIABETES

- Type II diabetes is a disease that results when the body's cells become resistant to insulin.
- In Type II diabetes, unlike in Type I, insulin is still produced by the body; it just isn't used correctly.

20

RISK FACTORS FOR DIABETES

- Obesity
- Sedentary lifestyle
- Unhealthy eating habits
- High blood pressure
- Family history
- Increased age

21

SIGNS OF DIABETES

- Always thirsty
- Always tired
- Frequent urination
- Unexplained weight loss
- Itching
- Changes of vision (blurry)
- Slow healing cuts and bruises
- Numbness in hands and feet

22

IS THERE A CURE?

- Currently there is NO cure for Diabetes
- There is treatment to help people maintain a normal life

23

WHAT CAN I DO?

24

EAT HEALTHY

- Eat regular meals (breakfast, lunch and supper), which contain different kinds of foods.
- Make starchy foods the basis of your meals.
- Eat less fat.
- Chicken, fish, lean meat, and low fat dairy foods could be eaten daily.
- Eat less salt and salty foods.
- Drink as much safe water as you can throughout the day (6-8 glasses).

EAT HEALTHY

EXERCISE

EXERCISE

It is important to do some form of exercise 3-4 times per week for 10-20 minutes. This may take the form of :

- Walking up and down a flight of stairs instead of taking the lift.
- Walking to the shops instead of taking a car/taxi/bus or getting off a bus/ taxi a couple of stops early.
- 50 –100 skips with a skipping rope.

28

UNIVERSITY of the WESTERN CAPE

HEART DISEASE- HYPERTENSION

29

WHAT IS HYPERTENSION?

- Hypertension, or high blood pressure, is defined as a reading of 140/90 on three consecutive measurements at least six hours apart.
- Consistently high blood pressure causes the heart to work harder than it should and can damage the coronary arteries, the brain, the kidneys, and the eyes.
- Hypertension is a major cause of **stroke**.

30

WHAT IS BLOOD PRESSURE

- Blood flows under a pressure as it flows inside the blood vessels; the arteries, as it stretches their smooth muscles with each heart beat, pumping the blood from the heart.
- There are two readings given. The pressure in the arteries when the heart is pumping the blood is called "Systolic" pressure.
- When the heart relaxes in-between the beats the lower resting phase reading is called "Diastolic" pressure. Thus the pressure is reported with two readings as "120 over 80".
- This is normal number for most people. Every one's blood pressure may slightly vary. It can be slightly different at different times. Older people may normally have slightly higher pressure

31

THE PREVALENCE OF HYPERTENSION

Overall hypertension prevalence rate was 55%,

- with 59% of black African people
- 55% of Indian and coloured people
- 50% of white people

32

TYPES OF HYPERTENSION

- Hypertension is classified as either primary (or essential) hypertension or secondary hypertension.
- Primary hypertension has no specific origin but is strongly associated with lifestyle. It is responsible for 90 to 95 percent of diagnosed hypertension
- Secondary hypertension is responsible for 5 to 10 percent of diagnosed hypertension. It is caused by a pre-existing medical condition such as congestive heart failure, kidney failure, liver failure, or damage to the endocrine (**hormone**) system.

33

RISK FACTORS FOR HYPERTENSION

- Stress
- Poor diet
- Physical inactivity
- Obesity
- Over the counter drugs
- Smoking
- Alcohol abuse
- Hereditary

WHO GETS HYPERTENSION

- Often it runs in the family. Relatives of people with hypertension are at a greater risk than others to get the condition. If you have a family member with hypertension, have your blood pressure checked periodically.
- Hypertension can occur at any age but it is more common as people get older. It often begins somewhere between the ages of 20 and 50 in most people.
- Men are more apt to become hypertensive than women.
- Women are at special risk for developing hypertension during pregnancy, when they are taking birth control pills.
- It is more common among overweight people, and it is more difficult to control.

WHAT CAN I DO?

- Most of the risk factors for primary hypertension are preventable, and lifestyle modification may prevent as well as treat the condition. Secondary hypertension can be managed by treating the underlying cause.

RECOMMENDED MANAGEMENT

- Eliminate smoking
- Control stress
- Maintain weight at 15 percent or less of desirable weight
- Restrict alcohol intake to no more than two drinks a day for men and one for women
- Restrict sodium intake to 1.5 to 2.5 grams per day (4 to 6 tsp salt)
- Exercise five to seven days a week for sixty minutes per session
- Increase intake of fruits and vegetables
- Increase intake of low-fat dairy products

37

CEREBROVASCULAR ACCIDENT - STROKE

38

WHAT IS A CEREBROVASCULAR ACCIDENT?

- **Cerebrovascular accident**: The sudden death of some brain cells due to lack of oxygen when the blood flow to the brain is impaired by blockage or rupture of an artery to the brain. A CVA is also referred to as a stroke.

39

SIGNS OF A STROKE

- Sudden numbness or weakness of face, arm, or leg (mainly on one side of the body)
- Sudden trouble seeing in one or both eyes
- Sudden trouble walking, dizziness, or loss of balance
- Sudden confusion or trouble talking or understanding speech
- Sudden bad headache with no known cause

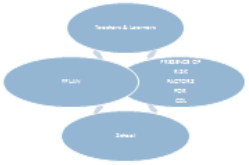
40

RISK FACTORS FOR A STROKE

- Age can have a stroke.
- Family history
- Ethnicity
- High blood pressure
- Heart disease
- Diabetes
- Smoking
- Hormonal changes with pregnancy

41

THE SITUATION



42

THE PLAN

TASK

- Identify a plan for your school that would assist the learners and teachers in preventing the risk factors for chronic diseases of lifestyle
- Plan the health awareness activity in a group over a period of 2 weeks
- Identify key people that would make this Health awareness activity
- Implement the health awareness activity

THANK YOU

Contact:

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- University of Western Cape
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Appendix 3: Focus group discussion guide

Questions

1. Kan ons vir ‘n tydtjie die verloop van die gesondheidsopvoedingsprogram bespreek?
2. Wat het gewerk en nie gewerk nie?
3. Het jy enige uitdagings ervaar tydens die gesondheidopvoedingsprogram? Het julle byvoorbeeld gesukkel om die informasie te verstaan of in te saamel?
4. Wat was jou ervaaring van die gesondheidopvoedingsprogram? Het jy dit geniet? Dink jy dit was toepaslik?
5. Het jy enige voorstelle vir verbetering vir die gesondheidsopvoedingsprogram

Appendix 4: Interview guide

Vrae

1. Kan u vir my vertel wat die proses was wat ons gevolg het vir hierdie gesondheids opvoeding program, waar het dit begin en op watter punt staan ons nou?
2. Hoe voel mevrou teenoor die program? dink u ons kan enige iets byvoeg, enige aspek van informasie so dat die informasie beter na die gemeenskap toe gaan?
3. En volgens mevrou se kennis het hulle enige iets van die aard gedoen tydens die program?
4. Was daar enige bewys dat hulle dit gedoen het?
5. Was daar enige iets waarmee mevrou self gesukkel het in die program, of waarmee die leerders gesukkel het in die program?
6. Dink mevrou self dat daar enige iets was wat mevrou geleer het van die program?
7. Is daar enige ander iets wat u wil sê oor die program self enige voorstelling?
8. Sê vir my mevrou die lewensoriëntering periode sal dit nie negatief die klas beïnvloed as daar tyd van hulle les tyd, want hulle moes eintlik die sillabus bedek en daai...
9. En dan ook het ek op gelet op die laste keer het ek gekom net voor die eksamens. Watter tyd in die jaar of in die kwartaal dink mevrou sal die beste wees vir so n program om geimplementeer te word deur die lewensoriëntering klasse?

Appendix 5: Health risk behaviour questionnaire

HEALTH RISK BEHAVIOUR SURVEY

SECTION A: BIODEMOGRAPHIC DATA			
1	What is your gender?	Male	
		Female	
2	How old are you?	13 years	
		14 years	
		15 years	
		16 years	
		17 years	
3	What grade are you?	8	
		9	
		10	
		11	
4	What race are you?	Black	
		Coloured	
		Indian	
		White	
5	How would you rate your situation at home?		
	a) enough money for important things but few extras		
	b) enough money for extra things like luxuries and holidays		
	c) enough money for food/clothes but short of many things		
	d) not always enough money fo basic things such as clothes and food		
Please note that the following measurements will be taken by the researcher			
6	How tall are you without your shoes on?	Reading 1:	
		Reading 2:	
7	How much do you weigh without your shoes on?	Reading 1:	
		Reading 2:	
8	What is your blood pressure?	Reading 1:	
		Reading 2:	
9	What is your wasit circumference?	Reading 1:	
		Reading 2:	
10	What is your hip circumference?	Reading 1:	
		Reading 2:	
SECTION B: DIET INFORMATION			
11	In the past week, how often did you have breakfast	Never	
		At least 3x a week	
		Daily	
12	In the past week, how often did you have lunch	Never	
		At least 3x a week	
		Daily	
13	In the past week, how often did you eat fruit	Never	

		At least 3x a week	
		Daily	
14	In the past week, how often did you eat vegetables	Never	
		At least 3x a week	
		Daily	
	SECTION C: TOBACCO USE INFORMATION		
15	Have you ever smoked cigarettes?	Yes	
		No	
16	How old were you when you first started smoking cigarettes?	I have never smoked	
		< 10 years	
		10-13 years	
		14-15 years	
		15 and older	
17	Have you smoked cigarettes in the last week?	Yes	
		No	
18	How often did you smoke cigarettes?	Never	
		Daily	
		1-2 days of the week	
		3-5 days of the week	
19	How many cigarettes did you smoke in the past week?	none	
		less than 5	
		5- 10 cigarettes	
		more than 10 cigarettes	
20	Where do you usually smoke (choose one option)	never smoked cigarettes	
		At home	
		At school	
		At friends homes	
		In public places	
21	Have you ever tried to stop smoking?	Yes	
		No	
22	Do you think smoking cigarettes is harmful to your health?	Yes	
		No	
23	Do you think the smoke from other people's cigarettes is harmful to your health	Yes	
		No	
24	Once you have started smoking, do you think it would be difficult to stop	Yes	
		No	
25	Do any of your parents smoke cigarettes?	Yes	
		No	
26	Has anyone in your family discussed the harmful effects of smoking cigarettes with you?	Yes	
		No	
27	During this school year, were you taught in any of your classes about the dangers of smoking cigarettes?	Yes	
		No	

	SECTION D: INFORMATION OF ALCOHOL USE		
28	How old were you when you had your first alcoholic drink?	I have never drunk	
		< 10 years	
		10-13 years	
		14-15 years	
		15 and older	
29	Have you had an alcoholic drink in the last week?	Yes	
		No	
30	How many alcoholic drinks did you have when you drank?	Never had an alcoholic drink	
		1 drink	
		2-3 drinks	
		more than 3 drinks	
31	With whom do you usually drink alcohol (choose one option)	I do not drink	
		I usually drink alone	
		I usually drink with family	
		I usually drink with friends	
		In public places	
32	During your lifetime, have you ever drank so much alcohol that you were drunk?	Yes	
		No	
33	Have you ever tried to stop drinking alcohol?	Yes	
		No	
34	Do you think drinking alcohol is harmful to your health?	Yes	
		No	
35	Once you have started drinking, do you think it would be difficult to stop	Yes	
		No	
36	Do any of your parents drink?	Yes	
		No	
37	Has anyone in your family discussed the harmful effects of drinking with you?	Yes	
		No	
38	During this school year, were you taught in any of your classes about the dangers of drinking?	Yes	
		No	
	SECTION E: PHYSICAL ACTIVITY INFORMATION		
	Physical activity is any activity that increases your heart rate and makes you get ou of breath some of the time. It can be done at school, with friends or walking to school		
39	During the past 7 days, how many days were you physically active for at least 30-60 minutes	0 days	
		1-2 days	
		3 days	
		4-5 days	
		Daily	
40	During a usual week, how many days will you be physically active for at least 30-60 minutes	0 days	
		1-2 days	
		3 days	
		4-5 days	
		Daily	

41	How much time do you spend during a usual day sitting and watching TV, playing computer games or just sitting doing nothing?	Less than 1 hour per day	
		1-2 hours	
		3-4 hours	
		5-6 hours	
		More than 6 hours	

42	Do any of your parents participate in any form of exercise?	Yes	
		No	

43	Has anyone in your family discussed the benefits of participating in physical activity?	Yes	
		No	

44	During this school year, were you taught in any of your classes about the benefits of physical activity	Yes	
		No	

THANK YOU FOR PARTICIPATING

Appendix 6: Afrikaans knowledge questionnaire

AANHANSEL 1 : KENNIS VRAELYS

Beantwoord asseblief die volgende vrae na die beste van jou vermoë

BIODEMOGRAFIESE DATA

1 Wat is jou geslag?

- Manlik
- Vroulik

2 Hoe oud is jy?

- 13 jaar
- 14 jaar
- 15 jaar
- 16 jaar
- 17 jaar
- 18 jaar

3 In watter graad is jy?

- 8
- 9
- 10

11

12

4 Watter ras is jy?

Swart

Kleuring

Indier

Wit

Ander

ALGEMENE KENNIS

5	Het jy ooit van kroniese lewenstyl-siektes gehoor?	Ja Nee
6	Het jy all ooit van die volgende siektes gehoor?	
	Beroerte	Ja Nee
	Hipertensie/ hoë bloeddruk	Ja Nee
	Diabetes/ suikersiekte	Ja Nee
7	Watter van die volgende faktore dra by to kroniese siektes? Merk soveel antwoorde soos jy goed dink.	Rook Fisiese aktiwiteit Harde musiek Vetsug Gebalanseerde diet AlKohol

		Stress
		Medikasie
8	Kan kroniese leefstyl-siekte voorkom word?	Ja
		Nee
9	Is jy op skool oor kroniese leefstyl-siekte onderrig?	Ja
		Nee

DUI AAN OF 'WAAR' OF 'VALS' OF 'WEET NIE'

HIPERTENSIE

10	Hipertensie is 'n ander naam vir hoë bloeddruk	WAAR
		VALS
		WEET NIE
11	Die volgende bloeddruk word as hoog beskou 130/80	WAAR
		VALS

WEET NIE

12 Hipertensie kan met medikasie, oefening en gewigsverlies behandel word?

WAAR

VALS

WEET NIE

13 Leefstyl veranderinge soos om op te hou rook, gewigsverlies kan bloeddruk verlaag

WAAR

VALS

WEET NIE

14 Skade aan die nier is ‘n teken van hoë bloeddruk

WAAR

VALS

WEET NIE

DIABETES

15 Diabetes is algemen bekend as suikersiekte

WAAR

VALS

WEET NIE

16 Die volgende is normale bloedglukose vlakke 3.8-7.7

WAAR

VALS

WEET NIE

17 Die eet van te veel suiker en soet kos veroorsaak diabetes

WAAR

VALS

WEET NIE

18 Diabetes kan genees word

WAAR

VALS

WEET NIE

19 Bewe en sweet is tekens van hoë suiker vlakke

WAAR

VALS

WEET NIE

20	Niere vervaardig insulien	WAAR VALS WEET NIE
21	Die algemene oorsaak van diabetes is ‘n gebrek aan effektiewe insulien in die liggaam	WAAR VALS WEET NIE
22	Diabetes veroorsaak swak sirkulasie	WAAR VALS WEET NIE
23	Medikasie is belangriker as diet en oefening om diabetes te beheer	WAAR VALS WEET NIE
24	Daar is 2 tipes diabetes nl Tipe 1 en Tipe 2	WAAR VALS

WEET NIE

25 Diabetes kan my niere beskadig

WAAR

VALS

WEET NIE

BEROERTE

26 Die algemene tipe beroete is wanneer die bloedtoevoer na die brein afgesny word

WAAR

VALS

WEET NIE

27 ‘n Ander naam vir beroerte is serebrevaskulêre ongeluk

WAAR

VALS

WEET NIE

28 Tekens van ‘n beroerte sluit in dowwe sig, verlamming aan die een kant van die liggaam en kwaaihoofpyn

WAAR

VALS

WEET NIE

29	Jy loop gevaar om ‘n beroete te kry as jy geset is	WAAR VALS WEET NIE
30	Die algemene bekendste risikofaktor vir ‘n beroerte is hoë bloeddruk	WAAR VALS WEET NIE
31	As jy baie alkohol drink, sal jy minder waarskynlik ‘n beroerte kry	WAAR VALS WEET NIE
32	Om die risiko van beroerte te verminder moet jy goed eet en gereeld oefen	WAAR VALS WEET NIE
33	Verlamming van die regterarm kan ‘n fisiese gestremdheid wees, veroorsaak deur beroerte	WAAR VALS

WEET NIE

34 Indien jy ophou rook, laat jy die risiko van ‘n beroete afneem

WAAR

VALS

WEET NIE

35 Diabetes en beroerte hou ten nouste verband met mekaar

WAAR

VALS

WEET NIE

DANKIE VIR U SAMEWERKING

Appendix 7: Afrikaans health risk behaviour questionnaire

AANHANGSEL 4: OPNAME VAN GESONDHEIDSRISIKOGEDRAG

AFDELING A: BIODEMOGRAFIESE DATA

1	Wat is jou geslag?	Manlik
		Vroulik
2	Hoe oud is jy?	13 jaar
		14 jaar
		15 jaar
		16 jaar
		17 jaar
3	In watter graad is jy?	8
		9
		10
		11

4 Watter ras is jy?

Swart

Kleuring

Indier

Wit

Ander

5 Hoe sou jy jou situasie tuis evalueer?

a) Genoeg geld vir belangrike sake, maar min ekstra

b) Genoeg geld vir ekstras soos luukshede en vakansies

c) Genoeg geld vie kos/ klere, maar baie te kort

d) Nie altyd genoed geld vir basiese dinge soos klere en kos nie

Let asseblief daarop dat die volgende lesings deur die narvoser geneem sal word

6 Hoe lank is jy sonder jou skoene aan? Lesing 1:

Lesing 2:

7 Hoeveel weeg jy sonder jou skoene aan? Lesing 1:

Lesing 2:

8 Wat is jou bloeddruk? Lesing 1:

Lesing 2:

9 Wat is die omtrek van jou middlelyf? Lesing 1:

Lesing 2:

10 Wat is die omtrek van jou heupe? Lesing 1:

Lesing 2:

AFDELING B: DIEETINLIGTING

11	Hoe dikwels het jy die afgelope week ontbyt gehad?	Nooit Minstens 3 x per week Daagliks
12	Hoe dikwels het jy die afgelope week middagete gehad?	Nooit Minstens 3 x per week Daagliks
13	Hoe dikwels het jy die afgelope week vrugte geëet?	Nooit Minstens 3 x per week Daagliks
14	Hoe dikwels het jy die afgelope week groente geëet?	Nooit Minstens 3 x per week Daagliks

AFDELING C: INLIGTING OOR TABAKGEBRUIK

15	Het jy ooit sigarette gerook	Ja
		Nee
16	Hoe oud was jy toe jy die eerste keer sigarette begin rook het?	Ek het nooit gerook nie
		< 10 jaar
		10-13 jaar
		14-15 jaar
		15 en ouer
17	Het jy in die afgelope week sigarette gerook?	Ja
		Nee
18	Hoe dikwels het jy sigarette gerook?	Nooit
		Daagliks
		1-2 dae van die week
		3-5 dae van die week
19	Hoeveel sigarette het jy die afgelope week	Geen

	gerook?	Minder as 5
		5-10 sigarette
		Meer as 10 sigarette
20	Waar rook jy gewoonlik (kies opsie)?	Nooit sigarette gerook nie
		Tuis
		By die skool
		By vriende se huis
		In openbare plekke
21	Het jy ooit probeer om op te hou rook?	Ja
		Nee
		Ek rook nie
22	Dink jy om sigarette te rook is skadelik vir jou gesondheid?	Ja
		Nee

23	Dink jy die rook van ander mense se sigarette is skadelik vir jou gesondheid?	Ja Nee
24	Dink jy dit sal moeilik wees om op te hou as jy begin rook het?	Ja Nee
25	Rook enige van jou ouers sigarette?	Ja Nee
26	Het enige een in jou gesin die skadelike effek van die rook van sigarette met jou bespreek?	Ja Nee
27	Is jy gedurende die afgelope skooljaar in enige van jou klasse oor die gevare van die rook van sigarette onderrig?	Ja Nee

AFDELING D: INLIGTING OOR ALKOHOLGEBRUIK

28	Hoe oud was jy toe jy jou eerste alkoholiese	Ek het nooit gedrink nie

	drankie gehad het	< 10 jaar
		10-13 jaar
		14-15 jaar
		15 en ouer
29	Het jy in die afgelope week ‘n alkoholiese drankie gehad?	Ja
		Nee
30	Hoeveel alkoholiese drankies het jy gehad toe jy gedrink het?	Het nooit alkoholiese drankies gehad nie
		1 drankie
		2-3 drankies
		Meer as 3 drankies
31	Saam met wie drink jy gewoonlik alkohol (kies een opsie)?	Ek drink nie
		Ek drink gewoonlik alleen
		Ek drink gewoonlik saam met familie

		Ek drink gewoonlik
		saam met vriende
		In openbare plekke
32	Het jy in jou leeftyd ooit so veel alkohol gedrink dat jy dronk was?	Ja
		Nee
33	Het jy ooit probeer om op te hou alcohol drink?	Ja
		Nee
34	Dink jy dit is skadelik vir jou gesondheid om alkohol te drink?	Ja
		Nee
35	Dink jy dit sal moeilik wees om op te hou, as jy eers begin drink het?	Ja
		Nee
36	Drink enige van jou ouers?	Ja
		Nee

37	Het enige een in jou gesin die skadelike effek van drank met jou bespreek?	Ja Nee
38	Is jy gedurende die afgelope skooljaar oor die gevare van drank onderrig?	Ja Nee

AFDELING E: INLIGTING OOR FISIESE AKTIWITEIT

Fisiese aktiwiteit is enige aktiwiteit wat jou hartklop versnel en jou met tye uitasem maak. Dit kan by die skool, saam met vriende, of terwyl jy skool toe stap, gedoen word

39	Hoeveel dae was jy in die afgelope 7 dae fisies aktief vir minstens 30-60 minute	0 dae 1-2 dae 3 dae 4-5 dae Daagliks
40	Hoeveel dae in ‘n gewone week sal jy fisies aktief wees vir minstens 30-60 minute?	0 dae 1-2 dae

		3 dae
		4-5 dae
		Daagliks
41	Hoeveel tyd bestee jy gedurende ‘n gewone dag aan sit en TV kyk, rekenaarspeletjies speel, of net sit en niks doen nie.	Minder as 1 uur per dag
		1-2 uur
		3- 4 uur
		5- 6 uur
		Meer as 6 uur
42	Neem enige een van jou ouers deel aan enige vorm van oefening	Ja
		Nee
43	Het enige een in jou gesin die voordele van deelname aan fisiese aktiwiteit met jou bespreek?	Ja
		Nee
44	Is jy gedurende die afgelope skool jaar oor die voordele van fisiese aktiwiteit onderrig?	Ja
		Nee

DANKIE VIR JOU DEELNAME

Appendix 8: Ethics clearance

OFFICE OF THE DEAN
DEPARTMENT OF RESEARCH DEVELOPMENT

18 April 2012

To Whom It May Concern

I hereby certify that the Senate Research Committee of the University of the Western Cape has approved the methodology and ethics of the following research project by:
Mrs B Sauls (Physiotherapy)

Research Project: Preventative education on chronic diseases of lifestyle for high school learners in the Northern Cape.

Registration no: 12/3/13

Ms Patricia Josias
Research Ethics Committee Officer
University of the Western Cape

Private Bag X17, Bellville 7535, South Africa
T: +27 21 959 2988/2948 . F: +27 21 959 3170
E: pjosias@uwc.ac.za
www.uwc.ac.za

Appendix 9: Permission letter from Northern Cape Education Department

FROM (WED)MAY 2 2012 10:27/ST. 10:25/No. 9404577865 P 1

DEPARTMENT OF EDUCATION
DEPARTEMENT VAN ONDERWYS
LEFAPHA LA THUTO
ISEBE LEZEMFUNDO

Cnr of Phillip & Bree Street
SPRINGBOK 8240

Private Bag X2
SPRINGBOK 8240
Republic of South Africa
www.ncedu.gov.za
Tel. (027) 718 8600
Fax (027) 712 1572

Enquiries : Me.K.W. Links
Dipotlisiso :
Imibuzo :
Navrae :

Reference :
Tshupelo :
Isalathiso :
Verwysings :

Date : 24 April 2012
Lesupelo :
Umhla :
Datum :

To whom it may concern

Permission granted on condition that you arrange your visits with the affected schools yourselves. Learner and teaching time should not be affected. We also expect that you will avail your findings to and share them with the Northern Cape Department of Education.

Best wishes and success with your studies.

K.W. Links
(District Director)

Appendix 10: Information sheet

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2542, Fax: 27 21-959 1217
E-mail: bercoetzee@gmail.com

INFORMATION SHEET- *Educators*

Project Title: Preventative education on Chronic Diseases of Lifestyle for high schools learners in the Northern Cape

What is this study about?

This is a research project being conducted by Berenice Sauls at the University of the Western Cape. We are inviting you to participate in this research project because you are a grade 10 educator for life orientation. The purpose of this research project is to evaluate the effect of a Health Education Programme on the knowledge of grade 10 learners in Northern Cape with regards to the risk factors of chronic disease of lifestyle (CDL)

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

You will be asked to as educators to participate in a one day workshop to receive training on how to implement the health education programme. This programme can be implemented during 5 life orientation periods, the programme corresponds with life orientation syllabus guide in relation to learning outcomes.. Learners will be requested to complete prior and post

health education programme surveys. After the learners have received information, identified risk factors for CDLs in their own personal lives and have research the topic of CDL and risk factors learner are to decide which type of health awareness activity they would like to engage in. Participants can also choose to engage in health awareness activity. Health awareness activities could be a march, drama show, sharing information with family and friends at home. Educators are responsible to facilitate learner through this process. After the completion of health education programme, small group discussions also known as focus group discussions will be conducted with only a few randomly selected learners as well as with educators. During the focus group discussion educators are able to express their experiences, challenges and suggestions for the health education programme.

Would my participation in this study be kept confidential?

We will do our best to keep your personal information confidential. To help protect your confidentiality: "The surveys are anonymous and will not contain information that may personally identify you". All the data will be stored in password protected files on computer. Identification codes instead of personal details will be displayed on data forms**.** For coded identifiable information, (1) your name will not be included on the surveys and other collected data; (2) a code will be placed on the survey and other collected data; (3) through the use of an identification key, the researcher will be able to link your survey to your identity; and (4) only the researcher will have access to the identification key. If we write a report or article about this research project, your identity will be protected to the maximum extent possible. All participants who agree to be part of the focus group are to sign a

confidentiality agreement that each individual will refrain from disclosing any information outside the focus group.

What are the risks of this research?

There are no known risks associated with participating in this research project.

What are the benefits of this research?

The benefits to you include is that you will received information on Chronic Disease of Lifestyle of which the incidence have increased giving you an opportunity to make an informed choice on lifestyle habits. Further than information that will be shared with you, this research is not designed to help you personally, but the results may help the investigator learn more about current knowledge and risk factors present in high school learners in your community. We hope that, in the future, other people might benefit from this study through improved understanding of impact of information retrieved on your knowledge of CDL risk factors

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 participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.

What if I have questions?

This research is being conducted by ***Berenice Sauls, Physiotherapy Department*** at the University of the Western Cape. If you have any questions about the research study itself, please contact

Prof Frantz

University of Western Cape,

Physiotherapy Department,

Private Bag x 17,

Belville, 7535,

South Africa;

021 959 3661;

jfrantz@uwc.ac.za

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: Professor A. Rhoda

Dean of the Faculty of Community and Health Sciences: Professor H. Klopper

University of the Western Cape

Private Bag X17

Bellville 7535

Tel: (021) 959 2631

This research has been approved by the University of the Western Cape's Senate Research Committee and Ethics Committee.

INFORMASIEBLAD - *Onderwysers*

ProjekTitel: Voorkomende opvoeding aangande kroniese leefstylsiektes vir hoërskoolleerders in die Noordkaap.

Wat behels die studie?

Die navorsingprojek gaan deur Berenice Sauls uitgevoer word. Sy is 'n student aan die Universiteit van Wes-Kaapland. U word uitgenooi om deel te neem aan die navorsingsprojek, omdat u 'n graad 10 leerder is. Die doel van hierdie navorsingsprojek is om die effek van a

Gesondheidsopvoedingsprogram op die kennis van die graad 10 leerders in die Noord-Kaap te evalueer met betrekking tot die risikofaktore van kroniese leefstylsiektes (KLS).

Wat sal van my verwag word as ek instem om deel te neem?

U sal gevra word om ‘n 7 uur lank werkswinkel by te woon sodat u opleiding kan ontvang ten opsigte van gesondheidsprogram. Hierdie program sal geimplementeer word tydens 5 lewensorientasieperiodes, die program stem ooreen met die lewensorientasie leerplan ten opsigte van leeruitkomste. As onderwyser moet u aan die leerders inligting oor kroniese leefstylsiektes verskaf. Daarna moet die leerders hul eie risiko faktore van kroniese leefstylsiektes identifiseer. Leerders sal dan verplig word om navorsing oor kroniese leefstylsiektes en risiko faktore na te slaan. In groepe moet leerders dan besluit op ‘n gesondheidsbewusmakingsaktiwiteit. Leerders mag ook besluit om nie hulself te betrek in ‘n gesondheidsbewusmakingsaktiwiteit nie. Die Gesondheidsbewusmakingsaktiwitiet kan ‘n toneelstuk, optog wees, of om inligting met familie en vriende by u huis deur middel van gesprek mee te deel. U is verantwoordlik om die leerders deur die proses, van selekteering en uitvooring van bewysmakingsaktiwiteit te fasiliteer. Na die afloop van die gesondheidsopvoedingprogram, sal kleingroep besprekings afgelê word. Hierdie besprekings sal met onderwysers wees sowel as met leerders. Gedurende die bespreking sal onderwysers hulle ervaringe, uitdagings en voorstelle vir die gesondheidsopvoedingprogram meedeel.

Sal my deelname aan die studie vertroulik wees?

Ons sal na die beste van ons vermoë doen om jou persoonlike informasie vertroulik te hou. Om te help om u vertroulikheid te bewaar, sal die volgende reëls daar gestel word: “die

vraelyste sal anoniem bly en dit sal geen inligting bevat wat jou persoonlik sal identifiseer nie" Alle data sal gestoor word op 'n rekenaar in wagwoord beskermende lêers. Idenfikasie kodes sal verskyn op inligtingvorms in plaas van jou persoonlike besonderhede**.** Vir kode-idendifiseerbare informasie: (1) sal jou naam nie op die vraelyste of ander versamelende inligting ingesluit word nie; (2) 'n kode sal op die vraelyste en ander versamelende inligting geplaas word; (3) deur die gebruik van 'n identifikasie steutel, sal die navorser u vraelys met u identifikasie kan verbind; en (4) slags die navorser sal alleenlik toegang het tot die identifikasie sleutel. As ons 'n verslag of 'n artikel oor hierdie navorsing projek skryf sal ons jou identiteit tot beste van ons vermoë beskerm. Alle deelnemers wat instem om deel te neem aan die klein groep bespreking sal gevra word om 'n vertroulikheid ooreenkoms te onderteken. Hierdie ooreenkoms verplig elke individu van die kleingroep bespreking om geen informasie buite die groep te openbaar nie.

Wat is die gevare van die navorsing?

Daar is geen bekende gevare geassosieer met deelname aan die navorsing projek nie.

Wat is the voordele van die navorsing?

Die voordele aan u sluit in die inligting oor kroniese leefstylsiektes. Die voorkoms van kroniese leefstylsiektes het toegeneem. Dus gee ons u 'n geleentheid om 'n ingeligte besluit te neem ten opsigte van u leefstylgewoontes. Die navorsing is nie ontwerp om u persoonlik te help nie, maar die uitslae mag die ondersoeker meer leer oor huidige kennis en risiko-faktore teenwoordig in hoërskoolleerders in u gemeenskap. Ons hoop dat ander mense in die toekoms

sal baat van die studie deur ‘n verbeterde begrip oor die impak van inligting opdoen op u kennis van kroniese leefstylsiektes risiko-faktore

Moet ek deel wees van die navorsing en mag ek my deelname staak op enige tyd?

U deelname aan die navorsing is heeltemal vrywillig. U mag kies om nie deel te neem nie. Die gesondheidsprogram gaan wel deel vorm van die graad 10 lewensorientasie leerplan. U sal nog steed verwag word om die klasse by te woon, maar enige informasie wat moontlik ingesamel kan word van u sal nie in die navorsing gepubliseer word nie. As u besluit om deel te neem aan die navorsing mag u enige tyd besluit om te staak. As u besluit om nie in die studie deel te neem nie of u deelname te staak, sal u nie gepenaliseer word of enige voordele verloor wat u andersins sou kwalifiseer het voor nie.

Wat as ek vrae het?

Die navorsing is deur ***Berenice Sauls, Fisioterapie Departement*** aan die Universiteit van die Wes-kaapland gedoen. As jy enige vrae het oor die navorsing, kontak gerus vir

Professor Frantz

Universiteit of Wes-kaapland,

Departement van Fisioterapie,

Privaatsak x 17,

Bellville, 7535,

Suid-Afrika;

021 959 3661;

jfrantz@uwc.ac.za

As u enige vrae het met betrekking tot die navorsing en jou regte as navorsing deelnemer of as u wens om enige probleme wat u ervaar het ten opsigte van die studie te rapporteer, kontak asseblief

Hoof van Departement: Professor A. Rhoda

Dekaan van Fakulteit van Gemeenskap en Gesondheidswetenskappe: Professor H. Klopper

Universiteit van Wes-Kaapland

Privaatsak X17

Bellville 7535

Tel: (021) 959 2631

Die navorsing is goedgekeur deur Universiteit van Wes-kaapland se Senaatenavorsing en Etiekkomitee.

Appendix 11: Consent form

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2542, Fax: 27 21-959 1217
E-mail: bercoetzee@gmail.com

CONSENT FORM

Title of Research Project:

Preventative education on chronic diseases of lifestyle for high school learners in the Northern Cape.

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name……..

Participant's signature…….

Witness…….

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Professor J. Frantz

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021) 959- 3661

Fax: (021)959- 1217

Email: jfrantz@uwc.ac.za

TOESTEMMING VORM

Projektitel:

Voorkomende opvoeding aangande kroniese leefstylsiektes vir hoërskoolleerders in die Noordkaap.

Die studie was aan my verduidelik in ‘n taal wat ek verstaan en ek stem vrywillig in om deel te neem. My vrae oor die studie was beantwoord. Ek verstaan dat my identiteit nie geopenbaar gaan wees nie. Ek is bewys dat ek enige tyd uit kan onttrek aan die studie, sonder om ‘n rede te gee en dat ek nie in enige manier benadeel sal word nie.

Deelnemer se name:……..

Deelnemer se handtekening:…….

Getuie:…….

Datum:……

As jy enige vrae het ten opsigte van die studie of as u enige probleme wat u ervaar het wat verband hou met die studie, kontak asseblief die studiekoördineerder

Professor J. Frantz

Universiteit van Wes-Kaapland

Privaatsak Bag X17, Bellville 7535

Telefoon: (021) 959- 3661

Faks: (021)959- 1217

E-pos: jfrantz@uwc.ac.za

Appendix 12: Parental permission form

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2542, Fax: 27 21-959 1217
E-mail: bercoetzee@gmail.com

PARENTAL PERMISSION AND ASSENT FORM

Title of Research Project: Preventative education on chronic diseases of lifestyle for high school learners in the Northern Cape.

The study has been described to me in a language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

Participant's name……..

Participant's signature…….

In the event of the participant being a minor (under the age of 18)

Name of parent or legal guardian of participant.....

Parent or legal guardian's signature.....

Witness…….

Date……

Should you have any questions regarding this study or wish to report any problems you have experienced related to the study, please contact the study coordinator:

Professor J. Frantz

University of the Western Cape

Private Bag X17, Belville 7535

Telephone: (021) 959- 3661

Fax: (021)959- 1217

Email: jfrantz@uwc.ac.za

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
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E-mail: bercoetzee@gmail.com

OUERTOESTEMMING EN VRYWARINGSVORM/ BEKRAGTIGING

VORM

Projektitel:

Voorkomende opvoeding aangande kroniese leefstylsiektes vir hoërskoolleerders in die Noordkaap.

Die studie was aan my verduidelik in ‘n taal wat ek verstaan en ek stem vrywillig in om deel te neem. My vrae oor die studie was beantwoord. Ek verstaan dat my identiteit nie geopenbaar gaan wees nie. Ek is bewys dat ek enige tyd uit kan onttrek aan die studie, sonder om ‘n rede te gee en dat ek nie in enige manier benadeel sal word nie.

Deelnemer se naam:……..

Deelnemer se handtekening:…….

In die geval dat die deelnemer ‘n minderjarige is (onder die ouderdom van 18)

Naam van ouer of wettige voog van deelnemer:.....

Ouer of wettige voog tekening:.....

Getuie…….

Datum……

As jy enige vrae het ten opsigte van die studie of as u enige probleme wat u ervaar het wat verband hou met die studie, kontak asseblief die studiekoördineerder

Professor J. Frantz

Universiteit van Wes-Kaapland

Privaatsak Bag X17, Bellville 7535

Telefoon: (021) 959- 3661

Faks: (021)959- 1217

E-pos: jfrantz@uwc.ac.za

Appendix 13: Confidentiality agreement

UNIVERSITY OF THE WESTERN CAPE

Private Bag X 17, Bellville 7535, South Africa
Tel: +27 21-959 2542, Fax: 27 21-959 1217
E-mail: bercoetzee@gmail.com

Date:_____

CONFIDENTIALITY AGREEMENT

This agreement is to acknowledge you commitment to the confidentiality agreement

By signing this agreement you are hereby prohibited from disclosing any of the focus group discussion and interview information to anyone other than the researcher.

Signed By :……..

Signature :…….

Appendix 14: Letter from the editor

LIENEKE BOESAK-THYSSEN DEVELOPMENT PROJECTS

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Fax: 086 577 7389
E-mail: lthyssen@webmail.co.za

Trading as:
Integrated Learning Systems
Reg No: 2012/172787/07

13 May 2013

To whom it may concern:

This serves to confirm that the Master's Thesis of Berenice Sauls entitled: ***"Implementation and Evaluation of a Health Education Programme on Chronic Diseases of Lifestyle in High School Learners in the Northern Cape"*** has been proof-read and edited for submission to the University of the Western Cape.

Lieneke Thyssen

Appendix 15: Turn-it in report

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2nd submission MSc *By Berenice Sauls*

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