DEVELOPMENT AND IMPLEMENTATION OF HEALTH PROMOTION ACTIVITIES FOR THE PREVENTION OF ADOLESCENT PREGNANCIES

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ABSTRACT

Of the eight Millennium Development Goals (MDGs) established in 2000 by the World Health Organisation, Millennium Development Goals 5 aimed at improving maternal health by addressing the high maternal mortality rate and increasing universal access to reproductive health by 2015.Adolescent pregnancy contributes to maternal, perinatal and infant mortality and also worsens the empowerment of young girls by negatively affecting their physical, educational, social, and economic development.This is a pressing public health concern in South Africa. The reduction of adolescent pregnancy is vital for achieving the sustainable human, health social and economic development of society at large.

Culturally sensitive interventions to prevent adolescent pregnancies not only integrate the communities' norms, values, practices and behavioural patterns into the intervention's design and implementation but also the historical, social and economic contexts in which they exist. Progress has been made on the research on health promotion and education in South Africa; however communities are often not consulted on the design and conduct of health promotion research projects.The aim of the study was to develop and implement culturally sensitive and appropriate health promotion activities for the prevention of adolescent pregnancy in Grahamstown, Glenmore and Ndwayana communities in the Eastern Cape, South Africa.Two community based organisations and community care workers associated with them participated in this Community Based Participatory Research using the PEN-3 cultural model.

The first phase of this study involved semi-structured interviews carried out with 14 community care workers to identify factors and consequences of adolescent pregnancies in their respective communities. The audio-recorded interviews were transcribed and coded using NVivo® 2010 software. The PEN 3 cultural model was adopted in the studyto address the socio-cultural factors contributing to adolescent pregnancy in the communities. The second phase involved a series of interactive workshops with CCWs for a participatory development of the facilitator's manual. Responses from CCWs informed the design of this study's intervention strategies. A facilitator's manual was developed to implement health promotion intervention, leading to the third phase of this study. The guided

implementationof the health promotion intervention for the prevention of adolescent pregnancy was carried out over a period of 14 months and evaluated in the final phase of the study. The facilitator's manual was modified based on feedback fromCCWs, on possible improvements and cultural appropriateness. Readability testing guided the final modification of the manual.

According to the community care workers, there were a number of adolescents who fell pregnant in their communities each year. The CCWs identified the influence of family members, friends and other stakeholders as contributory factors to adolescent pregnancy. They identified the lack of parental support in informing and educating adolescents about sexual health. Adolescents themselves lacked the maturity to recognise the risks and consequences of adolescent pregnancy. The negative perceptions of contraception in the community were discouraging contraceptive use amongst the adolescents. However, the results showed that enablers such as home and school visits done by the community care workers can be utilised to prevent adolescent pregnancy. Other factors included lack of health promotion materials and activities with information about preventing of adolescent pregnancy, and if available, the material is in English, that the adolescents may not comprehend. Socio-economic factors such as poverty, the Child Support Grant, cross generational relationships and coerced sex further contributed to adolescent pregnancy in the communities.CCWs identified the need for a more comprehensive health promotion intervention to prevent of adolescent pregnancy. A facilitator's manual addressing the prevention of adolescent pregnancy was developed and modified through a series participatory workshops with the community care workers.The facilitator's manual was used by CCWs to conducthealth promotion activities encouraging the prevention of adolescent pregnancies within the community's clinics, schools and during home visits.

Community based participatory research methods and the PEN-3cultural model were used to develop this culturally sensitive and community specific adolescent pregnancy intervention for and by the CCWs. The participatory development of the facilitator's manual and the regular interactive workshops with the CCWs were strengthened by embedding this project into the development programs of the two non-governmental organisations contributing to sustainable development programs for women and children.

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LIST OF ACRONYMS

ABC	'Abstinence', 'Be faithful' and 'Condom use'
CAH	Child and Adolescent Health and Development
CARMMA	Campaign for Accelerated Reduction of Maternal and Child Mortality in Africa
CCW	Community Care Worker
CSG	Child Support Grant
DHS	District Health System
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GII	Gender Inequality Index
HBM	Health Belief Model
HCP	Health Care Professional
HEI	Higher Educational Institution
HEW	Health Extension Worker
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
ICPD	International Conference on Population and Development
LMICs	Low and medium income countries
MDG	Millennium Development Goal
MMR	Maternal Mortality Ratio
NAFCI	National Adolescent Friendly Clinic Initiative
NCCEMD	National Committee on Confidential Enquiry into Maternal Deaths
N DoH	National Department of Health
PAR	Participatory action research
PHC	Primary Health Care
PMTCT	Prevention of Mother to Child Transmission
RSA	Republic of South Africa
RMNCH	Reproductive, Maternal, New-born and Child Health
SA	South African
SADHS	South African Demographic Health Survey
SDG	Sustainable Development Goals
SSI	Semi-Structured Interview
STI	Sexually Transmitted Infection
TB	Tuberculosis
UDHR	Universal Declaration of Human Rights
UN	United Nations
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency of International Development
WHO	World Health Organization
YDI	Youth Development Index

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Finally, this thesis is dedicated to my beloved father. I wish you were here to see the fruits of your labour. May your dear soul rest in eternal peace.

CHAPTER ONE
INTRODUCTION

1.1 Background to Research

Adolescent pregnancy is defined by the World Health Organisation (WHO) as pregnancy in girls inpuberty, which is usually betweenthe age of 10 andthe age of 19 (1,2). The enormous of adolescent pregnancy according to the WHO fact sheet, is that one in five girls will have given birth by the time she reaches the age of 18 - a number which changes to one in three girls in the poorest regions of the world (3). 2014 World Health Statistics indicate that the average global birth-rate among 15 to 19 year olds is 49 per 1000 girls. Country rates range from 1 to 299 births per 1000 girls, with the highest rates occurring in sub-Saharan Africa (3,4). Adolescent pregnancy accounts for 11.0% of all births globally, of which 95.0% occurs in low or middle income and developing countries (LMICs)(2,5). Although adolescent pregnancy is a worldwide phenomenon,it primarily occurs in developing countries,and adversely affects adolescents from marginalized groups. The situation of young mothers is uniform across the regions of the world, and adolescent motherhood is linked to being socially and economically disadvantaged with little or no education, and life in rural dwellings and low income settings. Pregnancy is a consequence of unprotected sexual intercourse, therefore suggesting risky sexual behaviour among adolescents, especially when it comes to the prevention of HIV/AIDS (6).Adolescent pregnancy contributes to maternal, perinatal, and infant mortality.Reducing adolescent pregnancy wastherefore vital toachieving the MDGs that relate to infant and maternal mortality (7).

Adolescence represents a key stage in development, and a critical opportunity for ensuring a successful transition to adulthood. Poor sexual and reproductive health outcomes,such as early childbearing, maternal mortality,and morbidity, and unintended or mistimedpregnancy,can often be traced to adolescence, when most people become involved in sexual activities(8).Educational achievement, life skills, and decision-making around sexual behaviour and childbearing have profound effects on the lives of adolescents as well as on their families, communities, and society(6,9). Adolescent pregnancy was placed as an indicator for one of the Millennium Development Goals, andas an indicator for the design of policies aimed at achieving an overall improvement of maternal health. This positions adolescent pregnancy as a broader developmental issue rather than just a health

problem. Efforts to reduce adolescent pregnancy are therefore central to the promotion of women's educational, social, and economic development. The WHO recommends that health services, information provision, sexuality and health education, contraceptive counselling and service provision, and the creation of supportive environments need to be available, accessible, and acceptable toall adolescents -both girls and boys.

Adolescent pregnancy remains a social and public health concern in South Africa, and is most common amongst young African and coloured women in rural areas(10). Nationally, the proportion of women under the age of 18 who have given birth was 8.2%, 8.0%, 7.0% and 7.8% in 2011, 2012, 2013, and 2014 respectively. Over the years, the highest proportion of under-18 deliveries was in the Eastern Cape, and the lowest in Gauteng province. Despite the declining trend in the average birth-rate, thisproportion remains highin the Eastern Cape. Here the proportion of women under the age of 18 who havegiven birth has been recorded as 10.6%, 10.6%, 10.0% and 10.1% in 2011, 2012, 2013, and 2014 respectively (11).

Factors such as poor access to contraceptives and termination of pregnancies; inaccurate and inconsistent contraceptive use; judgmental attitudes of many health care workers towards adolescents seeking contraceptives; and poor sex education contribute to the high rates of adolescent pregnancies(12,13).Although immediate determinants of adolescent pregnancy in South Africa relate to behaviour, the fundamental drivers are more deeply rooted in the institutional problems of ender inequality, poverty, underdevelopment, and gender based violence. In addition, government policies, socio-economic injustices, unequal power structures, and culture contribute to the high rates of adolescent pregnancies in South Africa(13).The problem of pregnancies in adolescence should be viewed within thebroader socio-economic-cultural environment in which adolescents operate. For instance, thelack of parental guidance and counselling on issues of reproductive health education is reinforced by cultural taboos that prohibit such discussions(14). These culturally engrained practices cannot be solved by traditional sex education alone such as the ones in the schools for adolescents butalso require culturally sensitive health promotion.

Adolescent pregnancy was first identified as a maternal health issue in the area of maternal health in the Eastern Cape through a series of ten focus group discussions were conducted in Ndwayana and Glenmore areas in the Eastern Cape Province with the community in the area to explore community knowledge, attitudes and practices in regard to adolescent pregnancy. This was done by a collaboration of Community Engagement Office at Rhodes University, Health care professionals (academic pharmacists, Master of Pharmacy candidates from the Faculty of Pharmacy, Rhodes University), Ubunye Foundation and community facilitators working in Glenmore and Ndwayana in 2012 and 2013. This information was used to develop health promotion material for the prevention of adolescent pregnancy in the form of an information booklet for the prevention of adolescent pregnancy intended for adolescents. This current study is a follow up study in order to develop culturally sensitive and appropriate health promotion activities for the prevention of adolescent pregnancies. The same booklet developed in the previous study meant for adolescents will be used as a template for the development of the facilitator's manual for use by CCWs.

1.2 Field of Research

The WHO described health as a state of physical, mental, and social wellbeing, rather than as the mere absence of infirmity or illness(15). The role of pharmacists in the community is therefore to address health problems by not only being custodians of medicines, but also in disease prevention and the promotion of healthy behaviours. This study falls under the field of research of health promotion in Pharmacy Practice.In South Africa, thestrong stereotypical retail pharmacists' role results in the new concept of Pharmacy Practice not being well-grasped by the general population,as many think that the role of a pharmacist is to dispense medicines over acounter. The role of pharmacists in preventing unwanted adolescent pregnancies is not limited to the provision of contraceptives and other health services, but should also includeidentifying those factors contributing to adolescent pregnancy in the context of social and behavioural setting in order to positively influence by working collaboratively with key stakeholders in the community.

1.3 Rationale for Research

With a high and increasing maternal mortality rate, South Africa falls amongst the 75 priority countries being tracked for progress towards the achievement of MDGs 4 and 5 by

the Global Strategy for Women's and Children's Health, using the Countdown to 2015 initiative (16). Adolescence pregnancy contributes to a high maternal mortality rate, as adolescents are at an increased risk of dying due to pregnancy related issues. Hence, reducing adolescent pregnancy is vital for achieving an overall improvement of maternal health.

Despite the vast research knowledge indicating the multiple and complex factors leading to adolescent pregnancies, interventions to prevent themare generally limited to the provision of information about reproduction, and sometimes offer contraceptive services. These interventions rarely focus on any or all of thevariousrisk factors in a social setting. There is a need to develop broader programs that focus on the socio-economic and cultural factors found to contribute to early child bearing. Health promotion for the prevention of adolescent pregnancies plays a key role in reducing early childbearing. Health promotion activities, whether targeted at individuals or at communities, are difficult tasks, as they require an understanding of social determinants of health, including culture. Progress has been made on the research on health promotion and education in South Africa.However,communities are often not consulted on the design and conduct of health promotion research projects,whichare developed without addressing the concerns and capabilities of the communities being researched. Therefore, this current research uses the community based participatory research principles and the PEN-3 cultural model to develop and to implement health promotion activities aimed at reducing early childbearing.

1.4 Aim and objectives

The purpose of this study was to develop a culturally sensitive and appropriate health promotion manual and activities for the prevention of adolescent pregnancies in three rural communities of the Eastern Cape, South Africa.

1.4.1 Objectives

The study was divided into 4 phases, which included an exploratory phase, a planning phase, an implementation phase, and an evaluation phase. The objectivesfor the different phases are listed below.

1.4.1.1 Exploratory phase

I. To explore issues arising from adolescent pregnancies in the communities based on the community care workers perceptions.
II. To explore the cultural factors influencing adolescent pregnancies in the three communities.
III. To identify information needs of the community care workersfor their future professional usewith regard to sexual and reproductive health.

1.4.1.2 Intervention planning phase

I. To develop a community care workers' facilitation manual through a participatory approachfor the promotion of prevention of adolescent pregnancies.
II. To identify points of entry into the community for the educational intervention in prevention of adolescent pregnancies.
III. To reinforce skills and knowledge of community care workers on the use of health promotion activities developed for the prevention of adolescent pregnancies.

1.4.1.3 Implementation phase

I. To incorporate health promotion activities for the prevention of adolescent pregnancies into community development programmes, to be carried out by the two non-governmental organisations.
II. To find out challenges to the implementation of health promotion activities for the prevention of adolescent pregnancies.
III. To identify facilitating and constraining factors to the implementation of the health promotion activities for the prevention of adolescent pregnancies.

1.4.1.4 Evaluation

I. To obtain feedback from the CCWsonthe facilitating and constraining factors of the health promotion activities carried out.

1.5 Overview of Chapters

The chapter following this introduction, Chapter 2, begins with a brief overview of the Millennium Development Goals, and considers the placement of maternal health in the development goals. The chapter also outlines the South African healthcare system, and the

placement of primary healthcare, health promotion, and adolescent health in the national healthcare system.Consequences and the context of adolescent pregnanciesare highlighted as social and health concerns. The milestones of health promotion are outlined in this chapter, as well as the role of higher education in health promotion for the prevention of adolescent pregnancies.

In Chapter 3, the methodology employed is described. This includes a description of the setting in which the study took place, the data collection techniques, the theoretical framework of the PEN-3 model employed, and adescription of the data analysis.

Results obtained from the study are presented in Chapter 4. Chapter 5 consists of a discussion of these results, including a consideration of the strengths and limitations of this study. Conclusions of the study are presented in Chapter 6, along with recommendations and suggestions for future research.

CHAPTER TWO
LITERATURE REVIEW

2.1 Millennium Development Goals

During the 1970s, the WHO and United Nations International Children Emergency Fund, now the United Nations Children's Fund (UNICEF), addressed the need for change in the delivery of healthcare system services in developing countries to achieve universal access to healthcare. This was to increase the coverage of healthcare, with anemphasis on the prevention of diseases, whilst still providing appropriate curative services (15). The Alma Ata Declaration on Primary Health Care in 1978 reinforced that health is not merely the absence of infirmity or illness, but is a state of physical, mental, and social wellbeing, and identified health as a human right (15,17). The Declaration identified that, to achieve health for all by the year 2000, social determinants of health had to be addressed. The Alma Ata Declaration stated the importance of primary healthcare, which is the first contact of individuals with the healthcare system, and provides communities with basic healthcare (18,19).By the year 2000, though the goal of 'health for all' had not been achieved, but the Alma Ata Declaration set an outline for future healthcare interventions.

The Millennium Development Goals (MDGs) were adopted, with eight specific aims and measurable targets, which involved social determinants of health and health related goals(20–22).These goals were set to accelerate global progress in the development intended to be achieved by 2015. Although classified into social determinants of health and health related MDGs, the goals were interdependent; with all of the MDGs influencing health and vice versa(19).

2.1.1 Health related MDGs

Health and pharmaceuticals were recognized as key determinants of human development in four of the eight MDGs, which were aimed at: reducing the child mortality rate by two-thirds (MDG 4); reducing the maternal mortality rate by three quarters, and improving maternal health (MDG 5); combating HIV/AIDS, malaria, and other diseases (MDG 6); and developing a global partnership for development (MDG 8) by the year 2015(20).The MDGs

place a central focus on public health, recognizing that improvements in public health are not only the right of the people, but also promote development in the LMICs (23).Target 8E of MDG 8 focuses on providing access to affordable essential medicines, such as contraceptives, in developing countries, in cooperation with pharmaceutical companies, to increase accessibility and availability of medicines, especially at Primary Health Care level(20,23).

2.1.1.1 MDG 5: Improving maternal health

Of the eight millennium development goals, MDG 5 was aimed at improving maternal health by targeting the maternal mortality rate, as well asatachieving universal access to reproductive health by 2015(20,24).The WHO set the following indicators to monitor progress on achieving MDG5: maternal mortality ratio(MMR); proportion of births attended by skilled health personnel; contraceptive prevalence rate; adolescent birth rate; antenatal care coverage; and the unmet need for family planning, as shown in Table 1(20,25).

Table 1: Targets and indicators of MDG 5

Millennium development goal	Target	Indicators
Goal 5: Improve maternal health	**Target 5A**: Reduce by three quarters, between 1990 and 2015, the maternity mortality ratio	**Indicator 5.1**: Maternal mortality ratio
		Indicator 5.2: Proportion of births attended by skilled health personnel
	Target 5B: Achieve by 2015, universal access to reproductive health	**Indicator 5.3**: Contraceptive prevalence rate
		Indicator 5.4: Adolescent birth rate
		Indicator 5.5: Antenatal care coverage (at least one visit to skilled health personnel and at least four visits toany healthcare provider)

		Indicator 5.6: Unmet need for family planning

2.1.1.1.1 Target 5A of MDG 5

Target 5A of MDG 5 focused on reducing the maternal mortality rate by three quarters between 1990 and 2015 (25).Maternal Mortality Ratio (MMR) can be described as the number of women who die from any cause related to pregnancy or its management during pregnancy and childbirth or within 42 days of termination of pregnancyper 100,000 live births(25,26). The MMR is recorded irrespective of the duration and site of the pregnancy (ectopic or uterine) and it excludes accidental or incidental causes of maternal deaths. The WHO identifed severe bleeding after child birth, infections, preclampsia and eclampsia and unsafe abortions as the most common and preventable causes of maternal deaths (23–25).

Globally, the MMR fell by nearly 44% over the past 25 years, to an estimated 216 maternal deaths per 100 000 live births in 2015, from an MMR of 385 in 1990. The annual number of maternal deaths decreased by 43% from approximately 532 000 in 1990 to an estimated 303000 in 2015 (27). Developing regions accounted for approximately 99% of the global maternal deaths in 2015, with sub-Saharan Africa alone accounting for roughly 66%, followed by Southern Asia. Sub-Saharan Africa had the largest proportion of maternal deaths attributed to HIV/AIDS (85%). Of the 19 000 maternal deaths due to HIV/AIDS worldwide, 91% of these are in sub-Saharan Africa, while 5% occurred in Southern Asia(26,27). Further, for some countries in Southern Africa, such as Botswana, Lesotho, Namibia, South Africa and Swaziland, MMR increased from 1990 to 2000, mainly as a result of the HIV epidemic: in these countries, the MMR is now declining as antiretroviral therapy is becoming increasingly available(26,28).

Improvement in the coverage of these healthcare interventions,and other factors outside the health sector, such as increased female education and increased physical accessibility to health facilities,may have contributed to these improved outcomes.Countries such as Kenya, Swaziland, and Botswana have shown acceleration in the progress towards achieving MDG 5, whereas South Africa and other countries have shown a decline(24,26). Lozano et alused the rate of change in maternal mortality rate from 1990 to 2010 to estimate the time it

would take to achieve MDG 5. Despite the progress already made by 2010, the world was unlikely to reach the target by 2015 (28). To reach target 5A, interventions in improving access to emergency obstetric care and assistance from skilled health personnel at clinics was identified as requiring acceleration (22,26,28).

2.1.1.1.2 Target 5B of MDG 5

Target 5Bof MDG 5 focused on achieving universal access to reproductive health, andwas key to reducing maternal mortality, preventing unwanted pregnancies, and empowering women and girls to exercise their sexual and reproductive rights, through greater decision making powers(25,29). Universal access to reproductive health refers to a full range of services, including comprehensive sexual education, access to contraception, maternity care, including skilled birth attendance, antenatal and postnatal care, emergency obstetrics care, and safe abortion. The package also included prevention and treatment of sexually transmitted infections, including HIV, and programs that address violence against women and promote gender equality (30).

The International Conference on Population and Development (ICPD) of 1994 defined reproductive health as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity, in all matters relating to the reproductive system and its functions and processes(31).The ICPD recognized the need for the human rights framework to address population and reproductive health issues, to eradicate poverty, and to improve the quality of life for all people(32,33).The conference also identified that the empowerment of women, andtheachievement of peoples' individual needs for health, including reproductive health, are essential for sustainable economic, social, and environmental development(31,34,35).Violence poses a threat towards the attainment of reproductive and sexual health, in both developing and developed countries(26). According to the WHO Global Health Observatory Data, 30 out of 100 women of ever-partnered women in a given population have experienced physical and/or sexual violence by an intimate partner (intimate-partner violence) globally, and 7.2 % have experienced sexual violence by someone other than their partner(36). Women in violent relationships are often unable to make decisions that affect their health, including sexual and reproductive health, for example, by being forced or coerced into having sex, orby

beingunable to control regular use of contraception, thereby increasing their risk of early or unwanted pregnancies(36).

Universal access to reproductive health is key to achieving MDG5, and it is the goal that is furthest from being achieved. The WHO setMDG 5Bindicators to include contraceptive prevalence rates; adolescent birth rate; antenatal care coverage; and unmet need for family planning(24,25).Each year, approximately 16 million adolescent girls give birth (2014), the majority of these birthsoccurring among married girls in developing countries(37). Child marriage is a global issue, but rates vary dramatically, both within and between countries. In both proportions and numbers, most child marriages take place in rural sub-Saharan Africa and South Asia. Child marriages violate girls' human rights, and robs girls of their education, health and long-term prospects. Early childbearing, high fertility rates, and inadequate access to maternal health services are the main contributing factors to the high number of maternal deaths among young women in Africa. Pregnancy and childbirth-related complications are twoof the leading causes of death among girls aged 15-19(1).Girls married young are more vulnerable to intimate partner violence and to sexual abuse than those who marry later(1,30,37).MDG5B recognized the importance of addressing adolescent pregnancy in one of its indicators for monitoring progress in MDG5B.

Indicator 5.4 of target 5B of MDG5 addresses adolescent birth rate, whichis defined by the WHO as the annual number of live births to adolescent women per 1 000 adolescent women of between the ages of 15 toand 19 (38).The adolescent birth rate is an essential indicator forin the design of policies aiming to achieve an overall improvement of maternal health. Maternal mortality for younger adolescent women (below age 18) tends to be much higher than older women, or for older adolescents (ages 18 and 19) (39).Values of adolescent birthrate which are 50 or more per 1000 women are considered high whilst values of 10 or less per 1000 women are regarded low. Higher values of the adolescent birth rate might indicate an unmet need for family planning among young women. When the overall maternal mortality for adolescent women is high, reducing adolescent fertility contributes to improving maternal health by reducing overall maternal mortality rates(40,41). Information and services should be made available to adolescents to help

them protect themselves from unwanted pregnancies, sexually transmitted diseases, and subsequent risks of infertility.

2.2 Sustainable development goals

Of the eight millennium development goals,globally, by 2012,three targets had been met before the 2015 deadline: access to safe drinking water; slums reduction; and poverty reduction(41,42). In 2015, 91% of the global population issuing an improved drinking-water source, compared to 76%in 1990, thus meeting the MDG target, while the proportionof people practising open defecation has fallen almost half. Globally, 147 countries have met the drinking-watertarget, 95 countries have met the sanitation target, and 77countries have met both(43).However, there has been insufficient progress towards the achievement of MDG 2 (provision of universal primary education), MDG 4 (reduction of child mortality), and MDG 5 (reduction of maternal mortality), and only some improvements in achieving MDG 6 (combating of HIV/AIDS, malaria, and other diseases). Although significant achievements have been made onmany of the MDG targets worldwide, progress has beenuneven across regions and countries, leaving significantgaps. Millions of people are being left behind, especiallythe poor and those disadvantaged because of theirsex, age, disability, ethnicity or geographic location.Targeted efforts will be needed to reach the mostvulnerable people(44).The future development framework – the Post-2015 agenda –builds on the lessons learnt from working toward achieving the MDGs, which have been providing the structure for the UN's development activities since the Millennium Summit in 2000(41,45).

Current investment levels in health, including sexual and reproductive health, are in many countries neither sufficient, efficient, nor equitable, challenging the belief that health has benefitted immensely in terms of the level of resources received over the years. There is, therefore, need to continue to ensure substantive progress against the current set of health related goals, to back national efforts with the advocacy work needed to sustain the political and financial support that is needed; and to maintain levels of investment in national and international systems for tracking results and resources(46).The new agenda reaffirms the targets of on-going initiatives, such as ending preventable maternal and child deaths, eliminating chronic malnutrition and malaria, providing universal access to sexual and reproductive health services, including family planning, increasing immunization coverage, and the promotion of an AIDS- and tuberculosis-free generation(46–48). Improvements in

the health outcomes in LMICs can be attributed to health related MDGs, which have raised the profile of global health, mobilized civil society, and increased development assistance for health. A sustainable well-being for all is envisaged as an overarching goal for the post-2015 agenda. This recognizes health as a contributor to, and outcome of, sustainable development and human well-being(32,41,46).

The 2030 Agenda for Sustainable Development was adopted by world leaders in 2015, which includes a set of 17 Sustainable Development Goals (SDGs)to end poverty, fight inequality and injustice, and tackle climate change by 2030 (49).Goal 3 of the SDGs is set to ensure healthy lives and to promote well-being for all (49,50). Maternal health has been incorporated into the new agenda for sustainable development under SDG3, as shown in Table 2. The new SDGs recognize that, even though global maternal mortality has fallen by almost 50 per cent since 1990,MMR in developing regions is still higher than in developed regions(51).Only half of women in developing regions receive the recommended amount of healthcare they need. Progress in combating adolescent birth has slowed, and the need for family planning is slowly being met for more women, but demand is increasing at a rapid pace(49,51).

Table 2: MDG5 incorporated into the new SDGs

Sustainable development goal	Goal	Targets
Goal 3: Good health and well being	Ensure healthy lives and promote well-being for all at all ages	**3.1**By 2030, reduce the global maternal mortality ratio to less than 70 per 100,000 live births
		3.7 By 2030, ensure universal access to sexual and reproductive health-care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes

2.3 Consequences of adolescent pregnancy

Child birth at an early age is associated with great health risk for both mother and child. Maternal mortality ranks second amongst the causes of death in 15-19 year old girls (1,2).The risk of dying from pregnancy-related complicationsis twice as high for adolescents aged 15-19 as it is for older women(1). Adolescent pregnancy affects the health, social, and economic well-being of adolescents, their children, and society at large(6). There are increased chances of preeclampsia, anaemia, preterm labour, and prolonged labour in adolescent pregnancies. Those causes of maternal deaths which occur in older women also affect pregnant adolescents, but there is a slightly increased risk of mortality in adolescents when compared towomen in their 20s and 30s(39,52–54).However, this should not divert focus away from efforts to reduce adolescent pregnancy, as these efforts are central to the promotion of women's educational, social, and economic development.

There are additional medical concerns for younger mothers, particularly those under 15 and those living in developing countries. Risks ofmedical complications are greater for girls under 15, as an underdeveloped pelvis couldlead to difficulties in childbirth(55).Obstructed labour is normally dealt with by Caesarean section in industrialized nations; however, in developing regions where medical services might be unavailable, it couldlead to eclampsia, obstetric fistula, infant mortality, or maternal death. For mothers in their late teens, age in itself is not a risk factor, and poor outcomes are more closely associated with socioeconomic factors than with biology(2,52,55).Early childbearing is associated not only with health risks to both the young mother and her child, but also with missed opportunities at school and work, and the consequent intergenerational transmission of poverty. Therefore, reducing early childbearing couldimpact on the achievement of other Millennium Development Goals, such as those focussed on poverty, education, gender equality, and child mortality.

2.4 Contextualizing adolescent pregnancies

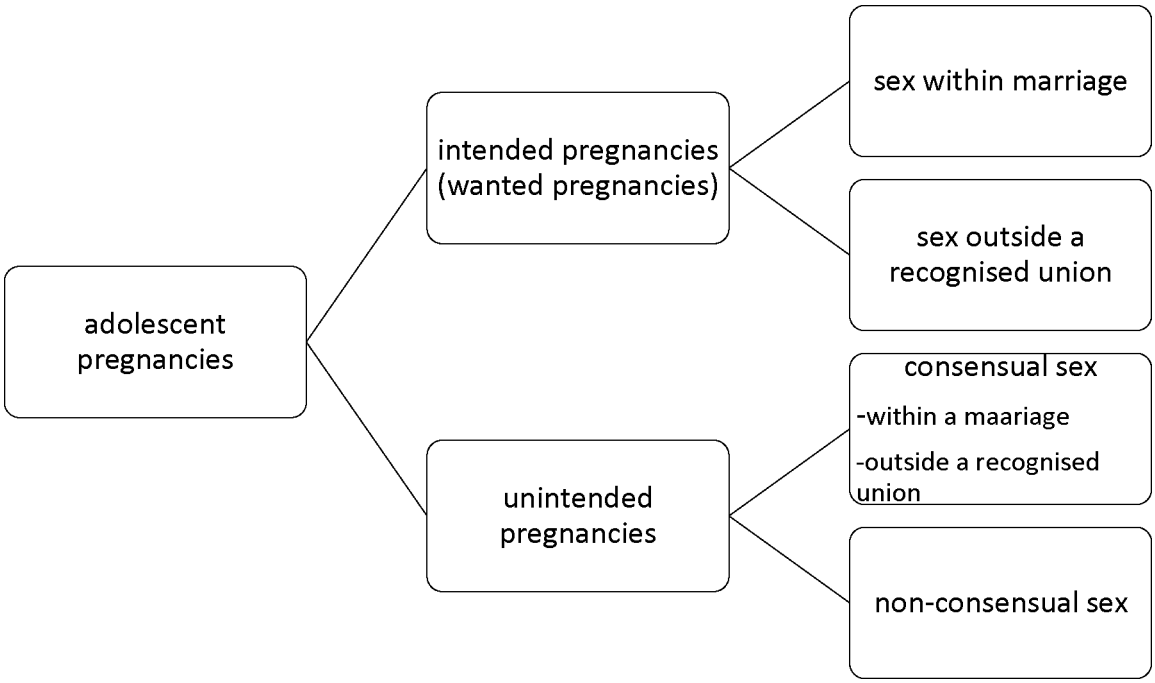


Figure 1: **Context of adolescent pregnancies**

2.4.1 Intended pregnancies

In some parts of the world, mostly in developing countries, young girls are still expected to marry and to begin child bearing in their early or middle adolescent years, based on traditional practices and norms(5). Intended pregnancies are thus common in adolescents in some developing countries, and are usually in the context of marriage or of a recognizable union. Child marriage,defined as marriage before the age of 18,which applies to both boys and girls, is far more common among young girls than boys(56).Child marriage is a global issue, but most child marriages take place in rural sub-Saharan Africa and South Asia(57,58).Child marriage is deeply rooted in gender inequality, tradition, and poverty(59). The practice is most common in rural and impoverished areas, where prospects for girls can be limited. In many cases, parents arrange these marriages, and young girls have no choice. Poor families marry off young daughters to reduce the number of children they need to feed, clothe, and educate. In some cultures, a major incentive is the price prospective husbands will pay for young brides(59,60).

Social pressures within a community can lead families to arrange weddings ofyoung children. For example, some cultures believe marrying girls before they reach puberty will bring blessings on families. Some societies believe that early marriage will protect young girls from sexual attacks and violence, and see it as a way to insure that their daughter will not become pregnant out of wedlock and bring dishonour to the family.Theseyoung girls are discouraged from using contraceptives, or might be expectedto ask their husbands' permission, or they have no knowledge of or access to what they need(58,61).In Kenya, for example, early marriage and early childbearing, especially in rural settings, are common, as adolescent girls are sanctioned and encouraged to do so by families and by the wider community(62,63).

In some societies, marriage typically occurs later, but premarital sex is common. This usually results in young women having their first baby in their middle or late adolescent years, outside of a recognized union, and the pregnancy wouldbe intentional. Prevalence of childbearingamong never-married women,aged 15-24, varies considerably amongcountries. In some countries, as much as75.0% of unmarried women have had sexualrelationships, and more than 20% would havegiven birth to one or more children. Motivations for early onset of sexual relationships andbehaviour are different in each context (60). The absence of disincentives to prevent early childbearing, such as no alternatives for education or employment, have also lead to adolescent pregnancies. For example,in some culturesin South Africa, pressure from families or male partners to prove a woman's fertility has also contributed to early childbearing, as a woman cannot get married until she has had at least one child.Adolescent birth rate isalsoone of the indicators of the Gender Inequality Index (GII),which measures gender inequalities in three important aspects of human development: reproductive health; empowerment; and economic status. The GII reflects the position of women in 155 countries, and it yields insights in gender gaps in major areas of human development.The GII ranges between 0 and 1,withhigher GII values indicating higher levels of inequality.According to the UN Development Report2015, South Africa falls undermedium human development countries,andhas a GII of 0.407,placing it at position 83 out of 155 countries(64). Some reviews suggest that, although adolescent childbearing is not embraced socially, it is accepted (60,65).

2.4.2 Unintended pregnancies

Unintended pregnancies amongst adolescents usually occur outside of marriage, and carry a social stigma in many communities and cultures(66). Adolescents often lack access to condoms and other contraceptives that they need to avoid pregnancies(67). With little or no negotiating powers, girls and young women are often powerless to insist on the use of condoms. In South Africa, factors such as gender inequalities,and a dominant patriarchal system may contribute to unwanted adolescent pregnancies, because of gender-based violence. When young school girls are in sexual relationships with older partners in exchange for gifts or money, it results in them having little or no negotiating power with their partners to insist on condom usage(12,68).

2.5 The South African healthcare system

South Africa is classified as an upper middle income country according to the World Bank, generating a Gross Domestic Product (GDP) of USD 6,483.33 per capita in 2014(69).South Africa spends 8.8% of its national GDP on healthcare, which covers the provision of curative and preventive health services, family planning activities, nutrition activities, and emergency aid designated for health. However, this 8.8% of the GDP does not include the social determinants of health, such as the provision of clean water and proper sanitation. This exceeds the spendingin the majority of countries of a similar level of economic development, and is also in excess of the WHO's recommendation of 5% of GDP(70). Despite this high expenditure,health outcomes remain poor.The key challenge facing the South African health sector, therefore, is not one of a lack of resources, but is rather the need to use existing resources more efficiently and equitably.

In addition to inequitable distribution of resources, South Africa, like the rest of Sub-Saharan Africa, faces a shortage of healthcare professionals. According to the Global Health Observatory, there are 7.8 physicians and 49.0 nurses and midwives per 10 000 people in the South African population(71). The patient to healthcare ratio shows that there is a shortage in healthcare professionals, and, as a result, patients may not be receiving adequate health services and information. In rural communities, the shortage is even more severe, where the doctor to patient ratio is 1 doctor per 4000 patients. In most rural areas, people have to travel long distances to receive basic healthcare.

Basic healthcare forms the backbone of primary healthcare in the country's healthcare system,andis meant to be available at the district level. The Alma Ata Declaration stated the importance of primary healthcare (PHC), which is the first contact of individuals in communities with the healthcare system, and provides the community with basic healthcare(19,21).

2.5.1 Maternal health and status of MDG5 in South Africa

According to the Millennium Development Goals country report 2013, little progress has been made towardstheimprovement of maternal health in South Africa(72,73).The maternal mortality ratio (MMR) of 150 per 100,000 live births as a country average in 1998. Using this MMR as a benchmark, the target MMR wasset at38 per 100 000 live births. In 2010, the MMR was 269 per 100 000 live births, which indicates that South Africa was still lagging behind the MDG target and thatitcould not be attained within the time bound criteria(72). With this high and increasing maternal mortality rate, South Africa was amongst 75 priority countries being tracked for progress towards the achievement of MDGs 4 and 5 by theGlobal Strategy for Women's and Children's Health, using the *Countdown to 2015* initiative(16).

However, progress has been notable in proportions of births attended by skilled health personnel, and in antenatal care coverage. There has been an increase in the expected deliveries that occur in health facilities, from 67% in 2003 to 91% in 2011, and an increase from 86% to over a100% of women making use of antenatal care between 2006 and 2010(72). There is insufficient data to comment onthe status of access to reproductive health from the report. The Department of Health introduced a sub-dermal hormonal contraceptive implant in 2014, and this is freely accessible to all women in the public health sector, and is expected to make a substantial contribution towards achieving safe reproductive health for all South African women, including adolescents(74).

2.6 Health promotion

This section gives an overview of health promotion in both the global and South African contextas well as the milestones of health promotion achieved over the years. The section also emphasises the role of community participation and the Empowerment model as the

core of health promotion in community participation. The role of higher education in health promotion for the prevention of adolescent pregnancies is also discussed in this section.

2.6.1 Overview of the history of health promotion

During the 1970s, the WHO and United Nations International Children Emergency Fund, now the United Nations Children's Fund (UNICEF), addressed the need for change in the delivery of healthcare system services in developing countries. This was to increase the coverage of healthcare, with anemphasis on the prevention of diseases, whilst still providing appropriate curative services (75). The Alma Ata Declaration on Primary Health Care in 1978 reinforced that health is not merely the absence of infirmity or illness, but is a state of physical, mental, and social wellbeing, and identified health as a human right (15). The Declaration identified that, to achieve health for all by the year 2000, social determinants of health had to be addressed. The Alma Ata Declaration stated the importance of primary healthcare, which is the first contact of individuals with the healthcare system and provides the community with basic healthcare(76).

Section III of the Declaration identified health promotion and health protection as important aspects in sustained economic and social development, as well as being essential parts of public health and primary healthcare(15). The Declaration on Primary Health Care at Alma-Ata was an important milestone in the development of our current concept of Health Promotion. Some of the key principles of the Primary Health Care approach, such as equity, community participation, a focus on prevention, and the need for multi-sectorial activity, were being incorporated into international discussions about the concept of Health Promotion (15,75).The Alma Ata Declaration of Primary Health Care of 1978 set an outline for future healthcare interventions, andfora series of global conferences on health promotion, as summarized in Table3(19,77).

The goalof 'Health for All by year2000 and beyond' was adoptedin the Ottawa Charter for Health Promotion in 1986(15,78). This Charter was presented at the first International Conference on Health Promotion held in Ottawa. The Ottawa Charter of 1986 reaffirms the value of health promotion, and defines it as:

> *"Health Promotion is the process of enabling people to increase control over, and to improve, their health. To reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to*

satisfy needs, and to change or cope with the environment. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life-styles to well-being" (WHO, 1986)

The Charter addressesthe social determinants of health, such as peace, shelter, education, food, income, a stable eco-system, sustainable resources, social justice, and equity, as prerequisites for health improvement. It is therefore important to reflect on the extent to which social determinants of health exist, and on how these may affect the success or the outcome of health promotion interventions(79). The Charter reaffirmsthat a state of complete physical, mental, and social well-being of individuals can be achieved by strengthening individual skills and capabilities, and the capacity of groups to improve their control over modifiable social determinants of health(78). The Alma Ata Declaration and the Ottawa Charter were both major milestones in health promotion, and subsequent conferences reiterate the importance of health promotion, and havefurther developed health promotion policy and practice, as shown in Table 3(6).

Table 3: Milestones in Health Promotion

Global conference	Emphasis
1. The Ottawa Charter for Health Promotion of 1986	Charter for action to achieve Health for All by the year 2000 and beyond(78).
2. Adelaide Recommendations on Healthy Public Policy, 1988	Community participation and collaboration important in developing healthy public policy(80).
3. Sundsvall Statement on Supportive Environments for Health,1991	Making supportive physical, social and environment and political environments for health(81,82).
4. Jakarta Declaration on Leading Health Promotion into the 21st Century, 1997	The importance of health promotion partnerships within government and non-government agencies, private and public (83).
5. Mexico Ministerial Statement for the Promotion of Health: From Ideas to Action, 2000	Bridging equity gaps partnerships for health between different sectors(84).
6. The Bangkok Charter for Health Promotion, 2005	Policy and partnership-addressing the determinants of health (85).
7. 7th Global Conference on Health Promotion, Nairobi, 2009	Promoting health and development: Closing the implementation gap (86).
8. 8th Global Conference on Health Promotion, Helsinki, 2013	Consolidation of health in all policies (87).

The second International Conference on Health Promotion, held in Adelaide, continued in the direction of Alma-Ata Declaration on Primary Health Care and the Ottawa Charter for

Health Promotion (80). The Adelaide Conference on Healthy Public Policy (1988) identified the development of healthy public policy as important tothe achievement of fundamental conditions for healthy living. The conference also reiterated that health is influenced by different stakeholders and sectors, such as nongovernmental bodies and community organizations. Therefore, their participation in preserving and promoting people's health should be encouraged (80,88).

The Third International Conference on Health Promotion, held in Sundsvall in 1991, demonstrated that the issues of health, environment, and human development are interlinked. The Sundsvall statement of supportive environments for health called for making physical social environments and political environments supportive to health. An important link between those activities concerned with the promotion of health within communities and those activities that focus on protecting the natural environment was thus made at this international conference (81,82).

The Fourth International Health Promotion Conference was the first to be held in a developing country, Jakarta, Indonesia, in 1997. The main outcome of the conference was the Jakarta Declaration, which places emphasis on the importance of developing new alliances and partnerships, for example between private and public sectors, and betweengovernment and non-government agencies. It focuses on identifying directions and strategies to address the challenges of promoting health in the 21st century. In addition, the Declaration adopts a settings approach to Health Promotion, which focuses on a place or a setting in which people gather, such as a school or a workplace, as opposed to an illness or symptom(83).

The Fifth International Conference on Health Promotion was held in Mexico City in 2000, and was aimed at Bridging the Equity Gap. The conference emphasized the importance of Health Promotion in making a difference to thehealth and quality of life of people, particularly for those living in adverse conditions. The conference also reiterated the importance of partnerships for health between different sectors, and at all levels of society, and of placing health high on the development agenda within international, national and local agencies(84).

The Bangkok Charter builds on the principles of health promotion established at the Ottawa Charter for Health Promotion, and on the recommendations of the subsequent global health promotion conferences(85).The Bangkok Charter for Health Promotion was adopted at the Sixth International Conference on Health Promotion, held in Thailand in 2005. The Charter identifies major challenges and actionsrequired to address the determinants of health in a globalized world, through health promotion, by engaging withmany actors and stakeholders, critical to achieving health for all (77,79). It also affirms that policies and partnerships to improve health for all and the empowerment of communitiesshould be central for global and national development(77,85).

Over the period ranging from the OttawaConference and ending with the sixth international conference in Bangkok, the conferencescontributed to the development of concepts, approaches, and strategies in health promotion, and severalcountries have adopted health promotion principles aspart of their national health policies and programmes(89).However, global health faced challenges, such as an increase in non-communicable disease burdens and financing healthcare systems which would retard the attainmentof health for all and the Millennium Development Goals(90). The 7th Global Conference on Health Promotion recognised thatthe attainment of health equity depended on aneffective health promotion approach. The conference was held in Kenya in 2009, and was the firstof its kind hosted in Africa. The conference reiterated the importance of individual and community empowerment, on health system leadership, and on inter-sectoral action to build healthy public policy(91).

The 8th Global Conference on Health Promotion, held in Helsinki in 2013,identified that, to reach the highest attainable standard of health, there is need for an inter-sectoral action plan and for healthy public policy to formcentral elements inthe promotion of health. The conference advocated forHealth in All Policies, an approach to public policies which systematically takes into account the health implications of decisions, and seeks synergies and avoids harmful health impacts in order to improve population health and health equity (87).

2.6.2 Empowerment as a central point of health promotion

The definition given in the Ottawa Charter for Health Promotion of 1986 suggests that the goal of health promotion activities is not to change behaviour in order to impose a state of health, but to help people to be as healthy as they want to be(78). The central concept in health promotion, therefore, is empowerment, which has been defined as: "A social process that promotes the participation of individuals, organisations and communities in actions with the goal of increased individual and community control, political efficacy, improved quality of life and social justice"(92). The 8th Global Conference on Health Promotion emphasizedempowerment of individuals to increase control over, and to improve, their health, which is the basis of health promotion(87). The concept of empowerment involves active participation of the people who are intended to be beneficiaries. Health promotion action is undertaken by and with a 'bottom-up' approach, rather than on behalf of people (a 'top-down' approach), and therefore requires community participation(82).

Community participation plays an active role in the empowerment of communities and in improving health outcomes. Community participation in healthcare was considered the most appropriate approach to addressing the health needs of poor people in the Declaration of the Alma Ata (93). Health promotion works through effective community action, which may be defined as the process by which members of a community, either as individuals or collectively, and with varying levels of commitment, develop the ability to assume greater responsibility for assessing their health needs and problems, and in planning strategies, and implementing solutions to achieve better health (94). The aim of this process is to empower communities to take full responsibility for their own actions. They also create and maintain organizations in support of these efforts, and evaluate the effects of these to bring about the necessary adjustments in goals and programmes on an on-going basis (91,93).

The key to improving women's health prospects lies in a long-term strategy of empowerment, as women's health is less dependent upon medical technology than on broader measures that fundamentally improve their social, economic, and political status (95,96).

2.6.3 Health education and health promotion

Health education is based onthe information about diseases, how to curethem, and, especially, how to prevent them, by means of persuasion by healthprofessionals. It is based on the biomedical model of health,where the main pillars of the model are pathologic, curative, and preventive conceptions(97). The definition of health, as affirmed in the Declaration of Alma Ata,also encompassed the biomedical model as well as a psychosocial model (15).On the contrary, Health Promotion has a holistic perspective of health, which identifies an individual as a bio-psycho-social unit, in permanent interaction withthe environment. It considers that the biomedical modelapplies to a certain extent to determining illness,but that health is determined,to a larger extent, by other factors, such as the environment, socio-economic status, nutrition, culture, and proper sanitation(98).

However, the concepts of health education and health promotion overlap. One of the five key action areas recognized in the Ottawa Charter was the development of personal skills through 'providing information, education for health, and enhancing life skills' (78). The Charter identified that, by doing so, the options available to people to exercise more control over their own health and over their environments, and to make choices conducive to their health, increase. Therefore, the difference in health education and health promotion is in the level of intervention, rather than in the valuesgrounded in the empowerment model.

2.6.4 Role of Higher Education Institutions in Health Promotion

The Adelaide Recommendations on HealthyPublic Policies suggested that educational institutions should respond to the emerging needs of the new public health, by reorienting existing curricula to include enabling, mediating, and advocating skills(80,88).The WHO further iterated that, in order to effectivelyrespond to the health needs of the 21st century, there is a need to change the approach to health profession education, to produce socially accountable and responsible health professionals(77).Social accountability and responsiveness of educational institutions was identified by the WHO as'...the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have the mandate to serve. The priority health concerns are to be identified by governments, healthcare organisations, health professionals, and the public' (99).

In early 2000, there was an increased engagement of universities around the worldwith their communities, characterized by systemic efforts to mobilizethe expertise and human resources of these institutions to addresspressing societal needs.In 2005, the first international conference of heads of universities to explore the engagement and social responsibilityroles of higher education institutions in order to coordinate such activities at an international level(100)led to the development of the Talloires Network, a global coalition of engaged universities.The Talloires Declaration on the Civic Roles and Social Responsibilities of Higher Education aimed to advance university-communityengagement by increasing public awareness of, and support for, civic engagement, and by fostering the exchange of ideas and best practices (101).

Community engagement is one of three core responsibilities of higher education, alongside research and teaching in South Africa. Universities are involved in many activities structured around research, teaching, and outreach that entail engagement with a wide range of communities (102). In South Africa, higher education plays a central role in the social, cultural, and economic development of modern societies. The Council for Higher Education (CHE) states that education and training to develop skills and innovations arenecessary for national development and for successful participation in the global economy. The CHE further suggests that education and training be restructured to face the challenges of globalization (103).

The White Paper on the Transformation of Higher Education of 1997 emphasised the establishment of a single co-ordinated higher education system that responds to the needs of South African communities by higher education institutions. It called on higher education institutions to 'demonstrate social responsibility … and their commitment to the common good by making available expertise and infrastructure for community service programmes'(103). Furthermore, the Act states that higher education 'must provide education and training to develop skills and innovations necessary for national development and successful participation in the global economy and must be restructured to face the challenges of globalization'. Importantly, the Act also demands that new, flexible, and appropriate curricula be developed to integrate knowledge with skills, and that the standards be defined in terms of learning outcomes, and appropriate assessment procedures (103). In summary, the social purposes resonate with the core roles of higher

education of disseminating knowledge and producing critical graduates, producing and applying knowledge through research and development activities, and contributing to economic and social development and democracy through learning and teaching, research, and community engagement.

Community engagement by higher education institutions may take on many different forms,such as community-based research, participatory action research, professional community service, and service-learning(102).The nature of community-based participatory research (CBPR) practice of framing issues in interdisciplinary terms, and its further advantage of bringing together communities and universities, may provide a particularly effective stimulus to bring CBPR into the core of universities(104).

2.6.4.1 Community based participatory research

CBPR has become increasinglypopular over the past 10 years as an entry point of community engagement for higher education institutions,particularly in research focusing on health and underservedcommunities.CBPR has its origin in action research in the 1940's(105)and empowerment education (106).Participatory research has been described as the process of producing new knowledge by "systematic inquiry, with the collaboration of those affected by the issue being studied, for the purposes of education and taking action or effecting social change"(107). Participatory research is used as a synonym for 'action research' or 'participatory action research'. It wasdeveloped to help improve social and economic conditions, to effect change, and to reduce the distrust of the people being studied(108).Kurt Lewin provided the first documented example of action research in 1946. He and other researchers identified that human behaviour occurs within historical and social contexts, and is determined by the totality of an individual's situation. Participatory research challenged the traditional social sciences, and moved beyond reflective knowledge creation by outside experts. Lewin rejected the notion that researchers had to be removed from the community to remain objective(109). The main elements of participatory research were identified as collaboration, action, and education.Participatory research therefore benefits from relationships between the researcher and the community, and from the involvement of the community, with the direct benefit of the community beinga potential outcome of the research(105).

Empowerment education is proposed as an effective health education and prevention model that promotes health in all personal and social arenas. Empowerment is a process that is well suited to deal with social change in general, and with inequitable structures in particular. The empowerment model of education identifies that people need to be involved in identifying their problems, and in coming up with solutions.The model suggests that the participation of people in group action and dialogue efforts directed at community targets enhancethe control and the belief they have in their ability to change their own lives. Before community members address particular social change goals introduced from the outside, they must first be organized and empowered to address their own concerns and goals(106,110).

Community-based participatory research in public health and health promotion focuses on social, structural, and physical environmental inequities, through the active involvement of community members, organizational representatives, and researchers, in all aspects of the research process(109,111). CBPR is defined as "a partnership approach to research that equitably involves, for example, community members, organizational representatives, and researchers in all aspects of the research process"(112,113).Thus, allpartners engaged in CBPR have a stake in the dissemination of thework.Recognition of the inequities in health status led to the use of CBPR methods in disease prevention and in health promotion. Health inequities are associated with social, economic, and environmental factors such as poverty, inadequate housing, and lack of employment opportunities. This has led to an ecological approach to health promotion that recognizes that individuals are embedded within socio-political and economic systems that shape behaviours and access to resources necessary to maintain their health(112,114).

The relationship between health and social determinants of health are complex, and traditional research methods offer limited opportunities to address andsolve these complex health disparities(115).Traditional research on health promotion and disease prevention have often not been as effective as they could be, becausethe communities affected by the problemsareusually not consultedon the design and conduct of research projects(109). In addition, the interventionsare also not tailoredto participants' concerns and cultures. Partnerships established between academic institutions and communities are usually based on the biomedical model rather than on participatory research, and communities may

disregard the research findings, as these may not be applicable to them(116). In CBPR methods, the community plays a vital collaborative role in all phases of the development and implementation of health promotion interventions (98,100). CBPR recognizes that community members have an extensive set of skills, strengths, and resources, which can be harnessed to address the social determinants of health and to promote good health(108,117,118).The aim of CBPR is to increase knowledge andunderstanding of a given phenomenon, and to integratethe knowledge gained with interventions and policy andsocial change, to improve the health and quality of life ofcommunity members(112,114).

2.6.4.1.1 Characteristics of community-based participatory research

Principles of CBPR are best understood as characteristics of research that differentiate it from conventional academic research(104). Based on an extensive literature review, Israel et al. identified nine principlesin which the CBPR approach is integrated(114).Within the context of CBPR, community is recognized as a unit of identity.One of the challenges to CBPR isdefining "community", because of its manysocially constructed dimensions. Community could be defined as residentswithin a town, an ethnic population, aset of workers, or apartment building residents.Units of identity, such as familymembership, social networks, or neighbourhoods, are created and recreated throughsocial interactions (114). Because of itsdynamic and diverse nature, community-based approaches to research define community as those people whose health is most likely to beaffected by the outcome of research (112,119).

Partnerships in CBPR focus on issues and concerns that are identified by community members, who are also participants in the research, and who seek to address the determinants of health.CBPR approaches emphasizethe local relevance of public health problems and ecological perspectives that recognize and attend to the multiple determinants of health and disease.Community-based research in public health addresses the concept of health from factors thatdetermine health and disease(112,114,120).

CBPR seeks to identify and build on strengths, resources, and relationships, such as supportive interpersonal relationships,existing within communities of identity to address their communal health concerns. Community-based research explicitly recognizes and seeks

to support, or to expand, social structures and social processes that contribute to the ability of community members to work together to improve their health(112,114).

Community-based research is a co-learning and empowering process that facilitates the reciprocal transfer of knowledge, skills, capacity, and power. It involves system development, using cyclical and iterative processes. Findings and knowledge gained are disseminated to all partners involved, in a language that is understandable and respectful.The ongoing feedback of data, and the use of these results to inform actions, are integral to this approach.CBPR involves a long-term process and commitment to sustainability(121).

2.6.4.1.2 Applications of CBPR

CBPR is an increasingly used approach for conducting research to improve community healthin which these principles have been utilised (121).It has been used to identify and design health promotion material to address behavioural risk factors for cardiovascular disease, such as being overweight orobese, the lack of exercise, and exposure to tobacco smoke. This was done through a collaborative partnership between UCLA School of Nursing, Los Angeles County Department of Health Services, Latina lay health advisors from the community,and members of the target community. The study findings suggested that lay health advisors can be effective in healthcare delivery strategy for cardiovascular community health promotion, especially among immigrant populations(122).

CBPR has also been implemented in interventional studies initiated by community-based organizations or university researchers, to take action to improve the health and wellbeing of community members. Such examples include thepromotion of condom use in order to reduce sexually transmitted diseases among diverse high-risk male heterosexual populations in the southern Philippines(123); to reduce maternal and neonatal mortality in Makwanpur district, Nepal(124); to develop an HIV prevention program for Latino parenting teen couples, and to encourage them to attend the HIV prevention programs(125); to develop a culturally sensitive smoking cessation intervention with public housing neighbourhoods(126); and to increase pap test receipts, and to build community capacity among Vietnamese-American women(127). Other examples where CBPR orientation in research has been used in addressing youth issues include:thedevelopment

and implementation of an intervention on child weight and fitness (128); and thedevelopment and implementation of activities for youth violence prevention(129).

In most of these studies, interventions represented a significant action to improve community health as well as to increase knowledge on the health issues identified. For example, in Nguyen et al.(127), the women not only became more knowledgeable about pap tests, but also increased their ability to mobilize their community and to help to build community capacity.The majority of studies in existing literature did not involve youth themselves as research partners in the CBPR, but more often community-placed or partnered with adults to address youth issues. However, placingresearch in the community, rather than in clinical settings, increases thelikelihood of an ethnically and socioeconomicallyrepresentative sample,thereby broadening scientific knowledge to become more applicableto the population as a whole(130,131).

2.6.5 Culture sensitive health promotion

Health behaviour theories used in public health and health promotion often ascribe poor health outcomes to an individual's action, or inaction, or unwillingness, to heed preventative health messages. Recently, researchers have focused on the role of culture in health promotion, by applying it to existing socio-behavioural variables in order to develop health-related interventions for positive health outcomes (132,133).Health promotion activities, whether targeted at individuals or communities, are often difficult tasks. Culture plays a vital role in determining the level of health of the individual, the family, and the community-positively or negatively (134). This is particularly relevant to cultures where the values of extended family and community significantly influence the behaviour of the individual (135). Culture can be described as systems of shared and related values, concepts, meanings, and beliefs, active enough to influence and condition the judgment, communication, and behaviour in a given society. These are usually expressed in the way people live (132). Culturally sensitive health promotion interventions are described as those that integrate the ethnic or cultural characteristics, norms, values, beliefs, and behavioural patterns, as well as the contextual, historical, and socio-environmental forces of a target population into the design, delivery, and evaluation of the intervention(136).

Culture is influenced by many factors, and therefore it is impossible to isolate 'pure' beliefs and behaviours from the social, historic, economic, and political context in which they occur. Asingle community may contain several cultures. It is therefore important to understand the role of culture in any particular context.Culture shapes perceptions and practices of individuals with regard to health, and mediates their responses to health information(132,133,137). To influencehealth behaviours, promotion of positive health behaviours within the cultural logic of its contexts is of importance. DeWalt et al. suggested that careful implementation of culturally sound methods in delivering health services has an impact in reducing the gap between culture and health promotion(138,139). Brach and Fraser (2000)described techniques frequently discussed in cultural competence, in the context of reducing racial and ethnic health disparities in literature, and classified them into categories. Amongst these categories, researchers using community-based participatory research approaches in health promotion can utilise community health workers to develop a culturallysensitive health promotion intervention (140).

The use of community health workers (CHWs) and of non-governmental organisation field workers to reach out to other community members, and to provide health education and primary care, has been used successfully in health promotion activities. Community health workers and field workers serve as liaisons between the community and researchers, as they provide cultural linkages, overcome distrust, and provide cost-effective health services to isolated communities that have traditionally lacked access(141–144).

2.6.6 Development of health promotion materials for the low literate

Health literacy is recognized as an important determinant of health, as well as a causal factor in health disparities among different population groups(138).Health literacy is the ability to obtain, process, and understand basic health information and services needed to make appropriate health decision: poor health literacy is associated with poor health outcomes(145,146). A key strategy to reduce the impact of low health literacy is improving provider-patient communication. Effective communication is the backbone of health promotion and disease prevention(147). Individuals' literacy directly influences their access to crucial information about their rights and their healthcare, whether it involves following instructions for care, or learning about disease prevention and health promotion. People need to understand health information before they can apply it to their own

behaviour(146,148). Most health information, however, is written for a reading level beyond grade 10 comprehension.There is a broad gap between the reading skills of the readers and those required by the health materials that are supplied to them.At the same time, many health professionals also provide information orally,and thisis frequently not understood by their listeners. Therefore communication must be improved so that most people can understand(120,149).

2.6.6.1 Evaluation of readability of health promotion materials

Readability refers to the ease or difficulty of the reading and comprehension of a written text. The level of readability depends on the content ofthe text, and on the typography of the text (150,151).Elements such as punctuation, font size, required background knowledge,illustrations, pictures, vocabulary, grammatical complexity, text structure, elaboration, quality, and verve of writing, interestingness, text length, sentence structure, audience appropriateness, familiarity of content, coherence, and unity can influence the readability of the text(150,152). The purpose of assessing the readability level of any written text or material is so as to ascertain that an average person in the intended target group, or a person who has completed that grade level, should find the text relatively easy to read (150,151).

Many different readability tests formulae have been used to assess and evaluate written information about health and medicine (153). These tests measure the difficulty of materials, and produce a grade-level rating (92). There are over 200 readability formulas that have been developed, and computer systems have been created,where these readability tests can be computed automatically (154).Some of the most popularly used tests are the Flesch-Kincaid Grade Level Score (FKGLS), Flesch Reading Ease Score (FRES), Simplified Measure of Gobbledygook (SMOG), Coleman-Liau Index (CLI), and the Automated Readability Index (ARI)(153).

2.6.6.1.1 Simplified Measure of Gobbledygook Readability Formula

A Simplified Measure of Gobbledygook (SMOG)reading grade estimates the years of education that the reader has to be able to read, independent of assistance from a healthcare worker.SMOG is considered the gold standard for evaluating health materials, as it predicts comprehension, and a complete understanding of health information is essential in self-management and healthcare decisions. The formula computesreadability according

to the word length, sentence length, and the number of syllables in a word in ten consecutive sentences from the beginning, middle and end of atext. The result is given as a grade value.The recommended grade for easy understanding is grade 7 and 8(155,156).

2.6.6.1.2 Flesch-Kincaid Grade Level Score

The Flesch-Kincaid Grade Level Score(FKGLS) is the most commonly used method in assessing readability in the field of education. FKGL formula was originally used by the United States Army for assessing the difficulty of technical manuals, and became the Department of Defence's Military standard. The statistic is computed based on the average number of syllables per word, and on the average number of words per sentence. The score indicates a grade school level between 0 and 12. The higher the FKGL of a text, the more difficult it is to read and comprehend, requiring more advanced reading skills. The recommended grade for easy understanding is grade 7 and 8(157,158).

2.6.6.1.3 Flesch Reading Ease Score

FleschReading Ease Scoreassesses the grade level of the reader between Grade 5 and college-graduate level, according to the text provided. The variables used are the number of syllables and the number of sentences for each 100 word sample of text. It computes the values from 0-100. High scores indicate material that is easier to read, with 100 being the easiest to read, whilst lower numbers mark passages that are more difficult to read. A score between 60 and 70 is largely considered acceptable(154,159). Scores are usually interpreted as in Table 4:

Table 4: Interpretation of Flesch Reading Ease Score

Score	Ease of readability	Age of understanding
90-100	Very easy	10 year olds
80-89	Easy	11 year olds
70-79	Fairly easy	12 year olds
60-69	Plain English	13-15 year olds
50-59	Fairly difficult	Senior high school
30-49	Difficult	College
0-29	Very confusing	College graduates

2.6.6.1.4 Coleman-Liau Index

The Coleman-Liau Index readability assessment test was designed to approximate the usability of a text. It was originally formulated as one of the many ways to help the United States Office of Education calibrate the readability of all textbooks for the public school system. The test relies on the characters of the text, rather than on the number of syllables per word,as in the other grade level predictors. The CLI computes the grade level using the number of characters within text, as well as the average sentences within 100 words(160).The recommended grade level for readability is between 7 and 8.

2.6.6.1.5 Automated Readability Index

TheAutomated Readability Index (ARI) is a readability test designed to assess the understand-ability of a text. The ARI formula computes the grade level score using the word difficulty and sentence difficulty within a text. It is derived from ratios representing word difficulty (number of letters per word) and sentence difficulty (number of words per sentence). The recommended grade level for readability is between 7-8 (161).

2.6.6.1.6 Gunning-Fog Index

The Gunning Fog Index Readability Formula translates the number of years of education a reader needs to understand any written material, ranging from grade 4 to college level. The tool counts syllables for polysyllabic words only within a text. The recommended grade score is 7 or 8, and anything above 12 is too hard for most people to read, as shown in Table 5 below.

Table 5: Interpretation of the GFI

Gunning-FOG index score	Age of understanding
7-8	General population
10	Average 15 year old
11-13	College student
14-16	University
Over 18	Too difficult for newspapers

2.6.7 Health promotion in South Africa

Health promotion is one of the main pillars of Primary Health Care in South Africa, which focuses on social justice and development. The concept of health promotion was introduced to the South African health system in 1990. The first significant new policy for health promotion in South Africa appeared in the African National Congress (ANC) health policy document, including concerns of reproductive healthcare. The ANC recognized the significant contribution of health promotion to strengthening its commitment to improving the health of South Africans, and its vision for PHC(162). Itidentified the principle activity for an effective health promotion strategy as being the development of public policies and legislation, community action, skills development, promoting a healthy physical and social environment, and the empowerment of communities and individuals to promote their own health.

Health Promotion is a Directorate located within the Social Sector Cluster (SSC) within Primary Health Care (PHC), District and Development operations, which falls under the Deputy Director General for Health Service Delivery in the National Department of Health (DoH).Some of the key social determinants of health in South Africa include low levels of literacy, low youth unemployment, a high Gini index, especially among women, poor sanitation, and inadequate nutrition. These factors are linked to poverty, and to address them requires continued commitment and collaboration among the relevant government and private sectors. Healthcare providers in any setting must understand the social determinants of health, and the impact of poverty on health and on access to care(10).

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Research design

While there has been great progress made on the research on health promotion, some intervention expectations are often not met because they were developed without addressing people's capabilities. Communities are often not consulted on the design and conduct of research projects. To ensure that research is relevant and appropriate, everyone directly concerned with a problem should be involved, hence a participatory action research method was used to develop a culturally sensitive adolescent pregnancy intervention with

CCWs in this study. The study employed a qualitative action research design, based on CBPR principles and on the PEN-3 cultural model. The study followed cyclic and iterative processes within the four phases, rather than a linear progression from phase to phase. The study also intended to actively facilitate change driven by CCWs and non-governmental organisations (NGOs) in the community. This was done by viewing community members as participants in the programme (the 'bottom up' approach), where the researcher and participants recognize and build on each other's strengths and responsibilities to take actions on improving health outcomes, rather than a 'top-down' approach, where participants are passive recipients of the programme.

CBPR is a collaborative partnership approach to research, and in this context, partnerships were formedbetweenthe Faculty of Pharmacy and Community Engagement Office of Rhodes University, representing the higher education institution; Ubunye Foundation and St Mary's Development and Care Centre, which are NGOs working with Grahamstown, Glenmore and Ndwayana communities; and the community care workers from primary healthcare centres in these communities. The current research was a second time collaborative partnership of the Faculty of Pharmacy and Community Engagement Office of Rhodes University with the Ubunye Foundation and CCWs of Glenmore and Ndwayana. This made it easier to establish a rapport with the participants. Previous collaborative partnerships of the Faculty of Pharmacy and the CE office at Rhodes University with St Mary's Development and Care Centre (St. Mary's DCC) was reinforced with pre-study visits to establish good working relationships.

The research cycle began with an explorative phase of identifying adolescent pregnancy as a cause for concern within the communities, and data was collected on the socio-cultural andhealth factors affecting adolescent pregnancy within the communities. The researcher in this phase sought to gain insight into the problem by investigating CCWs' views, how they interpreted the nature of the problem, and how they seek solutions. The socio-cultural and health factors affecting adolescent pregnancy were assessed using the PEN-3 cultural model.This was followed by identifying possible solutions that could reduceadolescent pregnancies in the community, through the participatory input of the CCWs.

An educational intervention for the prevention of adolescent pregnancyemerged as a single plan of action to be implemented. This was to be conducted by the CCWs. Data on the results of the intervention werecollected and analysed, and the findings were interpreted in the light of how successful the action has been.

3.2 Aim and objectives

The purpose of this study was to develop a culturally sensitive and appropriate health promotion manual and activities for the prevention of adolescent pregnancies in three rural communities of the Eastern Cape, South Africa.

3.2.1 Objectives

The study was divided into 4 phases, which included an exploratory phase, a planning phase, an implementation phase, and an evaluation phase. The objectivesfor the different phases are listed below.

3.2.1.2 Exploratory phase

IV. To explore issues arising from adolescent pregnancies in the communities based on the community care workers perceptions.

V. To explore the cultural factors influencing adolescent pregnancies in the three communities.

VI. To identify information needs of the community care workersfor their future professional usewith regard to sexual and reproductive health.

3.2.1.3 Intervention planning phase

IV. To develop a community care workers' facilitation manual through a participatory approachfor the promotion of prevention of adolescent pregnancies.

V. To identify points of entry into the community for the educational intervention in prevention of adolescent pregnancies.

VI. To reinforce skills and knowledge of community care workers on the use of health promotion activities developed for the prevention of adolescent pregnancies.

3.2.1.4 Implementation phase

VI. To incorporate health promotion activities for the prevention of adolescent pregnancies into community development programmes, to be carried out by the two non-governmental organisations.

VII. To find out challenges to the implementation of health promotion activities for the prevention of adolescent pregnancies.

VIII. To identify facilitating and constraining factors to the implementation of the health promotion activities for the prevention of adolescent pregnancies.

3.2.1.5 Evaluation

II. To obtain feedback from the CCWsonthe facilitating and constraining factors of the health promotion activities carried out.

3.3 Theoretical framework

The organizing framework that guided the study was the PEN-3 cultural model, in order to examine the socio-cultural factors affecting adolescent pregnancy in the identifiedcommunities. The PEN-3 cultural model was developed by Prof Collin Airhihenbuwa in 1989 to emphasize the need for cultural appropriateness in developing, implementing, and evaluating public health interventions. Whereas other conventional theories of behaviour change focus on the individual to promote change, PEN-3 cultural model focuses on the impact of culture on health beliefs and actions, and proposes that public health and health promotion should not focus only on the individual, but instead on cultural context that nurtures a person's health behaviour in his or her family and community.

The three domains the PEN-3 model incorporates are: relationships and expectations; cultural empowerment; and cultural identity. Each domain incorporates three individual constructs, and the name PEN 3 is derived from the acronyms of the concepts of each of theseconstructs, asillustrated in Figure 2.

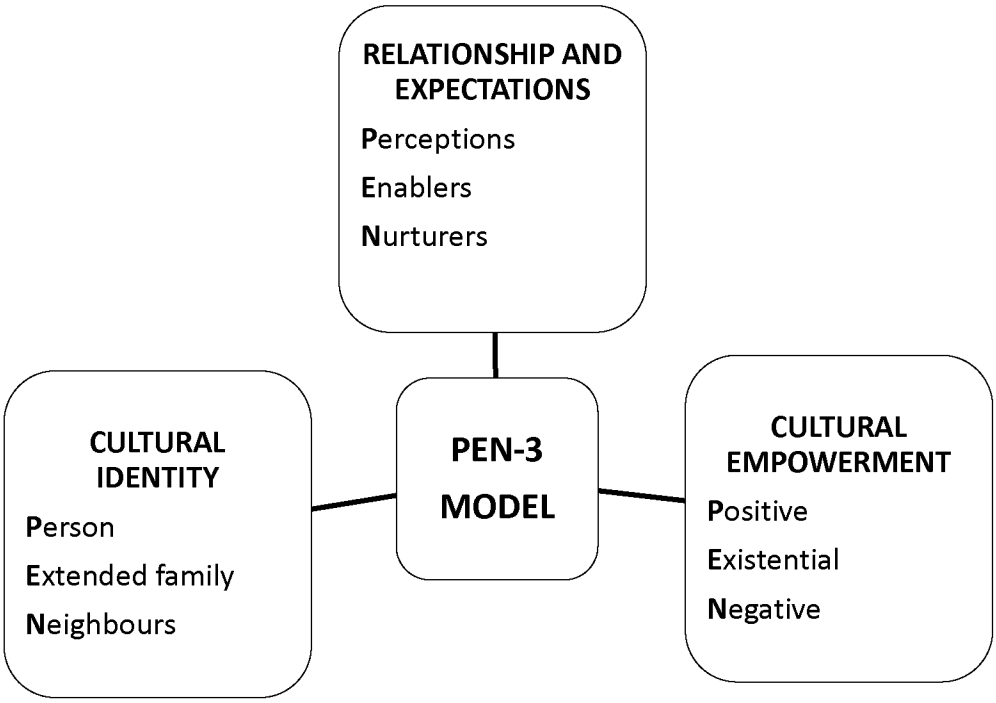


Figure 2: An illustration of the PEN-3 cultural model adopted from Airhihenbuwa 1989

The PEN-3 model was first used as a guide to approach HIV/AIDS in Africa, but has been implemented successfully for health promotion interventions in cervical cancer, hypertension, diabetes, malaria, nutrition, smoking, and other issues requiring an understanding not only of behaviour but also of related cultural contexts(126,166–168). Most of the studies emphasized the importance of centralising cultural contexts in health behaviour studies, for example, in the context of HIV/AIDS, the PEN-3 model was used to examine the influence of cultural contexts in explaining stigma and HIV disclosure(135,169). Studies focused on addressing health behaviours such as nutrition, depression prevention, domestic violence, HIV/AIDS, smoking, and cancer screening and awareness, have demonstrated how using the PEN-3 model and the cultural context is important in developing and implementing health promotion and education interventions (126,170,171). Cultural context provides a clearer lens through which researchers may view and understand behaviour, while highlighting important variables in future intervention design.

3.4 Data collection techniques

Data collection techniques allow for a systematic collection of information onstudy objectives and on the settings in which they occur. The techniques employed for data collection are summarised in Table 6.

Table 6: Data collection techniques employed in the study

Phase	Data collection technique	Data collection tool
Exploratory phase	Semi-structured interviews	• Question guide • Voice recording • Note-taking
Intervention planning phase	Workshops	• Self-administered questionnaire • Voice recorder • Note-taking
Implementation phase	Focus group discussions	• Voice recording • Note-taking
Evaluation phase	Focus group discussions	• Voice recorder • Note taking

3.4.1 Semi-structured interviewing

An interview is a data collection technique that involves oral questioning of participants, either in groups or individually. Semi-structured interviews (SSIs) are useful in obtaining details about a topic from the perspective of subjective experience(163).SSIs were used in this study to explore the perceptions of individuals, and to ascertain how they give meaning to, or interpret, their experiences of adolescent pregnancies, and were also used as a tool to get information on how to develop a training manual that is culturallysensitive. SSIs follow a predetermined order of questions, involving closed- and open-ended questions, but still allow flexibilities in the way issues are addressed by the informant,thusallowing further discussion of issues that the interviewer may have probed(163).Key informants who have specific knowledge and understanding of the community are useful in conducting semi-structured interviews, and can provide insight on the nature of the problems, and give recommendations on their solution. Key informants in this study were the CCWs.

3.4.2 Workshops

The developed facilitation manual provided a guide to a series of workshops during which CCWs and NGOrepresentatives contributed to methods of enhancing understanding on how to use the health promotion materials developed for the prevention of adolescent pregnancy.The developed facilitation manual provided guidelines for each session, including

learning objectives, key messages, learning activities, and specific additional information, such as the influence of common practices, and negotiating desired behaviours.The workshops used participatory learning methods to stimulate active participation, which included role plays, group discussions, scenarios, brainstorming sessions, and demonstrations (e.g. correct use of condoms) as part of the manual's development. Revisions to the training manual's content and approaches were made, based on the feedback from CCWs and stakeholders during these workshops.

3.4.3 Self-administered questionnaires

A self-administered questionnaire is a device for gathering research data using a series of questions designed to elicit information from participants. The questionnaire is filled in individually by participants. Through the addition of open-ended questions, these questionnaires can also be used to capture qualitative information. They allow the data capture from a part of a group, for the purpose of describing one or more characteristics of a whole group(164). The self-administered questionnaire was administered in workshops, to ascertain the understanding of the reproductive health information presented.

3.4.4 Focus group discussions

Focus group discussions (FGD's) bring a group of participants together to discuss their opinions and insights on a particular product, service, or issue (165). Focus group discussions were held with 4 or more participants on frequent (monthly) visits during the implementation phase. During these discussions, participants were invited to share their experiences on the implementation of the health promotion activities.

3.5 Data collection

3.5.1 Explorative phase

Semi-structured interviews were conducted in the explorative phase of the study. Participants voluntarily signed the consent form, and a recorder was used to capture participants' responses to the questions. The interviews were conducted by the researcher in English, and a translator assisted to accommodate participants who were not familiar with English, or who might have been more comfortable expressing themselves in IsiXhosa. The translator assisted to translate from English to IsiXhosa, which are both official languages of South Africa, and vice versa. A question guide (APPENDIX E) was used during the interviews, and probes were employed where necessary. Note-taking and tape

recording were used to record interview responses. Each interview took 20 -30 minutes, and 14 interviews were conducted in total. The 14 interviews were conducted over a period of two days. Semi-structured interviews were carried out with each of the participants at the different centres to determine their responses to issues arising from adolescent pregnancies from a cultural point of view.

3.5.2 Intervention planning phase

Workshops were conducted in the three communities, during the intervention planning phase, which included six participatory sessions (APPENDIX F) over two days per community. The workshops were conducted in English, and a translator was used to accommodate participants who were not familiar with English or who might not have been comfortable expressing themselves in the English language. A register was circulated before the start of the workshops. The developed facilitation manual was used as a guide to the workshops, and a voice recorder was used to record the proceedings. Data collected from the workshops informed modifications of the facilitation manual.

Self-administered questionnaires were given to the CCWs on the first day of the workshop, and at the end of the second day of the workshop(APPENDIX G). The aim was to evaluate knowledgelevels on reproductive health before and after the workshop. The questionnaire was in the form of closed-ended multiple choice and true or false questions. A section of the questionnaire wasopen-ended, where CCWs could write their responses in either English or IsiXhosa. The questionnaire was in both English and IsiXhosa.

The purpose of the workshop was to develop culturally appropriate and sensitive activities for encouraging the prevention of adolescent pregnancy in the communities. The workshop made use of the “Prevention of adolescent pregnancy: A facilitation manual for community care workers Draft 1” facilitation manual, and involved discussing the appropriateness of the language, pictures, and information in the manual. The participatory workshop also reinforced skills and knowledge of CCWs on information primarily aimed at adolescents, and also the community affected byadolescent pregnancy. This information concentrated on how to avoid adolescent pregnancy, using effective communication and negotiation skills to encourage behaviour changes to improve reproductive health outcomes amongst adolescents.

3.5.2.3 Community care workers' Feedback and Involvement

CCWs were given the opportunity to provide the researcher with feedback, and to ask questions throughout the workshop. Feedback was collected after each session to provide the researcher with information on how to improve and adjust the content andformat of the workshop. This was done by spending about 15 minutes at the beginning of each session toreview the previous session, review the schedule and upcoming sessions, and to allow CCWs to ask questions. At the end of the day, CCWs were asked if they had any questions related to the sessions carried out that day, and also to provide written feedback to the researcher by using a feedback form (APPENDIX H).

3.5.3 Guided implementation phase

Frequent visits to the communities took place during the guided implementation phase of the study. During this phase, preliminary evaluation of the success of the intervention for the prevention of adolescent pregnancy was conducted. CCWs would discuss their experiences in conducting health promotion activities for the prevention of adolescent pregnancies. A question guide was used during discussions with the CCWs(APPENDIX I).A total of thirteen visits occurred to all the research sites over a period of fourteen months (October 2014-November 2015). A guided implementation data collection form(APPENDIX J)was used to substantiate the experiences of the CCWs, and to provide quantitative data to the implementation. Voice recording and note taking were used to record the briefing sessions.

3.5.4 Evaluation phase

Focus group discussions were conducted in the evaluation phase of the study. The researcher facilitated these discussions, which were conducted by the researcher in English and translated from English to IsiXhosa, and vice versa. A question guide (APPENDIX K) was used during the FGDs, and probing questions were employed where necessary. Note-taking and tape recording were used to record interview responses. A total of two focus group discussions were conducted with CCWs in Glenmore and Ndwayana, and one project evaluation discussion was held with the community care giver from Grahamstown. Each FGD took approximately three hours. During the discussions, personal reflections were also encouraged for everyone to share their views, and to reflect on what they now do better as a result of the study.

3.5.5 Readability tests

The readability of the draft and final manual was determined using 3 different online readability calculators which gave results of six readability formulae, to increase validity and reliability of the results. Individual sections of the manual were copied and pasted into the online tools, and the readability of each section was calculated. The readability was estimated by the use of the Simple Measure of Gobbledygook (SMOG),Flesch Reading Ease score (FRES),Flesch-Kincaid grade Level (F-KGL), Gunning-Fog index (GFI), Coleman-Liau Index (CLI), and Automated Readability Index (ARI) readability formula (126). The results are in the form of a grade level equivalent to the years of Western formal education required to understand a passage.

3.6 Project timelines

The study was carried out from May 2014 to October 2015. The details of the timelines are shown in Table 7.

Table 7: Study timelines

2014	DATES
Submission of research proposal	24-Mar-14
Higher Degrees Committee meeting	1-Apr-14
Submission of updated proposal to HDC	14-Apr-14
Submission of ethics form-Ethics clearance	14-Apr-14
Clearance from the Ethics committee	28-May-14
Meeting at AGF-informal meeting	19-May-14
Clearance from the Department of Health	12-Jun-14
Pre-interview visit- St Mary's DCC	19-Jun-14
Interviews at St Mary's DCC	27-Jun-14
Pre-interview visit- Ubunye	2-Jul-14
Data collection-Semi structured interviews-Ndwayana	14-Jul-14
Data collection-Semi structured interviews-Glenmore	15-Jul-14
Development of facilitator's manual-data analysis	on-going process
Facilitator's workshop1-Glenmore	20-Aug-14
facilitator's workshop2-Glenmore	27-Aug-14
Qualitative research design course	1-6-Sept 2014
Facilitator's workshop 1-Ndwayana	3-Sep-14
Facilitator's workshop 2-Ndwayana	10-Sep-14
Critical Studies in Sexualities and Reproduction research symposium	11-Sep-14
35th Conference of the Academy of Pharmaceutical Sciences	12 - 14 Sept 2014
Implementation of facilitator's manual resumes	15-Sep-14

Guided implementation visit 1-Glenmore/Ndwayana	1-Oct-14
Facilitator's workshop 1-St Mary's DCC	2-Oct-14
Facilitator's workshop 1-St Mary's DCC	3-Oct-14
Rhodes University Interdisciplinary Postgraduate Conference (IPGC)	8- 10-Oct -14
Ndwayana/Glenmore Implementation visit 2	22-Oct-14
Ndwayana /Glenmore Implementation visit 3	5-Nov-14
Meeting at St Mary's-Implementation	24-Feb-15
Ndwayana/Glenmore Implementation visit	4-Mar-15
SAAHIP conference	11-Mar/15-Mar-15
Meeting at St Mary's-Implementation	26-Mar-15
Implementation phase visit	10-Jun-15
Focus group discussion	4-Nov-15

3.7 Study location

The research sites were located in the Eastern Cape province of South Africa. The Eastern Cape province is one of the poorest provinces in South Africa(172). The Glenmore and Ndwayana communities fall under the Amatole District, and are located to the north of the Great Fish River, in the former Ciskei homeland. Both villages face issues of poor infrastructure and limited services, including transport to the nearest cities, which provide access to public sector hospitals, upon which the majority of the local population is dependent(10,172). The people in Glenmore and Ndwayana are predominantly IsiXhosa speaking. Glenmore and Ndwayanaare located 44 km and45.6 km north-west of Grahamstown, respectively. Grahamstown falls under the Cacadu District, as shown in Figure 3.

Figure 3: Map of Eastern Cape showing location of study sites; Grahamstown, Glenmore and Ndwayana

3.8 Selection of participants

A purposive sampling strategy was used for the selection of participants of the study. Purposive sampling is a technique that is used to identify participants who are considered most appropriate for a certain study (107, 109). The criterion for selection is predetermined by the objectives of the study. The participantsfor the study were CCWs from the primary healthcare centres inNdwayana and Glenmore, who also work with the Ubunye Foundation (previously Angus Gillis Foundation), and a field worker from St Mary's Developmentand Care Centre (St Mary's DCC)in Grahamstown. The participants were involved in community

development activities in the communities. A total of 14 participants were involved in the study: 7 from Glenmore, 6 from Ndwayana, and 1 from St Mary's DCC.

3.9 Ethical clearance

Permission to conduct the study was obtained from the Higher Degrees Committee of the Faculty of Pharmacy, Rhodes University, and from the Faculty of Pharmacy, Rhodes University Ethics Committee (PHARM 2014-6;APPENDIX A). Approval to conduct the study at the clinics was obtained from the Eastern Cape Department of Health, Bhisho (APPENDIX B).

Participants were made aware of the aim and of the objectives of the study through invitation letters toparticipate (APPENDIX C). The anonymity of the participants was observed by assignment of participant numbers, rather than using their names in the data records. An informed consent from participants was obtained from participants, through a consent form which assured participants of the confidentiality of the interview (APPENDIX D). Consent to use a tape recorder during the interview was also obtained, and was included in the consent form.

3.10 Data management and analysis

Data analysis in this study was an ongoing process. The qualitative data from the study was managed by NVivo® 2010 software. Voice recordings and transcriptions were imported into NVivo® and organised into projects: semi structured interviews, workshops and implementation phase. In each project, the data was coded, as a form of thematic analysis which is the process which results in the development of categories that emerge from the words of informants, culminating in the development of conceptual and theoretical models.

3.10.1 Explorative phase

For semi-structured interviews, the imported transcripts were segregated into relevant folders within the software (nodes). The nodes were derived from the constructs of the theoretical frameworks: perceptions (positive, negative, and existential); enablers (positive,

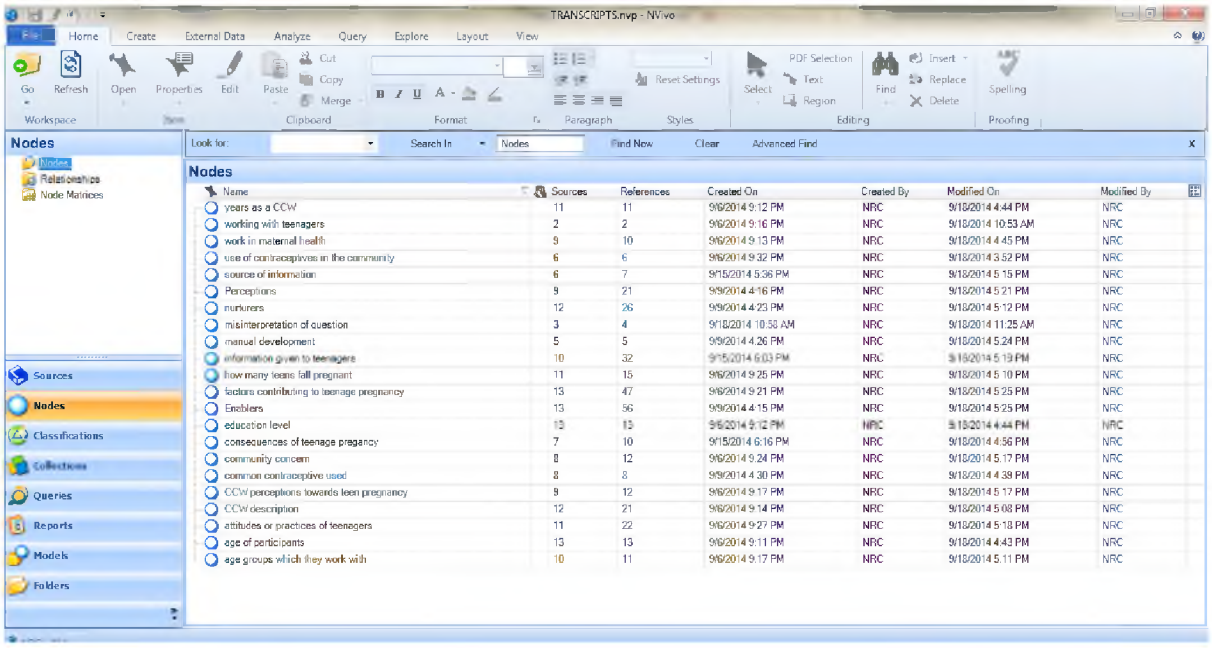


Figure 4:An image derived from NVivo® 2010 software showing management of data.

negative, and existential); and nurturers (positive, negative, existential), forming the keyissues to be considered during data analysis. Other key themes from the interviews were coded into different nodes, as shown in Figure 4.

The organised data was then used to generate a 3×3 matrix table derived from the PEN-3 cultural model, as shown in Table 8. The matrix was then used to identify the cultural components that were reiterated to reduce adolescent pregnancy, and to identify the negative components requiring an educational intervention.

Table 8: A 3x3 matrix constructed from the PEN-3 model constructs

THE DOMAINS	Cultural empowerment			
Relationships And expectations domain		POSITIVE	EXISTENTIAL	NEGATIVE
	PERCEPTIONS	1	2	3
	ENABLERS	4	5	6
	NURTURERS	7	8	9

1-Positive perceptions-positive knowledge, attitudes, values, beliefs affecting personal, family, and community motivation to change behaviour.

2-Existential perceptions- unique knowledge, attitudes, values, beliefs affecting personal, family, and community motivation to change behaviour.

3-Negative perceptions- negative knowledge, attitudes, values, and beliefs affecting personal, family, and community motivation to change behaviour.

4-Positive enablers- positive cultural, societal, systematic, structural forces affecting change (resource availability, access, referrals, employer, government officials, skills, services).

5-Existential enablers-unique cultural, societal, systematic, structural forces affecting change (resource availability, access, referrals, employer, government officials, skills, services).

6-Negative enablers- negative cultural, societal, systematic, structural forces affecting change (resource availability, access, referrals, employer, government officials, skills, services etc.).

7-Positive nurturers-thedegree to which attitudes, beliefs and actions are influenced, mediated, and nurtured by extended family, kin, friends, peers, and community positively.

8-Existential nurturers-the degree to which attitudes, beliefs and actions are influenced, mediated and nurtured by extended family, kin, friends, peers and community in a unique way.

9-Positive nurturers-thedegree to which attitudes, beliefs and actions are influenced, mediated and nurtured by extended family, kin, friends, peers and community negatively.

3.10.2 Intervention planning phase

Voice recordings from the workshops were translated and transcribed by a language expert. Voice recordings and transcriptions of the workshops were imported into NVivo®. The data from the workshops werecategorised into nodes,and derived from themes arising from the transcripts.

3.10.3 Implementation phase

The voice recordings from the discussions held during the frequent visits were translated and transcribed by a language expert. These voice recordings and transcriptions of the workshops were imported into NVivo®. Data from the workshops werecategorised into nodes which were derived from themes arising from the transcripts.

3.10.4 Evaluation phase

The voice recordings from the FDGs were translated and transcribed by a language expert. Voice recordings and transcriptions of the workshops were imported into NVivo®. The data from the workshops werecategorised into nodes, and these were derived from themes arising from the transcripts.

3.10.5 Readability tests

The readability scores calculated by the online calculator were managed using MS Excel 2010® according to the readability formulas, as shown in the Figure 5. The Excel workbook was divided into worksheets for results of each of the online calculators used, as shown in Figure 5.

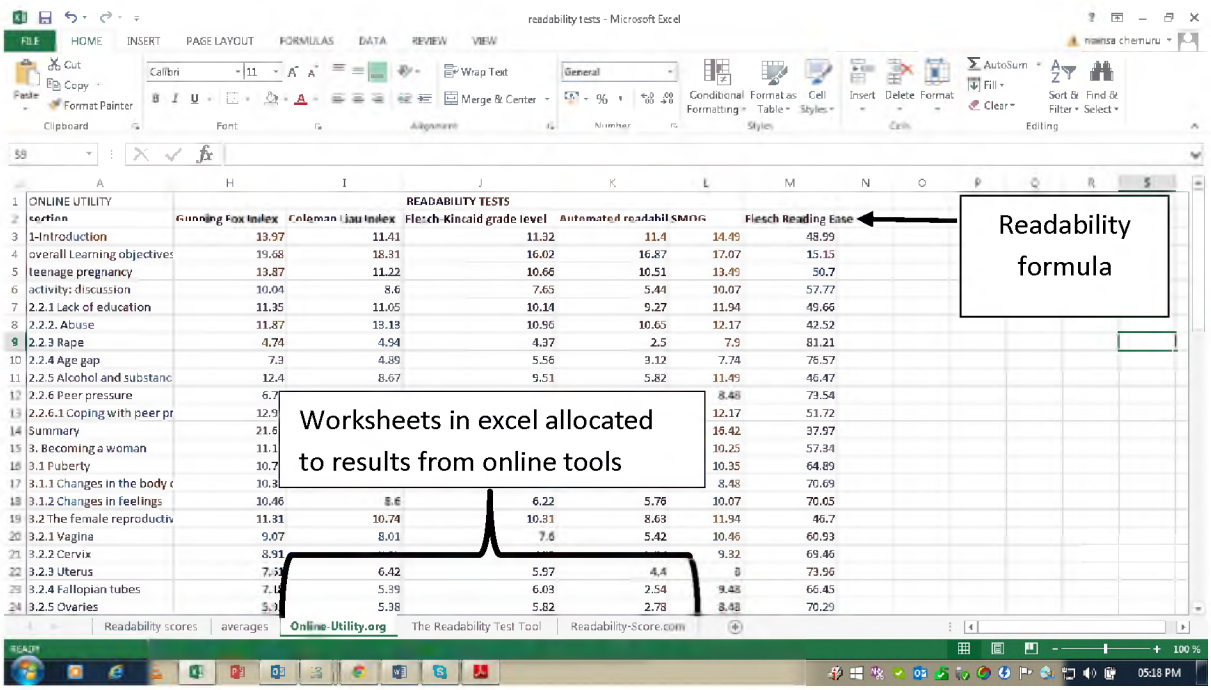


Figure 5: Data management of readability scores

The mean and standard deviation of the readability scores from the three online calculators as well as the text statistics were calculated.

3.11 Trustworthiness

Trustworthiness is an essential component of qualitative research. Guba's model for ensuring and assessing trustworthiness was applied in this study. Guba and Lincoln proposed four constructs to assess the rigour of qualitative studies: credibility; transferability; dependability; and conformability(173,174). The methods used in this study are summarised in Table 9.

3.11.1 Credibility

Lincoln and Guba argue that ensuring credibility is one of most important factors in establishing trustworthiness. Credibility (in preference to internal validity) seeks to ensure that the study measures or tests what is actually intended, and if the findings are congruent with reality. One strategy that was implemented to maximise the trustworthiness of the findings was member checks (174). This involved taking the analysed data to the CCWs to confirm the interpretations and conclusions drawn from the interviews. Member checking provided participants the opportunity to correct errors and to challenge any statements perceived as erroneous interpretations. This was done formally during the participatory workshops conducted for the development of the manual. Member checks were also done during the frequent briefing sessions, during the guided implementation phase with the community care workers.

Lincoln and Guba and Erlansdon et al recommend a prolonged engagement between participants and the researcher, to establish a relationship of trust between both parties. The development of an early familiarity with the culture of participants before the first data collection takes place is another way of ensuring trustworthiness of the data (173). This was implemented in the study by pre-study visits with the two non-governmental organisations involved in the study: the Ubunye Foundation (formerly the Angus Gillis Foundation) and St Mary's Development and Care Centre, and the community care givers involved in the study. This facilitated the development of a rapport among the CCWs, the non-governmental organisation, and the researcher. The rapport was further strengthened by frequent briefing sessions during the course of the study.

Peer scrutiny and team analysis provide researchers an opportunity to gain many interpretations of the data and therefore help to prevent any bias (173). The researcher allowed scrutiny of the project from peers, colleagues, and academics duringthe research

process, data analysis and results by presentations at conferences, symposia and colloquia over the duration of the project. A summary of research outputs is given in Appendix L. The feedback from these individuals enabled the researcher to strengthen arguments and to refine methods in light of the comments made.

3.11.2 Transferability

Transferability refers to how findings can be applied in other contexts or situations. Findings from qualitative research are defined by the specific contexts in which they occur, and are specific to a particular environment or individuals (174). It is therefore difficult to demonstrate that the findings are applicable to other situations and populations. However, with a description within the research report of the context in which the study was undertaken, readers may determine how confident they are in transferring the results and conclusion presented to other situations. Transferability in this study has been ensured by a dense description of background information of participantsand the technique used to select participants (section 3.6), and research context has been given in the method section. In contrast to the random sampling that is usually done in a traditional study to gain a representative picture through aggregated qualities, naturalistic research seeks to maximize the range of specific information that can be obtained from and about that context, by purposely selecting locations and informants that differ.The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable the researcher to answer research questions(175).

3.11.3 Dependability/reliability

Dependability refers to how the study findings are consistent and could be repeated in the same context, with the same methods, and with the same participants (174). In contrast to quantitative research traditions, which view objectivity as a goal,qualitative researchers acknowledge that the very nature of the data gathered, and that the analytic processes engaged with, are grounded in subjectivity, which makes dependability difficult to assess. In order to address the dependability issue more directly, processes within the study should be reported in detail, to provide the specific context of the study undertaken. Thereby this enables a future researcher to repeat the work, if not necessarily to get the same results. In this study,the dependability of results was ensured by an in-depth description of the CBPR

methodology and of the PEN-3 cultural model used (section 3.1 and section 3.4 respectively).

3.11.4 Confirmability

Confirmability refers to the degree of neutrality or to the extent to which the findings of a

STRATEGY	CRITERIA	APPLICATION

study are shaped by the respondents, and not researcher bias, motivation, or interest (173, 174). The researcherused an audit trail; a transparent description of the research steps taken from the start of a research project to the development and reporting of findings, in ensuring trustworthiness of the data. These are records that were maintained regarding what was done in this study.

Table 9: Strategies used to ensure trustworthiness

1. Credibility	Member checking	• Results of the different phases of the research were confirmed with participants
	Prolonged engagement	• Frequent visits were done to research sites
	Adaption of established research methods	• CBPR methods have been used in previous research
	Early familiarity with culture of participants	• Pre-interview visits were conducted to familiarise with the participants
	Frequent debriefing sessions	• Frequent visits were done to research sites
	Peer scrutiny of the research project	• Research methods discussed with colleagues and supervisor • Presentations at seminars, colloquia and conferences • Researcher trained for qualitative research methods
2. Transferability	Thick description	• Number of organisations involved • Number of participants • Data collection methods employed • Length and number of data collection sessions • Time period over which the data was collected
3. Dependability	Thick description of methodology used	• Research methods adequately described • Coding and recoding done • Methodology assessed by experts
4. Confirmability	Audit trail	

CHAPTER FOUR
RESULTS

4.1 Introduction

In this chapter, the results from the study are presented. The chapter first presents the demographics of the CCWs. The chapter continues to report results of the different phases of the study in which data collection occurred, namely the exploratory phase, the intervention planning phase, the implementation phase, and the evaluation phase. The

manual development and modification occurred in the four phases of the study, and these results are reported in this chapter.

In the exploratory phase, the results of the semi-structured interviews are reported based on the constructs of the PEN-3 cultural model. The results are presented as Perceptions, Enablers and Nurturers, with regard to factors affecting adolescent pregnancies in the community. These are further classified into whether they affect adolescent pregnancy positively or negatively. The chapter then proceeds to report on the intervention planning phase. This section presents themes arising from the workshops,which includes factors contributing to adolescent pregnancies in the community, consequences, as well as other issuers arising. The implementation phase of the results section reports mainly on the facilitating and constraining factors to the implementation of the health promotion activities. The evaluation phase section of the results reports on the successes and failures of the health promotion activities from the identification of the cause for concern, to the implementation of the health promotion activities.

Due to the cyclic and iterative nature of the study, some concepts of the PEN-3 continue being recognised and raised in the different phasesof the study.

4.2 Demographics

The 14 study participants from the three communities were all female and their demographic details are presented in Table 10. Thirteen of the 14 participants were government employed community care workers, and were working withthe Ubunye non-governmental organisation, which is involved in community development projects in Glenmore and Ndwayana. The other participant was a community care giver working inSt Mary's DCC, a non-governmental organisation,involved in community development projects in Grahamstown. Participants were allocated unique identifiers P1 to P14.As community care workers, they are involved in health promotion and community development activities, but only 50% were involved in women's health, ranging from antenatal care to post-natal care. Of the 14 participants, 3 had Grade 12 qualifications, whilst 8 had Grade 11 qualifications, 2 had grade 10 and 1 person had completed Grade 9.

Table 10: Demographics of participants

Participants	Sex	Education	Age	Experience in health	Experience in

		level (grade)	(years)	promotion activities (years)	maternal health promotion (years)
P1	F	12	38	16	0
P2	F	11	42	7	0
P3	F	10	36	1	0
P4	F	12	34	5	0
P5	F	11	29	8	0
P6	F	10	26	4	0
P7	F	11	44	7	0
P8	F	11	38	13	13
P9	F	9	42	14	3
P10	F	11	44	7	7
P11	F	11	39	7	0
P12	F	11	32	6	2
P13	F	11	32	10	2
P14	F	12	39	14	10

4.3 Explorative phase

This section describes results obtained for the semi-structured interviews conducted with CCWs.

4.3.1 Themes from Semi-structured interviews based on the PEN-3 cultural model

The results in this section are based on the themes arising from the PEN-3 cultural model; Perceptions, Enablers and Nurturers.

4.3.1.1 Perceptions

The perceptions construct of the relationship and expectations domain refers to the knowledge, attitudes, values, and beliefs affecting personal, family, and community motivation to change behaviour. Positive perceptions are the knowledge, attitudes, and/or beliefs that positively influence healthy decisions with regard to delaying sexual debut and contraceptive use amongst adolescents, and in the community. For example, knowledge of the consequences of early pregnancy may influence the age of sexual debut of an individual. Factors that negatively affect decisions of contraceptive use or knowledge and beliefs that influenced early sexual debut are negative perceptions.

4.3.1.1.1 Fears about contraceptive use

The community care workers identified the male condom and the hormonal injection as the main methods of contraception used amongst adolescents. However, there is an inconsistent use of these contraceptives amongst adolescents, as identified by the CCWs. The CCWs expressed concern aboutadolescents' non-adherence to contraceptives, especially with regard to the hormonal injection. The adolescents perceive the hormonal injection to cause weight gain in their bodies (negative perception).

> *"The problem is that they say they don't want to use contraception because they don't want their bodies to become jelly like, that's the problem. They always say no I'm using a condom, but still they're falling pregnant."* ***P4***

The CCWs also reported inconsistency in the use of the female condom by adolescents, as they areunpleasant to use because of size.

> *"...so the girls are scared of the female condoms, they are big so they are scared."* ***P14***

4.3.1.1.2 Causes and consequences of adolescent pregnancies

From the responses of the CCWs, it was evident that they had knowledge of factors contributingto adolescent pregnancies in their community (positive perception), for example peer pressure.

> *"The main causes of adolescent pregnancy is peer pressure and others do not want to come to the clinic for family planning not because they are scared but because of peer pressure. If one person stops coming to the clinic, the others will not come."* ***P10***

CCWs also had knowledge of the consequences of early childbirth, for example the disruption of schooling, and the possible health effects, such as the risk of contracting cervical cancer.

> *"I tell them that having a baby while they're still kids themselves is not great because once they have a responsibility of a child they won't be able to go to school."* ***P8***

> *"When a child falls pregnant at an early age, they are at a risk of getting cervical cancer."* ***P9***

4.3.1.1.3 Community concern

The CCWs are concerned about the socio-economic welfare of adolescent girls if theyare to fall pregnant in their adolescent years, as they perceive they are still too young to be involved in intimate relationships,and are expected to be in school (positive perception). However, they also reported contrasting feelings with regard to adolescent pregnancy in the community: some members of the community are concerned for the welfare of pregnant adolescents,whereas some are not concerned (negative perception).

> *"I feel bad because falling pregnant at a young age makes life difficult, because now the child stops going to school in order to take care of the baby and they do not even have jobs."**P6***
>
> *"They [members of the community] still get shocked because the girl would still be young and expected to be in school."* ***P13***
>
> *"They [members of the community] actually don't care, they don't really pay attention to them [pregnant adolescents]."* ***P4.***

4.3.1.1.4 Knowledge on the importance of contraceptive use

CCWs have knowledge of the advantages of using contraceptives amongst women and men in the community in preventing pregnancies and HIV/AIDS. They also reported that the use of contraceptives in the community was put into practice in their health promotion activities conducted in the community (positive perception).

> *"Yes I talk to them, I explain to them that it is important to use a condom whenever one is engaging in sexual activities to protect against HIV/AIDS and pregnancy."* ***P8***
>
> *"I always encourage them to go for family planning because it's their future we are concerned about and that the first important thing in life is to go to school but they do not go for family planning and they also don't want to use condoms."* ***P7***

4.3.1.1.5 Early sexual debut of adolescents

From the responses of CCWs, adolescents are perceived as too young for intimate relationships. However, this perception does not prevent adolescents from engaging in

intimate relationships, but instead prevents them from accessing contraceptive methods from the clinic (positive perception).

> *"I think they see it [sexual activity amongst adolescents] as a problem because they [community members] don't want even a 10 year old to come here to collect condoms or 12 years old to use injection because it's early to have sex."**P14***

4.3.1.1.6 Cultural aspects related to communication about sex-related matters

CCWs reported that talking about sex and sexuality in the community is generally not common, as they perceive it as encouraging adolescents into early sexual debut (negative perception).

> *"Parents are not so keen on talking about such things [sex]."* ***P6***

> *"Oh no ways, no one wants to talk about it [sex] in the community. Even if you happen to pay someone a visit and the topic [sex] comes up and you encourage them to talk to their children about it, they say there is no way they could talk to their children about such things. If you do you would be teaching them 'wrong/bad' things."* ***P9***

4.3.1.2 Enablers

This construct refers to the cultural, societal, systematic, or structural forces affecting change in an individual or in the community. This applies to resource availability, access, referrals, employer, government officials, skills, and services. Positive enablers refer to those resources and institutional support that are beneficial, and which support adolescents in making healthy decisions to prevent adolescent pregnancy, for example the availability of and access to health services at clinics. Negative enablers are unsupportive structures for those adolescents that may facilitate risky sexual behaviour amongst them, such as the negative effects of media, as explained in Section 4.3.1.2.8.

4.3.1.2.1 Availability of community care workers

CCWs are community members who serve and respond to the health needs of the community. The main aim is to increase and improve the community's access to relevant health information. CCWs conduct health promotion activities. When asked to describe their jobs, two of the participants responded:

*"I go into the township and do home visits. When I arrive I introduce myself and tell them I'm bringing the health service to them. I explain to them that the government has seen that people in the community are struggling and are being abused by their husbands or children are also being abused. Therefore they have hired us [CCWs] to go to the people and help."**P12***

*"I look after sick people, check if children who are supposed to be in school or crèche that they actually go, to help those who are eligible for social grant to get it, to get treatment from the clinic for those who are very sick and unable to get it themselves".**P13***

4.3.1.2.2 Availability of healthcare services

Ndwayana and Glenmore rural communities are amongstthe leasteconomically developed communities in South Africa. Access to clinics, although available (positive), is difficult for most community members, as they live far away from the clinic and rely on donkey carts for transport. Some people have to walk long distances to get healthcare services (negative). There are no pharmacies nearby offering health services to the Ndwayana and Glenmore communities (negative). This will impact on the motivation to visit the clinics for family planning services, and may be the reason for defaulting onusing contraceptives.

Different contraceptive methods are offered at the clinics, namely condoms, hormonal injection, birth control tablets, and sub-dermal hormonal implants. These methods are freely available at clinics, and sometimes condoms are distributed by CCWs when they visit the communities. However, the CCWs reported that only a few adolescents request condoms.

*"Every child comes and takes the condoms from there [pointing at the reception area], in front it's not a problem…There are only a few that come, you see the same faces all the time most of them do not actually come." **P2***

4.3.1.2.3 Clinics are not client-friendly

The clinics are structured so that certain chronic conditions such as tuberculosis (TB), HIV/AIDS, hypertension, and diabetes, are only attended to on a certain day of the week.

For example, Wednesday is for Antenatal Care, and Tuesday is for HIV patients review, and patients come for their monthly medicine supplies. This structure is not convenient for adolescents, who want to come and get condoms or other contraceptives, as there is no day set for family planning. Adolescents are scared of the stigma associated with the different conditions, especially HIV/AIDS (negative).

> *"Adolescents are not free to go to the clinic for anything whether it is contraceptives or in general if they are sick because of the days that are scheduled for different chronic illnesses e.g. hypertension, diabetes and HIV. Tuesday is set aside for HIV and Wednesday for AN. Therefore going on those days means you are pregnant or have HIV, and it's not fair. The support structures in the clinics is not helping."* ***P1***

4.3.1.2.4 Health promotion activities in the community

Health promotion activities organised by LoveLife and the Ubunye Foundation are conducted in the community hall, with the help of CCWs. These activities are aimed at educating communities on health-related issues (positive).

> *"At school they do talk about sex. There's also someone from LoveLife. He also comes and talks to them about such things."* ***P6***

However, there is a lack of health promotion materials developed for the prevention of adolescent pregnancy, and, if available, they are in English, which most people do not comprehend, as they are isiXhosa first language speakers (negative).

> *"In my opinion or suggestion, this booklet is meant for adolescents but even in those adolescents others are not good in English. So I was thinking of what about having two booklets made in English and isiXhosa. Even for some of us as CCWs, it is difficult to read in English. If I read in isiXhosa it will be easier for me to explain to adolescents but if you give me this English book even I will not understand what is here and they will be asking me questions. So it will be difficult for me to answer because I do not understand."* ***P14***

4.3.1.2.5 Child Support Grant

The CCWs identified the Child Support Grant (CSG) as a contributingfactor to adolescent pregnancy.According to the CCWs, the government's implementation of the CSG has a negative influence on adolescents, as they willingly fall pregnant,in order to receive the monetary stipend every month.

> *"They [adolescents] actually want the social grant, so they do fall pregnant deliberately."* ***P10***

> *"Another thing is the social grant. They [adolescents] think that if one has a baby and therefore gets the social grant,they actually have money."* ***P8***

4.3.1.2.6 Religion

Most of the community members in Grahamstown, Glenmore and Ndwayana are members of mostly Christian denominations. The church as an institution is an enabler, and church doctrines and norms fall under the nurturer construct, because of the influence on the individual, family, and the community. It is further classified as both positive and negative, under the community empowerment domain. Under certain doctrines, sex before marriage is forbidden, which influences how children are expected to behave (positive). However, some doctrines do not allow the use of contraceptives or sex education in any way, which may hinder the use of contraceptives amongst adolescentsas, even if they wanted to, they may not have enough information (negative).

> *"We would like to talk about prevention of pregnancy but it is difficult because of religious beliefs that you are not supposed to talk about sex until you get married or on preventing pregnancy."* ***P1***

4.3.1.2.7 Socio-economic status

As described by the CCWs, the three communities are characterised by poor socioeconomic conditions, such as unemployment and poverty. The CCWs suggested that most adolescent pregnancies were from children being taken care of by a single parent, or whoseparents were adolescents when they gave birth to their children. The socio-economic status of the community was also identified as a contributory factor to adolescent pregnancy, as adolescents sought financial security and support from older men, resulting in cross-

generational relationships. This also contributed directly to adolescents willingly falling pregnant in order to receive the child support grant.

> *"Well it concerns me because you find that the child is quite young and is from a very disadvantaged family where no one works and they struggle to even buy food."* ***P13***

4.3.1.2.8 Media

The CCWs identified the negative impacts of media ascontributing to adolescent pregnancy. They suggested that what children see on television, in magazines, and on the internet influences the behaviour and practices of adolescents.

> *"Some of them [adolescents] see it [sex] on TV and then they want to try it out."* ***P6***

4.3.1.2.9 Access to shebeens

The communities' adolescents have no organised instructive activity during their free time, such as during weekends and holidays, which make them vulnerable to activities that expose them to adolescent pregnancy. One of the activities undertaken by adolescents is going to shebeens*, where they are exposed to older men and alcohol.

> *"Well on weekends there is usually nothing to do. Recently, there has been football game introduced because they don't usually have anything [to do]. They end up going to Shebeens or Taverns, even if they are underage."* ***P3***

4.3.1.3 Nurturers

This construct refers to the degree to which attitudes, beliefs, and actions are influenced, mediated and nurtured by extended family, kin, friends, and the community. Responses which showed support from family members and friends regarding healthy sexual decisions were classified as positive nurturers. Negative nurturers are unsupportive partners, family members, and significant others who negatively influence healthy sexual behaviour. The main people that were found to have significant influence on the community are parents, friends, and community care workers.

4.3.1.3.1 Parents

The CCWs identified a lack of parental supervision on children's activities and their actions as a significantinfluence onthe behaviour of children. One of the respondents said:

* In South Africa, a shebeen is an informal licensed drinking place in a township.

"I think that another cause lies with the parents, because they are also young parents and are not as responsible. For instance I have my child, sometimes let's say I will go out at night and sleep at my boyfriend's/husband place. During that time, there is no one to watch her and to ensure that she sleeps at home. I can take care of her during the day and ensure that she is at home but at night if I go out, then no one does. I think that's where the problem lies, because these children are also parented by young parents as well." ***P5***

The role of parents in the community, as perceived by the CCWs, is to inform and to educate adolescents on issues regarding sexuality and reproductive health. However, the CCWs expressed concern about parents not educating their children, as 'sex talk' is not an easy topic,or they are too shy. Despite their concern, some mothers still talk to their children about sex, in spite of cultural restrictions.

"Parents are not so keen on talking about such things [sex]." ***P6***

Due to the socio-economic status of the communities, the social setup in terms of the living conditions can also affect the behaviour of the child:

"Most children do not live with their fathers and mothers and may have boyfriends who come home and the children see these things and also want to practice it; the houses are small therefore they share rooms with parents and also want to practice what their parents are doing and most parents do not think of that." ***P1***

4.3.1.3.2 Friends/peers

The CCWs identified friends (peer pressure) as having a great influence on the decisions made by adolescents with regard to contraceptive use, as well as sexual debut. They noticed a trend in peer groups where an individual had fallen pregnant, and her friends would also fall pregnant. Within these peer groups, the CCWs identified differences in age groups as a determining factor, resulting in young girls imitating the behaviours of theirelders.

"I think it's peer pressure or some form of competition. Because once one of them falls pregnant, the others follow suit." ***P10***

*"They are scared of being laughed at by other kids if they do not have a boyfriend."****P5***

*"Some friends mature quicker than other and then they copy each other; if a friend sleeps out, the other friend will want to do the same, and they end up falling pregnant"**P8***

*"I think it's peer pressure, they don't want to use the injection and when one sees the other discontinuing family planning, they do the same"**P14***

4.3.1.3.3 Partners/boyfriends

Most children engage in sexual activity with older men or boys in order to gainfinancial security. This may lead to coerced sex, or obligatory sex, to return the favour.

*"Most of these kids usually date people who are older than them, so I would say for some of them it is poverty related. They date these older men because they need money." **P7***

4.4 Intervention planning phase

A total of three workshops were conducted, one in each of the communities. The workshops were conducted over two days in each community. Of the 14 participants that started in the first phase of the study, only 10 managed to attend both days of the workshops in the three communities. For the rest of the participants, three of them managed to come for one day, only, and oneparticipant was away for training on reproductive health services, organised by the Department of Health.

4.4.1 Pre- and post-Intervention questionnaires

Results from the self-administered questionnaire are shown in Figure 6. Ten of the participants managed to take both the pre- and post-intervention questionnaires. Participants 4 and 12 took the pre-intervention questionnaire only, and participant 10 managed to answer only the post-intervention questionnaire. Participant 6 did not manage to attend the workshops. For participants 1, 3, 5, 7, 9, 13 and 14, the responses to the self-administered questionnaire improved in the post intervention questionnaire. For participants 2 and 8, the correct responses to the questionnaire declined.Scores remained unchanged for participant 11.

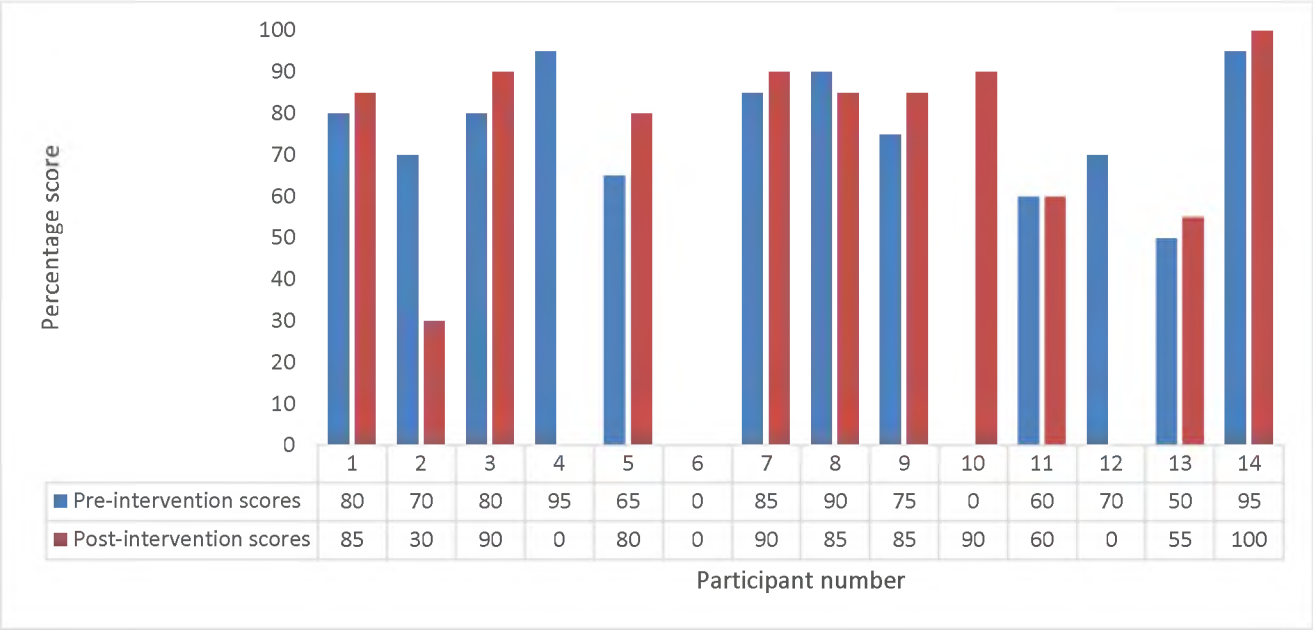


Figure 6:Participants responses from the self-administered questionnaires on adolescent pregnancy

Table 11 shows results for a t-test to compare scores from before and after the workshop.Although Figure 6 shows an increase in scores in 7 of the 10 participants that took both the pre- and post-intervention questionnaire, there is strong evidence (p=0.3459, df=13) that the workshop did not improve the knowledge of the participants, based on the scoresshown in Table 11.Overall, for the 10 participants, there is no difference in mean pre- and post-scores.

Table 11: Paired t-tests results for pre- and post-intervention questionnaires

t-Test: Paired Two Sample for Means

	Variable 1	*Variable 2*
Mean	65.3571	60.7143
Variance	932.5549	1407.1429
Observations	14.0000	14.0000
Pearson Correlation	0.2197	
Hypothesized Mean Difference	0.0000	
Df	13.0000	
t Stat	0.4054	
P(T<=t) one-tail	0.3459	
t Critical one-tail	1.7709	
P(T<=t) two-tail	0.6918	
t Critical two-tail	2.1604	

4.4.2 Themes arising from the workshops

4.4.2.1 Adolescent pregnancy a cause for concern in the communities

CBPR principles focus on issues and concerns that are identified by community members, who are participants and seek to address the determinants of health. The workshop began by reiterating the cause for concern, and when the researcher asked if adolescent pregnancy was a cause for concern in their communities, all of the participants responded loudly, in unison, and nodding.

4.4.2.2 Motivation of participants to participate in the program

Having established the cause for concern as being the increased rates of adolescent pregnancy in the community, and the aim of the workshop and study, the CCWs were motivated to design an intervention and to acquire the knowledge that would help reduce the rates of adolescent pregnancy in their communities. When asked abouttheir motivations forattending the workshop, the participants responded:

> *"My expectations are to learn more about how to effectively educate the young girls about adolescent pregnancy and what the disadvantages of falling pregnant at a young age are"* ***Workshop 1***
>
> *"I would like to know more about the 3 year [hormonal contraceptive] injection and it's dangers or disadvantages; to be able to explain to the adolescents and encourage them that you can have that injection and stay for 3 years without falling pregnant"* ***Workshop 1***
>
> *"I would like to learn more about educating adolescents regarding the advantages and disadvantages of sex with a condom such as how if they use a condom they will not get STIs or fall pregnant"* ***Workshop 3***
>
> *"I hope to get out of this workshop to be equipped to advise parents on how they can communicate or advise their children with regard to sex and contraception"* ***Workshop 3***
>
> *"I hope to get enough information and knowledge that I can share with others"* ***Workshop 3***

*"I hope to gain knowledge that will help me communicate with the community, something that I can share with the community for instance when we have community meetings, about how they can better help and support their children"**Workshop 3***

4.4.2.3 Factors affecting adolescent pregnancy in the community

4.4.2.3.1 Inconsistent use of contraceptives

CCWs discussed the factors affecting adolescent pregnancy in their communities, in order to come up with solutions to help the adolescents in their community, and to makethe consequences of adolescent pregnancy fully understood. Some of the factors contributing to adolescent pregnancy in their communities included inconsistent use of contraception methods, as one of the participants responded;

*"It's because they do not go for their [adolescents] contraceptive injections on time, they don't want to use condoms, so they end up falling pregnant. It is like they [adolescents] have a 'baby making' competition"**Workshop 1***

*"They [adolescents] don't want to use contraceptives"**Workshop 3***

4.4.2.3.2 Lack of knowledge of the contraceptives available in clinics

One of the participants suggested that a lack of knowledge of the contraceptive methods available in the clinics could be contributing to the high rates of adolescent pregnancies in their communities, as she responded:

*"I think it is because of lack of or not enough information about the different contraceptives"**Workshop 1***

4.4.2.3.3 Perceptions of CCWs

The CCWs expressed concern that adolescents are fearful of what the CCWs and nurses will thinkof them for fetching condoms from the clinics:

*"Some of them are even scared to just come get condoms from the clinic"**Workshop 1***

"When they [adolescents] come to get condoms, they feel like now we are going to know that they are sexually active. Another thing is that, I don't know how to put,

*whether to say it is greed or what. But basically, a young girl, who probably comes from a poor family, meets an older man who has money. And her friends encourage her to get involved with that older man because he will buy her clothes and give her money. So that is how sometimes these kids fall pregnant you see"**Workshop 1***

4.4.2.4 Consequences of adolescent pregnancies

Of the consequences of adolescent pregnancy identified in the previous phase of the study during the semi-structured interviews, the one that stood out for most of the CCWs was the well-being of the adolescent after falling pregnant. The CCWs were in agreement that adolescent pregnancy will affect future prospects of the child, as they responded:

*"Firstly, it's dropping out of school, because falling pregnant while in school leads to school dropout so that one can take care of the baby"**Workshop 3***

4.4.2.5 CCWs as change agents in the community

Having discussed the factors and consequences of adolescent pregnancy, the CCWs identified themselves as agents of change in the community, as they responded to roles of CCWs in the community as:

*"I would say it's someone who helps people in the community, like encouraging them to go to the clinic when they are not feeling well. Also to encourage them to bring their children for immunisation and generally the importance of good health"**Workshop 1***

*"According to my understanding, being a community care worker is to be an eye in the community and an ear to listen to people's needs and assist where you can, especially, with health related issues"**Workshop 1***

They also explained that community care workers play a huge role in modifying health promotion messages to the unique needs and cultural values of their communities. They help people in their communities to identify their needs, and to take responsibility of their own health. Some of the participants discussed what would happen to the community if they were not available:

*"If CCWs were not available in the community, a lot of people would die, even adolescent pregnancy would increase"**Workshop 3***

"We would have a lot of defaulters in the community, because we do assist the older people by checking their clinic cards and their return dates and encourage them to come to the clinic. So if there were no community care workers, there would be a lot of defaulters, of which in one word leads to a higher death rate" ***Workshop 3***

4.4.2.6 Solutions to the factors affecting adolescent pregnancy

4.4.2.6.1 Informing the adolescents about the peer pressure

Some of the solutions to address factors affecting adolescent pregnancies in the communities, that the community care workers identified, included informing adolescents about the effects of peer pressure, and counselling them on how to deal with peer pressure, as one of the CCWs stated:

"Just to add to that, I think from a very young age, as a parent, it is important for a parent to help the child understand and accept the family situation. For instance, if the family is not well off, the child needs to understand and accept that in order to be able to handle it. If for example, she has only one pair of pants, she must understand that in order for her to change into something clean, she will have to wash those pants and wear them again. Also, she must understand that, because Bukeka from next door comes from a rich family and gets her hair done at the salon, that she will do the same, but that her mom, when she gets the money, she will go get the hair cream from the store and do her hair at home. So these children need to grow up, understanding the situation of the family from a very young age. So that even at school she won't compare her peanut butter sandwich with Buena's egg and Vienna sandwich because at the end of the day, they will both be full, it doesn't matter what they would have eaten." ***Workshop 3***

4.4.2.6.2 Talking to parents about educating adolescents

The community care workers reiterated the importance of parents talking to their children about some of the factors that would contribute to adolescent pregnancy:

"I think that, we, as community care workers could create an awareness, invite parents, sit them down and talk about this issue of adolescent pregnancy and find solutions" ***Workshop 5***

*"If we as parents could sit down with our children and talk to them. Advise them not to succumb to peer pressure but to do the right thing, even if the other friends are telling your daughter that so and so has a shop and a lot of money go out with them, then they will know that, that is not right. So I think that's what would help, us as parents sitting down with our kids and talking to them, I think it would make a difference"**Workshop 3***

4.4.3 Observation

During the workshops, the CCWs had knowledge of the most commonly used contraceptives,namelymale and female condoms. However, theyhad little knowledge on hormonal contraceptive methods, such as the hormonal contraceptive pill, subdermal implants and injections. This led to a discussion on the benefits of using hormonal contraception, and the common side effects one could experience whilst on hormonal contraceptives.

At the beginning of the interview, the CCWs did not look interested in the conversations, as shown by their body language. Some of the body language observed included distancing oneself from the group by sitting in a corner away from everyone else, while others were seated in defensive postures, with their arms and legs crossed. The researcher managed to get everyone to interact by having an ice-breaker discussion before the workshop. Participants started to engage when IsiXhosa was used by the researcher and translator in the discussions. Communication was a barrier, but the researcher employed some techniques to try reduce this barrier, such as greeting participants in isiXhosa, arranging the seating in a circle during discussions, addressing and facingparticipants rather than the translator, during the discussions.

4.4.4 Feedback forms from workshops

The participant feedback took the form of six questions, which were distributed to the group soon after every workshop day. All participants available at the workshop voluntarily submitted these feedback forms.Participants were asked to provide their opinions, with as full an explanation as possible. However, a few participants chose not to complete all of the questions, or ignored a question. The purpose was to provide the researcher/facilitator with feedback and evaluation of the workshop. In what follows, an attempt is made to analyse

the responses given by the participants. The feedback forms had six questions and the responses as listed below:

1. ***What did you like about the workshop?***

The majority of the participants were firmly of the opinion that their exposure to the workshop was beneficial to their work in the community, as seen in their responses to the feedback questions:

> *"The information is very clear and understandable. It is easy to ask questions. I learnt things I didn't know about family planning. Even the way the facilitator does it, she made it easy to understand."**P1***
>
> *"A lot of things I didn't know I learnt, which has equipped me to discuss with my community"**P5***
>
> *"This workshop is an eye opener to both adolescents and parents, that sex plays a big role in adolescents' lives. Therefore parents should enrich them with the right information."**P11***
>
> *"It was a good and easy session to understand"**P14***
>
> *"The workshop is very good even the facilitator knows her work. The manual too is very good because you can even see what you are talking about (pictures) and is clear."**P10***

2. ***What can be changed or improved in the workshop?***

Most of the CCWs did not respond to this question onthe feedback form. However, one participant suggested that a similar workshop should involve people from the community, to make more of a health promotion impact.

> *"If we commit to going to parent meeting we can effect change"**P8***
>
> *"Can't you give yourself a chance and go with us to schools to teach children. We can all work together"**P7***

3. *What three (3) new things you learnt today?*

In reviewing the answers to this question, there was a wide range of individual answers witha common trend. To most of the CCWs, the different types of contraceptives with the advantages and disadvantages were commonly new information.

> *"Different types of family planning; Different things that adolescents go through when they fall pregnant young; about the menstrual cycle; how pregnancy occurs; stages of behaviour change."**P1***

> *"Menstrual cycle, adolescent pregnancy, advantages and disadvantages of contraceptives"**P3***

> *"Different types of contraceptives"**P5***

Following the topic of contraception, a fairly new concept learnt by the CCWs was that of the menstrual cycle.

> *"It was a good and easy session to understand and to learn because we talk about woman. I learnt more about menstruation and the menstrual cycle."**P7***

> *"I did not know that a person is made from one egg, I thought a person is made from 2 eggs."**P4***

> *"I now know how menstruation happens"**P8***

> *"I also did not know how to calculate the dates of menstruation. Now I know how."**P1***

Some of the responses included:

> *"How to communicate in a respectful way, having patience, not to undermine people"**P10***

> *"That by talking to your child about their feelings while growing up and about hormones many mishaps can be prevented from happening in their lives. Being pregnant while young affects your health, social life and financially."**P9***

*"I learnt a lot because I did not know that if the sperm is ejaculated outside but close to a vagina, a girl can still get pregnant."**P2***

4. ***What information was not clear in the booklet/manual that you need clarification?***

The CCWs gave positive responses to the draft manual, as they responded:

*"Everything was clear and well explained. Even forus to explain to the adolescents, I think it will be easy."**P2***

*"Becoming a woman (puberty) you [the facilitator] explain clearly."**P10***

*"The pictures are clear and easy to understand."**P14***

5. ***What information do you think should be added in?***

Although most of the participants gave positive responses, participants wanted more information on the subdermal implant, which was recently introduced to the primary healthcare system:

*"Add information about boys, what are the different stages they go through."**P2***

*"I would like to know that this 3 year injection [subdermal implant], how you really cannot fall pregnant. I would like to know if maybe when you inject it, menstruation happen like usual or you do not menstruate because some do not with the 2 month injection."**P5***

6. ***Any other comments***

*"Thank you very much for the booklet and information that will enable me to workshop with our adolescents and the community. The facilitator was very wonderful to work with, she makes information very easy to understand"**P1***

*"If only this information can be conveyed to the adolescents and make them understand that it's for their wellbeing and future."**P7***

*"I would also like other information about adolescent pregnancy, if we can go to schools and teach children because at home we do teach them but some do not get this information or these teachings."**P9***

*"All children should be taught about sex to both boys and girls, so they can protect themselves from contracting diseases."**P8***

4.5 Implementation phase

Themes arising from the focus group discussions conducted during frequent visits to the communities are reported in the following section.

4.5.1 Places of implementation

The materials and activities developed were integrated into community development activities carried out by two non-governmental organisations in Glenmore, Ndwayana, and Grahamstown by the CCWs.Implementation of the health promotion activities for the prevention of adolescent pregnancyhasbeen conducted in parallel with the CCWs' government assigned roles. The implementation of these activities was conducted at clinics, in community members' homes, and in schools. In schools, the CCWs use the Life Orientation lessons to teach about adolescent pregnancy and contraception.

*"And the thing, with this adolescent pregnancy- we do go to the schools to talk to them about it. We tell [adolescents] them that falling pregnant shouldn't be a competition, that they shouldn't fall pregnant so they can get grants but that they must come to the clinic for contraceptives. So there are a few that do come to the clinic"-**Glenmore visit 2***

*"We talk here at the clinic because most of them [adolescents] they come here to the clinic."-**Glenmore visit 1***

*"P: Hum last week, we started going to the schools but we went for three days. So we have to talk to the principal about another session for family planning or its nutrition whatever the programme …… we go there then we continue. So, but we have to give her, whatever a month then we come and give dates and then every week you know, so we're going to do that."**Glenmore visit 4***

An implementation data form was used to gather information on the demographics of the people in the community whom the CCWs talk to about the prevention of adolescent pregnancy, in order to monitor the progress of the health promotion activities. Data was collected from January to March 2015. Figure 7 shows the sites andplaces where health promotion for the prevention of adolescent pregnancy occurred. Most community members were met in their homes during home visits (57%) by the CCWs. Twenty-three percent of the health promotion activities for the prevention of adolescent pregnancy occurred in clinics. CCWs also went to schools (13%), and "Other" (7%) refers to unscheduled meetings,

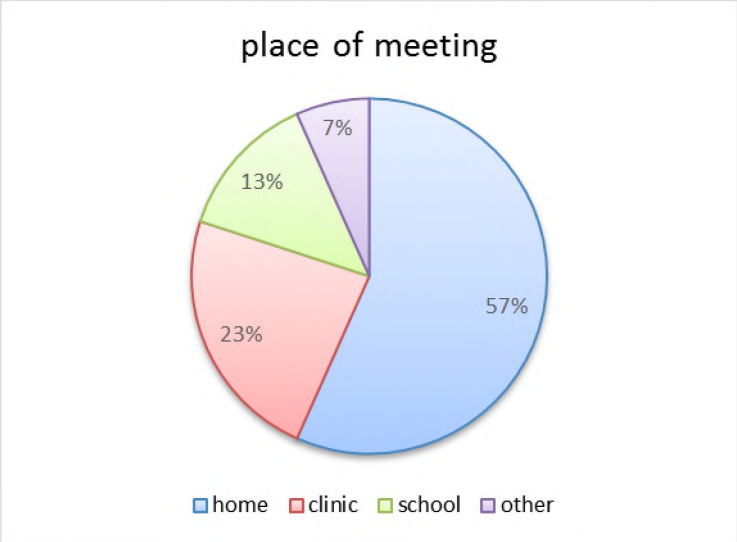


Figure 7: Sites of health promotion activities

such as when passing by anadolescent on the way home.

4.5.2 Challenges to implementation

Forthe duration of the implementation phase, the CCWs faced certain challenges in conducting the health promotion activities for the prevention of adolescent pregnancy.

4.5.2.1 School calendar

The CCWs face certain challenges with implementation when it comes to the school calendar. Learners from the schools start preparing for end of year exams in October, and therefore access to schools after October or during school holidays becomes a challenge.

> *"Our aim is to go to school because there are young mothers there. But they are busy with exams, so it's difficult to arrange with them. I think even after October it will be difficult because they will be preparing for exams. So for schools, we are not going to do*

*this year, we are going to see, especially the adolescent pregnancy, we are going to do it next year."**Glenmore visit 2***

*"Like we said last week, the problem we don't want to go to the schools yet is because we know that they are busy preparing for exams. So they are not difficult, if we go there and ask the principal what about next week Wednesday, we would like to do this and this and this. Then she will shift the schedule of the school and give us permission. So we know that they're going to give us permission next year if we go there."**Glenmore visit 3***

4.5.2.2 Government CCWs schedule

As mentioned in the previous section on the demographics of the CCWs (section 4.2), the CCWs are government employed, and have government responsibilities to meet. Although they have successfully introduced the prevention of adolescent pregnancy material to their activities, the CCWs' work for the government still takes precedence over introducedhealth promotion activities.

*"Work is fine really but since last week, we've been having ward days so we have been in the whole time and Monday we left a bit late so I think each person saw two people for home visits."**Ndwayana visit 3***

4.5.2.3 Weather

CCWs did not have transport to go for home visits, and had to walk long distances into the community. This made it difficult when the weather was not suitable for walking, such as when it rained. This also meant that people from the community could not walk to the clinics.

"Yesterday it was raining very hard so there was only one mother who came through." ***Ndwayana visit 3***

*"We are supposed to be in the field today, but it's wet and raining so we cannot go."**Ndwayana visit 1***

4.5.2.4 Lack of support from the superiors

CCWs did not feel supported or encouragedby their superiors, and so lacked the motivation to continue with health promotion activities in the community.

"Even if we've done well, for instance it's November now, in September we achieved way more than the target we were given in counselling and testing and also with the flu patients. Do you understand, we did so well?Even last month out statistics was great but not even once will she say well done, just to encourage us; she is always criticising us, always." ***Ndwayana visit 3***

4.5.2.5 Unavailability of resources

One of the challenges the CCWs identified was a lack of written health promotion material for the prevention of adolescent pregnancy. One of the participants explained:

"Sometimes we [CCWs] don't even have the pamphlets but I've noticed that people do come and get those TB and STI pamphlets and go read them at home but not for the prevention of pregnancy." ***Glenmore visit4***

"When we go to the schools, can you please bring us some books [booklets on adolescent pregnancy] so that we can give them? You can also bring condoms as well." ***Ndwayana visit 1***

The CCWs identified the inaccessibility of female condoms due to their unavailability at primary healthcare centres as possibly contributing to adolescent pregnancies in their community. Even when male condoms were available, the adolescents were not using them consistently or correctly. One of the CCWs encountered anadolescent who wanted treatment for a sexually transmitted infection, although she claimed to be using a condom as a method of contraception.

*"There's a girl who is friends with my daughter. She came to me and asked for medication for STI, I asked her if she uses a condom and she said 'yes', but I was like, 'you cannot be asking for medication for STI if you do use a condom'; but she insists they do use a condom and also told her that she would have to bring her boyfriend with to the clinic, she came yesterday."****Glenmore visit 2***

One CCW gave theexample of a boy who was not comfortable with using the male condoms because of the lack of a size that fits his penis, and suggested the use of the female condom. However, female condoms are few in the clinics.

"I told him [adolescent boy] to use a condom when having sex and [suggested to him] asked him about [his girlfriend] using female condom because he had a problem with the male condom but was afraid of HIV. At least he bought that, but female condoms are not available we only have male condoms, I don't think we have a lot." ***Glenmore visit 2***

4.5.3 Solutions to some of the challenges to implementation

The community care workers,despite thechallengesfaced,as mentioned in section 4.5.2, managed to come up with solutions to implement health promotion activities for the prevention of adolescent pregnancy.

4.5.3.1 Manual for the prevention of adolescent pregnancies

Despite the challenges faced, CCWs reiterated the importance of the draft manual in carrying out their activities as materials for the prevention of adolescent pregnancies.

"If there are no pamphlets, I was thinking of for example if I'm going to Qaqambile to do let's say a menstrual cycle workshop; so I have my training book [facilitation manual], we have menstrual cycle pages, I have to photocopy in the meantime a page of what I am doing with them and then I give a child a copy when I finish, of a menstrual cycle." ***Ndwayana visit 2***

"It [the manual] has been helpful and has made a difference because now there are fewer adolescents who fall pregnant because we encourage them to do family planning and to for the 3 year implant." ***Ndwayana visit 2***

"Yes we're [CCWs] going to have training book [facilitation manual], the training book that we have to use when we're having workshops. For example, we planned to go to Qaqambile community next year if we can manage. Because in the community mothers are crying of people who are age of 12 and 13 years have sex. So I was with one of the mothers and she told me that her child is 13 years but she managed to have sex and came in themorning. So I said, the child is in school at Qaqambile grade 7, standard 5 yes. So I was sad because I think the child is [young] little for sleeping over the whole night and come back in the morning the next day. So I was thinking that we could have a huge or a big task to go to Qaqambile to do training with those children. And I was thinking that we have to group those who are already menstruating. Because it's

difficult, the child of this mother is 13 and she is already menstruating but she didn't come for family planning. It is dangerous for this child, she will fall pregnant, I don't know but it's our plan for next year." ***Ndwayana visit 3***

4.5.3.2 Sharing information in the community

The CCWs encouraged each other to share information withadolescents in the community, which is not dependent on the school calendar:

*"She [one of the CCWs] is also encouraging us to not only talk about these things here at the clinic only, but also share the information with our friends and relatives. As long as the person will pass the information on and share it with others in the community. And also that we shouldn't just wait for schools to re-open, we can share information about adolescent pregnancy in the community so that people can help each other through this information. So basically, our focus shouldn't be on only the people who come to the clinic, but like we discussed before, adolescent pregnancy affects everyone."****Ndwayanavisit 3***

4.5.3.3 Contraception register

In the clinics, CCWs have a register, which has all the names and contact details of people on chronic medication. The CCWs use that information to contact people, and to remind them when they are due for a refill. They usually do this either by visiting the person and letting them know in person, or by sending them a message over the phone. The CCWs suggested a contraception register similar to the 'chronics' register, to be implemented so that when they go to the community members, reminding them of the medication due, they can also remind adolescents who are due for their contraceptive medication.

*"I think having a book with their return dates would help, just like we have for the chronic patients. Because for the chronic patients, if you cannot see the person at the clinic when it is their due date, you can check in the book. I think that would help as well, for us to know the return dates of those who come for family planning. It would be great if we had a book like that, because we do check on the chronics and when someone hasn't been to the clinic for a while we go investigate what the problem might be. So if we could have a book with the names and return dates of those using the depo,Nuristearate®etc. that would help."****Glenmore visit 3***

"We have small books, when the chronic [patients] come to the sister, we take the chronic's book we write their names and their TCA [to come again] date. And if the chronic person doesn't come on the date, the TCA, we go there and ask the chronic patient what the problem is and why they didn't come on the 21st for their medication. So Mandy suggests that we have a small book for family planning so that if they don't come back on their date, we can go back and collect them to come to the clinic. So that we know that we have 20 family planning students this month. So this 20 must come on the 1st or whatever in January, so we write those names and dates." ***Glenmore visit 3***

4.5.3.4 Working with teachers in schools

CCWs suggested that working with teachers to encourage the use of contraceptives amongst adolescents in schools would help to increase the number of adolescents coming to the clinics for contraceptives.

"The teachers do come to the clinic when they have problems, so we can also work with them to encourage the children to come to the clinic you see" ***Glenmore 3***

4.5.4 Information given to adolescents

Amongst the information given to adolescentsis information on the options available to them at primary healthcare:

*"Yes, but we tell them [adolescents] that if you came here for the first time and the sister does not put an implant, you must use a Nuristearate® or Depo Provera ®or whatever. And then after, when they come back for the second time, then the sister will do it [insert subdermal implant]."****Ndwayana visit 2***

*"Another thing, we also encourage them to come to the clinic and find out more information about these things. Because you find that they have some information that they get from others or things that they think will happen to them if they do it. Some think that their bodies will swell or they will have cramps. But we encourage them to come and get correct information about these things from the clinic even if they have not decided to do it yet. So some of them come here just to get information but they end up doing it."****Ndwayana visit 3***

4.5.5 Perceived reasons for non-adherence to contraceptive use

During home and school visits, the CCWs attempted to understand reasons for non-adherence and inconsistent use of contraceptives among the adolescents.

4.5.5.1 Condom sizes

CCWs also shared their experiences of dealing with adolescents with regards to condom and contraceptive use. One of the CCWs shared a story of anadolescent boy's experience with condom use:

> *"On Monday I counselled a guy here for testing for HIV/AIDS. I saw that this guy comesto the clinic every two to three months; even this year he has come here 5 times. On Monday [it] was the 5th time [he was getting the HIV tests done] doing HIV test. So I asked why, [he] came since I had educated him on the use of a condom before. I asked him what was going on because it seemed like he was not using condoms at all but was scared of contracting HIV. The adolescent boy replied "My problem is that I have small penis." He took a pen and said to me, "My penis is big [thick] like this and it is small [short]. So when I put a condom on my penis, the condom will roll and then squeeze my penis and then I didn't have to feel this intercourse. So I feel this pain of the ring because it's too tight and then it's getting inside my penis. "**Glenmore visit 2**

4.5.5.2 Loss of clinic cards

When adolescents are on hormonal contraceptives, such as the pills and injection, they are given clinic cards, which are written return dates for the next medication refill. However, CCWs expressed concern over the loss of the cards by the adolescents, resulting in non-adherence to contraceptive therapy.

> *"They [adolescents] forget their datesor they lose their clinic cards. They say they've lost their cards or that's their excuse that they're not coming?Or sometimes they forget their dates and then they become scared of coming back because they are scared to be shouted at"* ***Glenmore visit 3***

4.5.5.3 No perceived need for contraception if they have no boyfriend

CCWs expressed concern over adolescents who stop their treatment when they are not in a relationship:

"Some adolescents only come for family planning only because they have a boyfriend, there's one who did that" ***Ndwayana visit 2***

*"They [adolescents] just come for family planning when they know that they are sexually active, if they're not at that period, they don't see the need for it."****Glenmore visit 3***

4.5.5.4 Perceived side effects of contraception

Some of the side effects of the hormonal contraception, such as spotting, have resulted in some adolescents defaulting in contraceptive therapy.

"I encountered a problem relating to the 3 year hormonal contraceptive [subdermal implant]; this young girl I met said that she wanted it removed because she's been on her period non-stop ever since" ***Glenmore visit 4***

"I also encountered the same problem when I asked the girl how her period was before she started this contraceptive method, she said it was normal. However now she will skip a day and be back on her period again." ***Glenmore visit 4***

4.5.6 Socioeconomic status

The CCWs described most of the members of the community as of low socio-economic status.

"The living conditions of the community members are not good.Their houses have only two rooms and many people live there; it's about maybe six or seven people living in a two room house. And if you look at the furniture, it's only the bed and a small cupboard, a broken cupboard. For example, this family it's about four family members; two children and two adults who are sleeping in the same bed. The older boy is about 14 years old turning 15. They also sleep in the same bed, it's a one room house. Then when I went, like when we went there and listened to this information we were like my God! And now it comes back when you have to write it down because now you have to tell the story about that information." ***St Marys DCC visit 1***

4.5.7 Population catered for by the community care workers.

During home visits, CCWs are each allocated a certain section of the community for which they are responsible.In the Grahamstown area, the community care giver caters for 24

families. In the Ndwayana and Glenmore communities, there are two nursing sisters per 302 households, and each have one CCW per 75 households. Unlike Grahamstown and Glenmore, which are closely knit communities, Ndwayana is spatially distributed, and the CCWs have to walk long distances to reach community members.

*"P: I've got 24 families"-**St Mary's DCC visit 1***

*"How many are we again, there's 4 of us, but currently there's now 3 of us because the other one started school on the 8th. But there is 4 of us, 75 households each. There are about 302 households. This is better than Glenmore"**Ndwayana visit 5***

4.5.8 Role of parents in the community/factors contributing to adolescent pregnancies

Parents were identified by the community care workers as contributing to the number of adolescents falling pregnant in the community, because of the lack of communication between parents and children. The CCWs reiterated the importance of including parents and grandparents in their health promotion activities, as some of them have the knowledge to help with the health promotion activities for the prevention of adolescentpregnancies. Some parents have already started working with CCWs to conduct health promotion activities for the prevention of adolescent pregnancies.

*"Maybe it is partly our fault as parent, we don't tell them about what they need to know things like) at the age of 13 or 12 years you can be [start] menstruating, you see. Sometimes it's the parents, we don't talk with the child about what's going on, what's right, what's wrong. If you fall pregnant, you will not finish at school. And maybe in her home there is no person who is educated so she doesn't mind having that problem, not going to school. Because all those people here they are not educated."**Glenmore visit 3***

*"My gran used to tell me all the time that as a female, I will reach a certain stage whereby certain things will happen to me, so I don't understand a situation where a child will have to be helped by a principal at school after soiling themselves. The parents are responsible to educate their children about such things. And nowadays, they start their period at such an early age like 11 unlike us who would start when we were about 16. So as parents must be able to talk to our children, get them pads, know their dates etc. Because it will be very embarrassing for her to be seen by a man at school in such a situation."**Glenmore visit 3***

*"Some of them [adolescents] live with the grandparents and the grandparents they are not open and maybe they don't know how to talk about it, you see. Yes the grandparent is there but I'm not comfortable to share with him. Then at least if you prepare the parent first then it will prepare the child. But I think about age group it will work well but it's when I'm thinking about…."- **St Mary's DCC visit 1***

*"We do talk about it to parents in the community because they in turn make their children come for injections or check-ups if they are pregnant)" **Ndwayana visit 1***

Figure 8 shows the demographics of the community members visited by the CCWs.

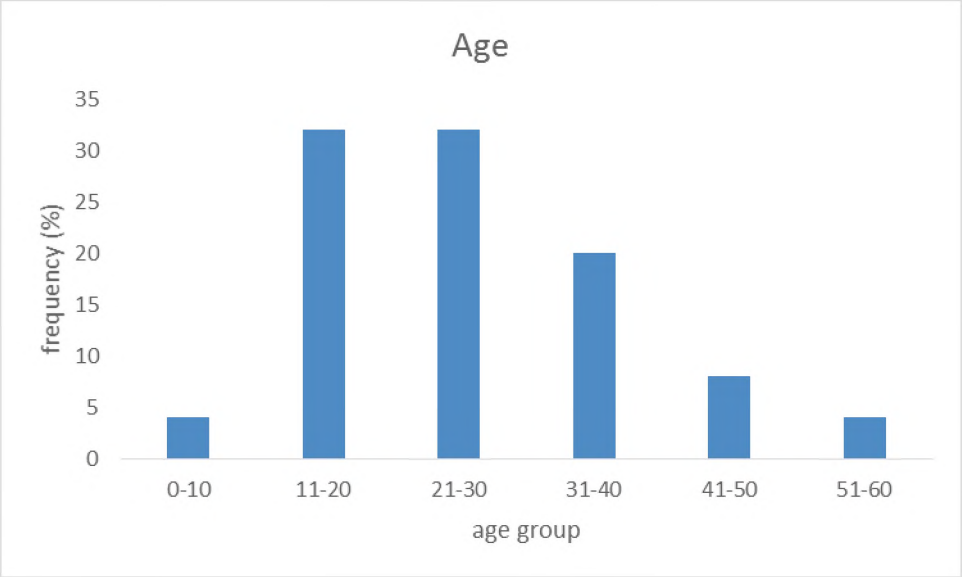


Figure 8: Age groups seen by CCWs

4.5.9 CCWS concern and consequences of adolescent pregnancies

4.5.9.1 Welfare of children

Adolescentssometimes willingly fall pregnant, and the CCWs are concerned about the welfare of both the mother and child, as these mothersaregenerally not employed.

"Don't laugh she told me she was planning another one, I was so angry, I wished I could just grab her and beat her up. This kid, she's about what 14 or 15 years old and

*she tells me she's planning to have another baby. We are planning on it mama". Being a parent is a tough job but we take it easy as if it's very easy. Of course it's very easy if you do things right"**Ndwayanavisit 3***

4.5.9.2 Discontinuation from schools

CCWs are concerned that, if anadolescent was to fall pregnant, their employment opportunities are reduced, as most of them do not go back to school after they have given birth.

*"P: It's because Labantwana (the kids) most of them don't go back to school. So I think the future is to go to school and nothing else. So that's why I wanted to say early adolescent pregnancy, I want them to go to school and educate our grandmothers and our grandfathers. And they end up working at (inaudible) and we don't want any of them to end up working there. We want all of them to become graduates" **Ndwayana visit 2***

4.5.10 Importance of involving men in the program

As discussed in the workshops with regard to involving men and boys in the implementation of the health promotion activities for the prevention of adolescent pregnancy as one of the strategies, the CCWs reiterated the importance of involving men in their activities. Some of the CCWs expressed concern as tohow it is difficult for single mothers to talk to adolescent boys about puberty and sex related issues.

*"I don't know now when it comes to single parents because I'm a single parent. So maybe I will be a bit embarrassed to talk to him since I'm female. But it's better when there is an uncle who can talk to him and tell him that at around 12 or 14 years this is what will happen to him. The child might not know about it and hide it from you but you have to talk to him about it. But the challenge is that, we have the tendency of shying away from discussing certain things with our male children. You can't talk anything to a male child" **Glenmore 5***

"Even with the boys, that when they reach a certain age, this is what is going happen to them. Because they end up learning on the streets from others that's why you have to make sure that you start the education at home. Because sometimes when they [adolescent girls] meet these boyfriend and they convince them that they love them; they

*easily believe that because they never hear it from you. They end up thinking that it's best to stay there because they tell me every day 'I love you sweetheart, I love you darling' so we as parents also have to take responsibility, and you can't just assume that your child is not sexually involved because it does not happen only at night"**Glenmorevisit 3***

In their activities, the CCWs involved men in conducting workshops with adolescents, as well as talking to young boys about the prevention of adolescent pregnancies in the community. Figure 9 shows the percentage of female and male community members whom the CCWs talked to during their home visits, and those who come to the clinic.

*"There are a few old men that are coming. Well there is even one who is helping us, is helping us by going to the schools and having talks with them" **Ndwayana visit 2***

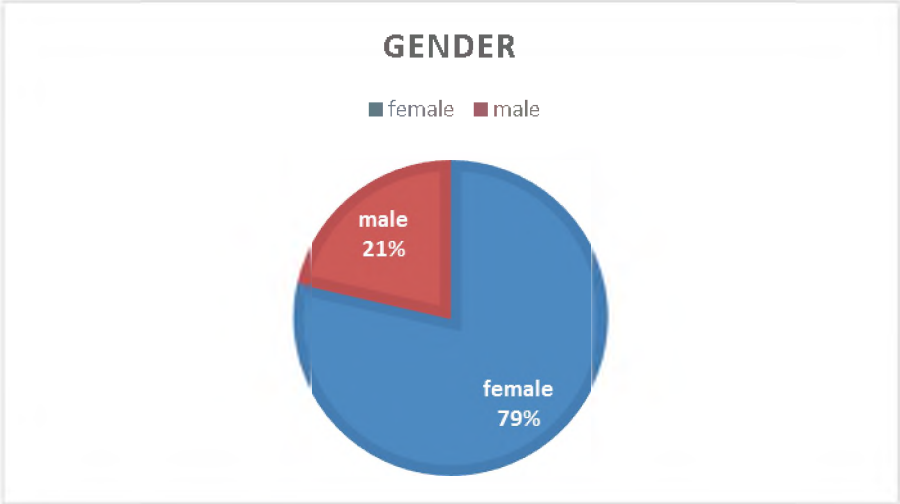


Figure 9: Gender of community members seen by CCWs

4.5.11 Increase in adolescents visiting clinics

Due to the commencement of health promotion activities for the prevention of adolescent pregnancies in the community, the CCWs confirmed the number of adolescents visiting the clinics had increased.

*"It is different now. They [adolescents] arenow willing to come and use the contraceptivesand the statistic is up now"**Ndwayana visit 2***

4.5.12 Motivation to continue with health promotion

Although the CCWs faced a lot of challenges in implementing health promotion activities, theyweremotivatedto continue. As one of them expressed,they wanted a reduction in the number of adolescents that fall pregnant.

> *"I want more information because I want to improve my community, having no STIs, no adolescent pregnancy, nothing I don't want for there to be anything that brings them to the clinic, young girls being pregnant and having STIs at a young age. I want to know that I am making a difference"**Ndwayana visit 2***

4.5.13 Success stories

The CCWs shared experiences of how the health promotion activities were going in their areas of the community.

> *"I encouraged one adolescent who had come here, I told her about the implantand encouraged her to do it but at first she refused. She said that it looked painful. So I lied to her, just to assure her, and said it's not painful I also have, but in actual fact I don't have it. So she went in [to see the nurse], when she got out she was smiling and said that she had done it. And then there was another one, I thought she had only one child only to realise that she actually already had 3 kids. I also encouraged her to do it, so she can at least have space in between her kids and be able to go out and spend time with her boyfriend as well. And also another advantage is that, if she does it, she will no longer have to come to the clinic regularly for an injection etc. So all in all, they do show some interest when you tell them about it." -**Ndwayana visit 3***

> *"For me, for instance I went to the Vuyo[†] household and I spoke to Nandi's[‡] daughter. I spoke to her about coming to the clinic for contraceptives, testing and to do a pap smear. I sat down with her and explained to her that if she doesn't want to have a baby she must go to the clinic for contraceptives and that it is freely available at the clinic. And I know that these kids like partying and having a good time that's why they don't want to have a baby to tie them down. So I told her that all of these things are available at the clinic. She did come to the clinic this one time and I spoke to her, she said that she had*

[†] Name changed
[‡] Name changed

*come to do a pap smear. I also asked her if she had been tested and she said she did get tested at the same clinic."**Ndwayana visit 4***

4.6 Design of the facilitation manual

An information booklet for adolescents previously developed by another Master of Pharmacy candidate for an educational intervention on the prevention of adolescent pregnancy was used as a template to develop a health promotion manual for the CCWs in the two NGOs in the current study. The contents of the "Preventing teenage pregnancy" booklet (Draft 1) are shown in Figure 10.

to know

Page	WHAT IS IN THIS BOOKLET?
2	1. What is menstruation?
2	2. What is the menstrual cycle?
3	3. Diagram of menstrual cycle
4	4. Details of the stages of the menstrual cycle
6	5. What leads to pregnancy?
7	6. What is fertilisation?
8	7. Why should teenage pregnancy be avoided?
9	8. How to avoid pregnancy
9	9. What is abstinence?
9	10. Why is abstinence recommended for teenagers?
9	11. What are STDs and HIV/AIDS?
10	12. How do other contraceptive methods work?
12	13. Will taking the 'pill' or injectable contraceptive protect you from getting STDs and HIV?
12	14.How to take precautions to protect yourself from getting STDs and HIV/AIDS?
13	15. Misunderstood information about contraceptives
14	16. What is peer pressure?
14	17. How to cope with peer pressure
15	18. What is statutory rape?
15	19. What are your rights as a teenager?
15	20. How can others in the community contribute towards preventing teenage pregnancy?

1

Figure 10: Contents of the original 'Preventing teenage pregnancy' booklet

The modification of the booklet into a training manual was informed by key literature for the development of activities for the prevention of adolescent pregnancy, and the findings from this study's semi-structured interviews. The manual was designed as an A4 book with large text (Calibri, font size 12) to increase visibility for the users. Complicated words and

medical jargon were avoided, and if used, were explained in full detail for better understanding. The use of pictures in demonstrations was increased,based on the education level of the participants (shown in Table 5), so as to enable visual learning,reduce the amount of wordsused, and to improve readability. Research suggests that the use of images toillustrate concepts, and the provision of visual memory cues, can enhance the learning process (176). The following sections were included in the manual:

- **Title**: Includes a statement on the use of the manual.
- **Introduction**: This section introduces the participants to the Millennium Development Goals (MDGs) and how these relate to the prevention of adolescent pregnancy, with the overall goal of improving maternal health and reducing maternal mortality rates by targeting adolescent pregnancies. This section also includes the overall objectives of the workshops and expectations.
- **Adolescent pregnancy**: This section is introduced withlearning outcomes that the participants should anticipate from the section. It defines adolescent pregnancy, and discusses factors contributing to adolescent pregnancy. Factors contributing to adolescent pregnancy where preliminarily found in literature, and supported by the results from the semi-structured interviews (as shown in the themes emerging). The section was designed to include two activities, where participants would discuss the consequences of adolescent pregnancies.
- **Becoming a woman**: Educates on the physical changes of a woman's body during puberty, with anemphasis on the menstrual cycle. Based on literature and the information providedby the CCWs during the interviews, most adolescents fall pregnant because they do not understand the changes going on in their bodies, and do not realise that their bodies are ready to conceive.
- **Why adolescent pregnancy should be avoided**: Includes information on the social, economic, and health consequences of early child-bearing. An activity was included where participants discuss additionalconsequences of adolescent pregnancy.
- **Preventing adolescent pregnancy:** This section describes different methods of contraception, namely the barrier and hormonal methods found in the primary healthcare centres in South Africa. The section also clarifies some of the myths or half-truths about falling pregnant. Participants are given an opportunity to discuss the

benefits and disadvantages of different contraceptive methods. Basic steps of using condoms are given in an easy to follow table, with pictorials for illustration.

- **Pregnancy and HIV:** Early sexual debut amongst adolescents not only exposes them to unwanted pregnancies, but also exposes them to a risk of contracting sexually transmitted diseases, including HIV/AIDS. This section discusses the prevention of contracting such infections.
- **Basic counselling skills:** This section reinforces basic counselling skills needed toeducateadolescents.
- **References**: gives a list of the literature that was used or reviewed for the development of the manual.

4.6.1 Readability tests

This section outlines the results from the readability testsas calculated by the online calculator.

4.6.1.1 Pre-intervention phase readability

The results stated in this section are based on the readability scores of the pre-intervention phase manual.

4.6.1.1.1 Text statistics

The manual was divided into 58 sections, which were assessed for readability with the SMOG, F-KGL GFI, CLI, ARI and FRES readability formulae. The number of sentences per section ranged from 2 to 23, with the number of words per section ranging from 35 to 246, as shown in Table 12.

Table 12: Text statistics

Section of the manual	sentences	words	Number of complex words	% complex words	average words per sentence	average syllables per word	number of characters
1-Introduction	10	197	37	18.78	19.7	1.57	961
overall Learning objectives	5	98	34	34.69	19.6	2.01	593
adolescent pregnancy	3	54	9	16.67	18	1.48	263
activity: discussion	6	59	9	15.25	9.83	1.47	275
2.2.1 Lack of education	6	92	15	16.3	15.33	1.62	450
2.2.2. Abuse	3	69	14	20.29	23	1.77	384
2.2.3 Rape	5	49	4	8.16	9.8	1.27	198
2.2.4 Age gap	4	48	2	4.17	12	1.27	189
2.2.5 Alcohol and substance abuse	5	55	13	23.64	11	1.67	254

2.2.6 Peer pressure	3	31	4	12.9	10.33	1.45	136
2.2.6.1 Coping with peer pressure	10	198	28	14.14	19.8	1.6	977
Summary	3	127	16	12.6	42.33	1.44	580
3. Becoming a woman	4	83	7	8.43	20.75	1.4	391
3.1 Puberty	5	68	10	14.71	13.6	1.47	281
3.1.1 Changes in the body during puberty	3	69	3	4.35	23	1.3	290
3.1.2 Changes in feelings	3	33	6	18.18	11	1.61	152
3.2 The female reproductive system	3	43	7	16.28	14.33	1.67	209
3.2.1 Vagina	7	80	12	15	11.43	1.55	359
3.2.2 Cervix	6	83	8	9.64	13.83	1.47	368
3.2.3 Uterus	6	73	5	6.85	12.17	1.44	306
3.2.4 Fallopian tubes	5	41	6	14.63	8.2	1.44	173
3.2.5 Ovaries	4	38	3	7.89	9.5	1.39	157
3.3 Menstruation and the menstruation	12	160	25	15.63	13.33	1.56	716
Day 1 -14	12	235	28	11.91	19.58	1.43	993
3.4 How pregnancy occurs	10	159	24	15.09	15.9	1.53	715
3.4.1 Signs and symptoms	4	105	25	23.81	26.25	1.67	533
4. Why adolescent pregnancy should be avoided	3	50	9	18	16.67	1.6	257
4.1 Health effects of teen pregnancy	12	181	21	11.6	15.08	1.56	884
4.2 Social effects of teen pregnancy	6	97	8	8.25	16.17	1.49	486
4.3 Financial effects of teen pregnancy	8	119	18	15.13	14.88	1.62	592
4.4 Emotional effects of teen pregnancy	10	167	13	7.78	16.7	1.41	760
Activity: discussion	3	41	8	19.51	13.67	1.71	224
5. Preventing adolescent pregnancy	2	35	7	20	17.5	1.57	175
Activity: discussion	4	41	8	19.5	10.25	1.59	207
5.2.1 Abstinence	8	78	12	15.38	9.75	1.51	353
5.2.2 Delaying sex	4	62	4	6.45	15.5	1.45	257
activity: discussion	5	67	12	17.91	13.4	1.6	33
5.3 Contraception	4	57	11	19.3	14.25	1.65	317
5.3.1 Barrier methods	5	46	6	13.04	9.2	1.61	226
5.3.1.1 Male condoms	14	235	25	10.64	16.79	1.47	1048
activity: discussion	3	72	13	18.06	24	1.54	318
5.3.1.2 Female condoms	11	187	21	11.23	12	1.49	835
activity: discussion	3	73	13	17.81	24.33	1.53	319
5.3.2 Hormonal	9	108	21	19.44	12	1.66	543
5.3.2.1 Birth control pills	6	59	5	8.47	9.83	1.3	241
Common side effects and benefits	16	322	47	14.6	20.13	1.53	1262
5.3.2.2 Injections	7	66	17	25.76	9.43	1.79	335
Common side effects and benefits	2	88	20	22.73	44	1.73	456
5.3.2.3 Sub-dermal implants	8	103	15	14.56	12.88	1.6	490
Common side effects and benefits	4	113	21	18.58	28.25	1.69	565
5.3.2.4 Emergency contraception	7	86	19	22.09	12.29	1.74	445
Common side effects and benefits	1	13	3	23.08	13	1.77	56
Can the emergency contraceptive pill be used as normal hormonal contraceptive	3	44	12	27.27	14.67	1.86	240

activity: role playing	2	35	4	11.43	17.5	1.49	159
6. Adolescent pregnancy and HIV	7	195	40	20.51	27.86	1.66	996
6.1 Dual protection against pregnancy and STIs	15	201	50	24.88	13.4	1.84	1098
Activity	23	246	13	5.28	10.7	1.28	939
Basic communication skills	22	405	71	17.53	18.41	1.65	2024

4.6.1.1.2 Readability scores

The SMOG, F-KGL GFI, CLI and ARI formulae compute grade levels required for a person to understand the given text andthe FRES computes the values from 0-100. The results are shown in Table 13.

Table 13: Readability scores according to F-KGL, ARI, CLI, SMOG, FRES and GFI formulae

Section	F-KGL	GFI	SMOG	CLI	ARI	FRES
1-Introduction	10.84	14.52	12.23	11.40	10.60	11.41
overall Learning objectives	15.91	20.69	15.69	19.34	16.76	17.26
adolescent pregnancy	9.49	13.36	11.23	10.87	9.37	10.49
activity: discussion	6.28	9.15	8.16	10.07	5.05	7.76
2.2.1 Lack of education	9.68	12.25	10.11	12.15	9.16	10.47
2.2.2. Abuse	11.95	14.22	11.46	14.91	12.35	12.91
2.2.3 Rape	3.56	6.38	6.23	6.88	2.40	5.17
2.2.4 Age gap	4.59	6.73	5.51	6.46	3.01	4.99
2.2.5 Alcohol and substance abuse	8.80	12.90	10.10	10.32	5.71	8.71
2.2.6 Peer pressure	5.59	8.44	7.36	8.95	4.27	6.86
2.2.6.1 Coping with peer pressure	10.99	13.39	10.52	12.52	11.50	11.51
Summary	17.69	21.19	14.34	12.23	19.92	15.50
3. Becoming a woman	9.47	11.53	8.62	11.30	11.04	10.32
3.1 Puberty	7.23	10.31	8.98	7.61	4.68	7.09
3.1.1 Changes in the body during puberty	8.70	10.29	6.83	8.15	9.12	8.03
3.1.2 Changes in feelings	7.31	11.39	8.89	10.17	5.42	8.16
3.2 The female reproductive system	9.97	11.94	9.91	12.15	8.61	10.22
3.2.1 Vagina	7.33	9.42	8.62	9.24	4.94	7.60
3.2.2 Cervix	7.10	9.24	7.64	9.45	6.26	7.78
3.2.3 Uterus	6.06	7.24	6.33	8.01	4.33	6.22
3.2.4 Fallopian tubes	5.08	7.86	7.49	7.73	2.45	5.89
3.2.5 Ovaries	5.01	5.90	6.36	7.06	2.46	5.29
3.3 Menstruation and the menstruation	7.72	10.26	8.64	9.24	5.84	7.90
Day 1 -14	8.46	11.18	9.15	8.05	7.06	8.09
3.4 How pregnancy occurs	9.06	12.54	10.16	10.66	8.40	9.74
3.4.1 Signs and symptoms	14.35	19.26	15.16	13.42	14.90	14.49
4. Why adolescent pregnancy should be avoided	10.35	12.82	11.23	13.76	11.04	12.01
4.1 Health effects of teen pregnancy	8.88	10.54	8.89	12.13	8.97	10.00
4.2 Social effects of teen pregnancy	8.56	9.65	7.89	12.89	10.15	10.31

4.3 Financial effects of teen pregnancy	9.55	11.24	9.68	12.76	9.38	10.61
4.4 Emotional effects of teen pregnancy	7.84	9.47	7.98	10.17	8.12	8.76
Activity: discussion	10.05	11.96	10.50	15.09	10.78	12.12
5. Preventing adolescent pregnancy	10.24	15.38	11.85	13.05	10.89	11.93
Activity: discussion	7.39	9.66	9.12	12.94	7.49	9.85
5.2.1 Abstinence	6.19	9.38	8.13	9.76	4.72	7.54
5.2.2 Delaying sex	7.72	8.33	7.04	7.89	5.75	6.89
activity: discussion	8.85	11.71	9.94	12.68	8.63	10.42
5.3 Contraception	9.64	13.18	10.63	13.77	9.75	11.38
5.3.1 Barrier methods	6.86	7.43	6.97	11.99	6.24	8.40
5.3.1.1 Male condoms	8.54	10.53	8.78	9.59	7.62	8.67
activity: discussion	11.57	15.27	12.44	9.79	10.39	10.87
5.3.1.2 Female condoms	8.70	10.78	8.86	9.81	7.93	8.87
activity: discussion	12.38	16.15	12.94	9.44	11.31	11.23
5.3.2 Hormonal	8.94	11.86	10.04	12.57	7.92	10.17
5.3.2.1 Birth control pills	4.78	7.08	6.16	7.07	2.42	5.22
Common side effects and benefits	11.49	14.25	11.25	11.34	11.55	11.38
5.3.2.2 Injections	9.23	12.89	9.99	12.80	7.03	9.94
Common side effects and benefits	21.85	24.42	18.76	14.31	24.09	19.06
5.3.2.3 Sub-dermal implants	8.39	10.08	8.75	11.16	7.20	9.04
Common side effects and benefits	15.39	18.64	14.08	13.06	15.71	14.29
5.3.2.4 Emergency contraception	9.89	12.81	10.41	12.81	8.23	10.48
Common side effects and benefits	10.61	15.07	11.38	16.19	10.78	12.79
Can the emergency contraceptive pill be used as normal hormonal contraceptive	12.46	16.49	12.38	15.63	11.60	13.20
activity: role playing	9.01	10.79	9.12	10.15	8.51	9.26
6. Adolescent pregnancy and HIV	14.91	18.16	14.51	13.44	16.15	14.70
6.1 Dual protection against pregnancy and STIs	11.24	14.44	11.40	15.55	10.73	12.56
Activity	3.92	6.30	5.75	4.87	1.43	4.02
Basic communication skills	11.18	13.66	11.23	12.47	10.70	11.47
# of sections	58	58	58	58	58	58

4.6.1.1.2.1 Flesch-Kincaid grade level score

The Flesch-Kincaid grade level score is based on the average number of syllables per word and the average number of words per sentence,as shown in Table 10. The mean average syllable per word was 1.57, and the average number of words per sentence was 16.3. Figure 11 shows the F-KGL score shown in Table 13,plotted against the average number of words per sentenceshown in Table 12.The graph shows that, as the number of words per sentence increases, so does the F-KGL score and the difficulty ofreading the text. Figure 12 shows the F-KGL score plotted against the average number of syllables per word. The number of syllables per word in a text increases the grade level score according to the F-KGL readability formula. The recommended grade level score for F-KGL is between grade 7 and 8, of the 58

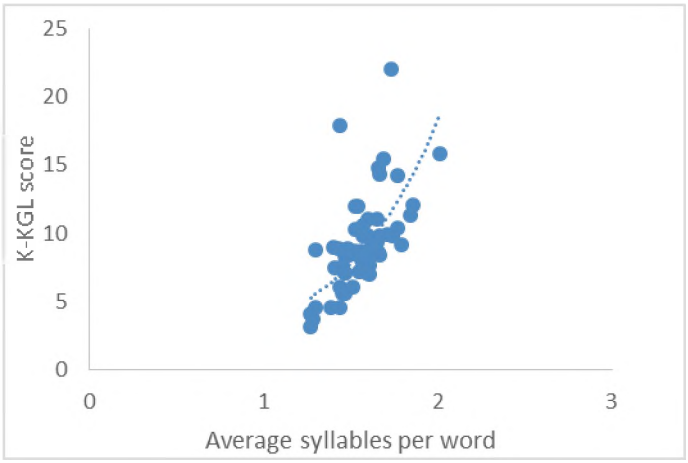


Figure 11: Graph showing F-KGL score vs the average syllable per word

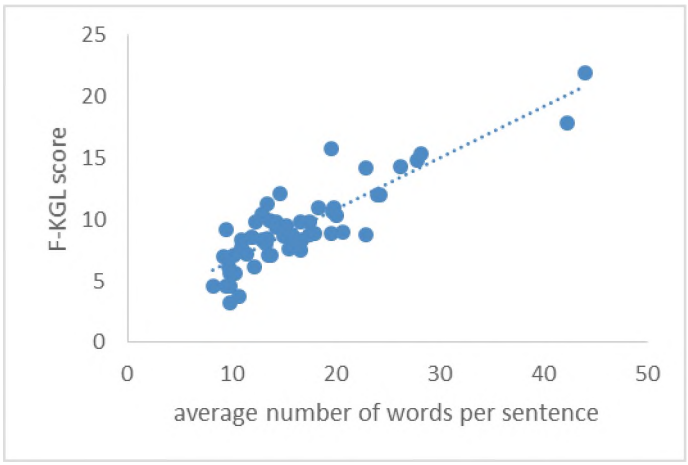


Figure 12: Graph showing F-KGL vs average number of words per sentence

sections 16.4% (n=8) are between the grade level 7 and 8, 67.24% (n=39) of the sections have a grade level above grade 8 and 16.36% (n=11) have a grade level score below 7.

4.6.1.1.2.2 Simplified Measure of Gobbledygook Readability Formula

The SMOG formula computes readability according to word length, sentence length, and the number of syllables in a word in ten consecutive sentences from the beginning, middle and end of the text. The average number of sentences in the 58 sections was 6.62±4.60, with the number of sentences ranging from 2-16 sentences. The recommended grade level score for SMOG is between grade 7 and 8, of the 58 sections 13.59% (n=6) are between the grade level 7 and 8, 75.86% (n=44) of the sections have a grade level above grade 8, and 10.55% (n=8) have a grade level score below 7.

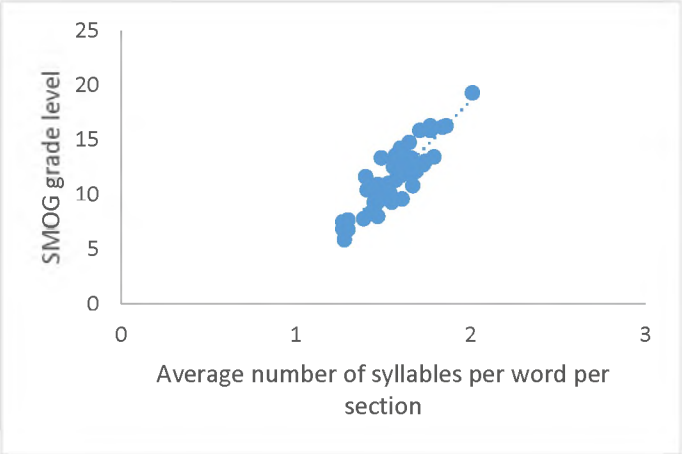


Figure 13: Graph showing SMOG grade level vs number of syllables per word

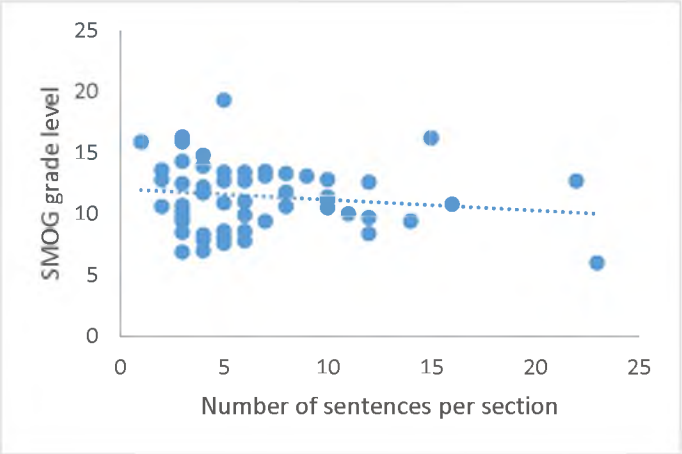


Figure 14: Graph showing SMOG grade level vs number of sentences per section

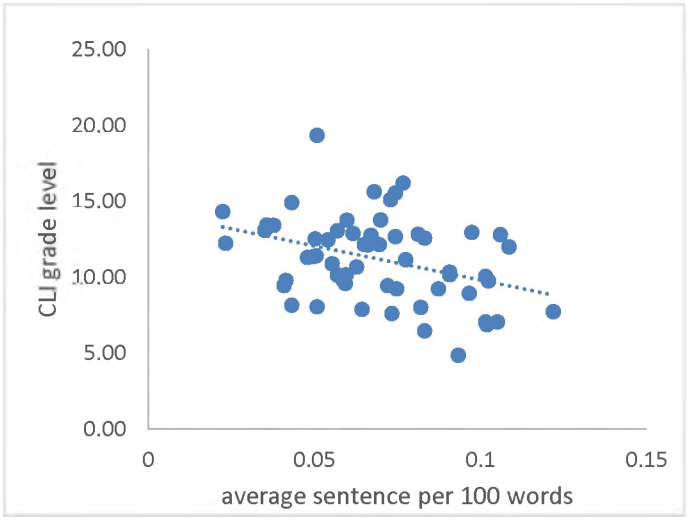
Figure 13 shows the relationship betweenSMOG grade level score and the average number of syllables per word per section of the manual. As the average number of syllables per word increases, the SMOG grade level also increases.Figure 14 shows the relationship between the SMOG grade level score and the number of sentences in a text. There is no direct relationship between the number of sentences in a text and the SMOG grade level.

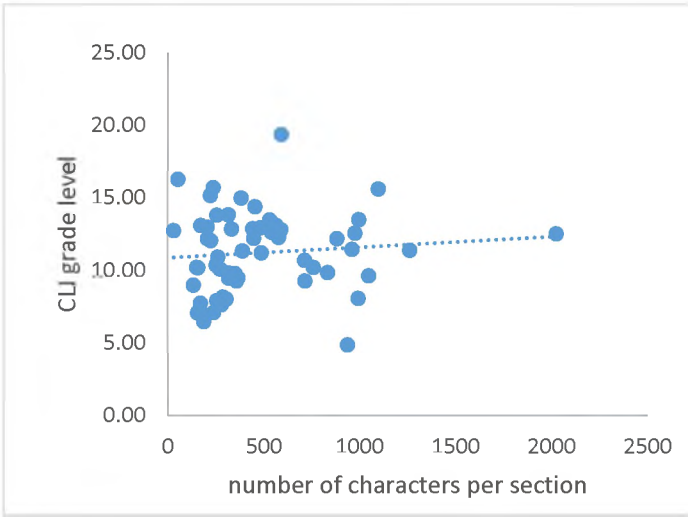
4.6.1.1.2.3 Gunning-Fog Index

The Gunning Fog Index Readability Formula counts the syllables ofpolysyllabic words only within a text. The recommended grade level score for GFI is between grade 7 and 8. As shown in Table 13, of the 58 sections, 6.90% (n=4) are between the grade level 7 and 8, 86.21% (n=50) of the sections have a grade level above grade 8, and 6.90% (n=4) have a grade level score below 7.

4.6.1.1.2.4 Coleman-Liau Index

The Coleman-Liau Index computes a grade level using the number of characters within text, as well as the average sentences within 100 words. The number of characters per section ranged from 33 to 2024, and an average of 505.78±363.01 characters per section. The





average sentences per 100 words were calculated by dividing the number of sentences by the number of words.

The recommended grade level for readability is between 7 and 8. Of the 58 sections, 8.62% (n=5) are between the grade level 7 and 8, 86.21% (n=50) of the sections have a grade level above grade 8, and 5.17% (n=3) have a grade level score below 7 (as shown in Table 13).

4.6.1.1.2.5 Automated Readability Index

The ARI formula computes agrade level score using the word difficulty and sentence difficulty within a text. It is derived from ratios representing the number of letters per word, and the number of words per sentence (Table 12). The recommended grade level for readability is between 7 and 8, and of the 58 sections, 12.07% (n=7) are between grade levels 7 and 8, 56.90% (n=33) of the sections have a grade level above grade 8, and 31.08% (n=18) have a grade level score below 7(as shown Table 13).

Figure 16: CLI grade level vs number of characters per section

4.6.1.1.2.6 Flesch reading ease score

The variables used by the Flesch reading ease score are the number of syllables and the number of sentences for each 100 word sample of text. The number of syllables per sentence ranged from 2.36 to 71.5 per section of the manual, with an average of 24.38±11.12 syllables per sentence per section (Table 12). The number of sentences per section of the manual ranged from 2 to 23, as shown in Table 12. From Figure 18, the number of sentences per section affected the readability score to a lesser extent, whereas, as in Figure 17, an increase in the average number of syllables per sentence showed an increase in the readability score.

The FRES computes the values from 0-100. The values obtained from the manual ranged from 4.01 to 19.05 rendering the text unreadable.

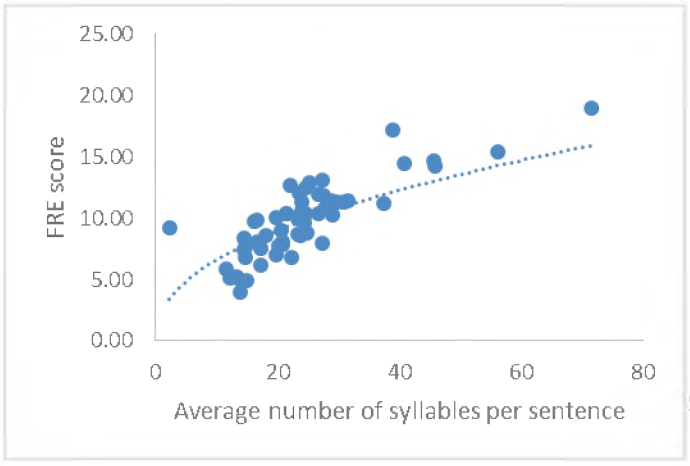


Figure 17: FRE score vs average number of syllables per sentence

4.6.2 Manual modification

Modifications made to the sections of the facilitation manual after discussions with CCWs are described below:

Title: The title of the manual was not changed. The logo for St Mary's DCC was added to the title page.

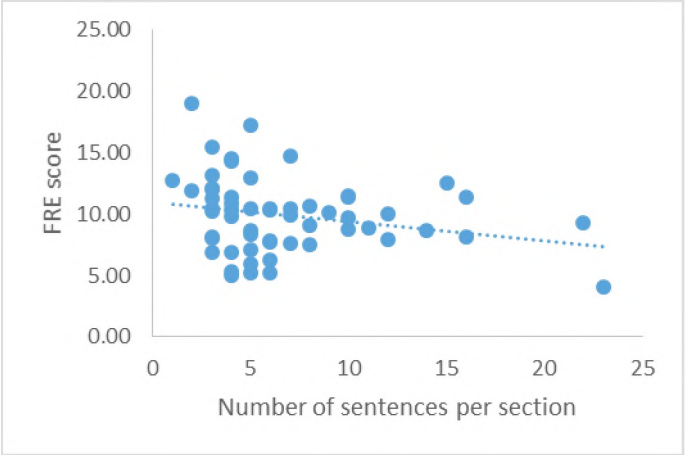


Figure 18: FRE score vs number of sentences per section

- **Introduction**: Learning objectives for the workshop were added, as well as introductions to be done by the facilitator. Expectations of participants changed to Activity 1.
- **Understanding behaviour change**: This section was added, which educates participants about the stages of behaviour change, especially in response to health promotion messages. Information on how to assist the community in the stages of change was also added.
- **Adolescent pregnancy:** This section was not changed.
- **Becoming an adult**: The section of 'Becoming a woman' was changed to 'Becoming anadult' to focus on educating both girls and boys. The section also included information on the male reproductive system, as well as changes that occur in boys during puberty.
- **Why adolescent pregnancy should be avoided**: Nothing changed in this section.
- **Preventing adolescent pregnancy**: Information on the intrauterine device was added.
- **Pregnancy and HIV:** Nothing changed in this section.
- **Basic counselling skills:** Nothing changed in this section.

4.6.3 Reasons for content modifications

The manual's modification was based on what the participants wanted to be included in the manual, as well as on what they needed clarification on. The following sections were added or clarified in the manual, in response to concerns raised in the workshops:

4.6.3.1 Calculation of menstrual cycle

Some of the CCWs expressed concern that they did not understand the concept of the menstrual cycle, and required an example of how to calculate the days on the menstrual cycle. One of the participants stated:

> *"Menstrual cycle, I won't lie to you, I don't know about it. Because people are talking about it and they are like, sometime it's the first week sometimes it's the last week, then what are you talking about? Like to me I thought it was about days, like how long do you get, do you go to menstruation. Because with some people it will only be 2 days or 1 day or 3 days or 5 days, but with some people, maybe it will stop after a week, like 2 days it will come back then you don't know what is going on."* ***Workshop 6***

> *"I do not understand that whole thing about the menstrual cycle being 26 to 28 days, I do not quite understand exactly how it happens."* ***Workshop 2***

One of the participants explained:

> *"I would feel the hardness and soreness on my breast the day before I go on my period. That's how I would know my period was coming, my breasts would be hard and sore and then the next day I would start my period). But sometimes you can go on your period today, unexpectedly."* ***Workshop 3***

One of the participants acknowledged that she refers adolescents with questions of menstruation to the clinic:

> *"Then what I will tell them is, maybe it's cold or maybe it's clots that are forming inside then if you go to the clinic, they will explain to you what is going on. They will be able to help you because really with menstruation I'm not, ja I'm not 100% sure about it."* ***Workshop 6***

An example of how the menstrual cycle is calculated was added to the manual to explain the

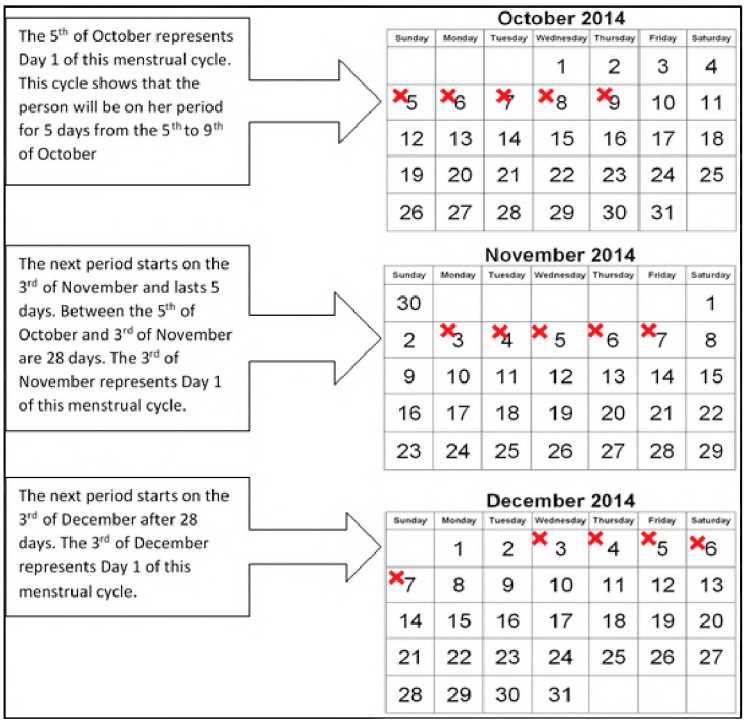


Figure 19: Calculation of the menstrual cycle

menstrual cycle,which was initially placed in the draft manual as shown in Figure 19.

4.6.3.2 Becoming a man

CCWs expressed concerns that sexual education should include information for both boys and girls. To them, it was easier to talk to girls because of past experiences as women, but they felt that they required more information about how to educate boys. One of the participants explained:

> *"It will be easier to have information about boys because it's difficult to talk them. Because if you only concentrate on girls, then you've got boys too whereby you don't know what to give them. Because somewhere somehow I think it's the same to females this information but with boys it's wet dreams but then you need to make sure about what kind of thing is coming out. Because with girls we know that it is blood, but with boys what is it?Do you see?"**Workshop 4***

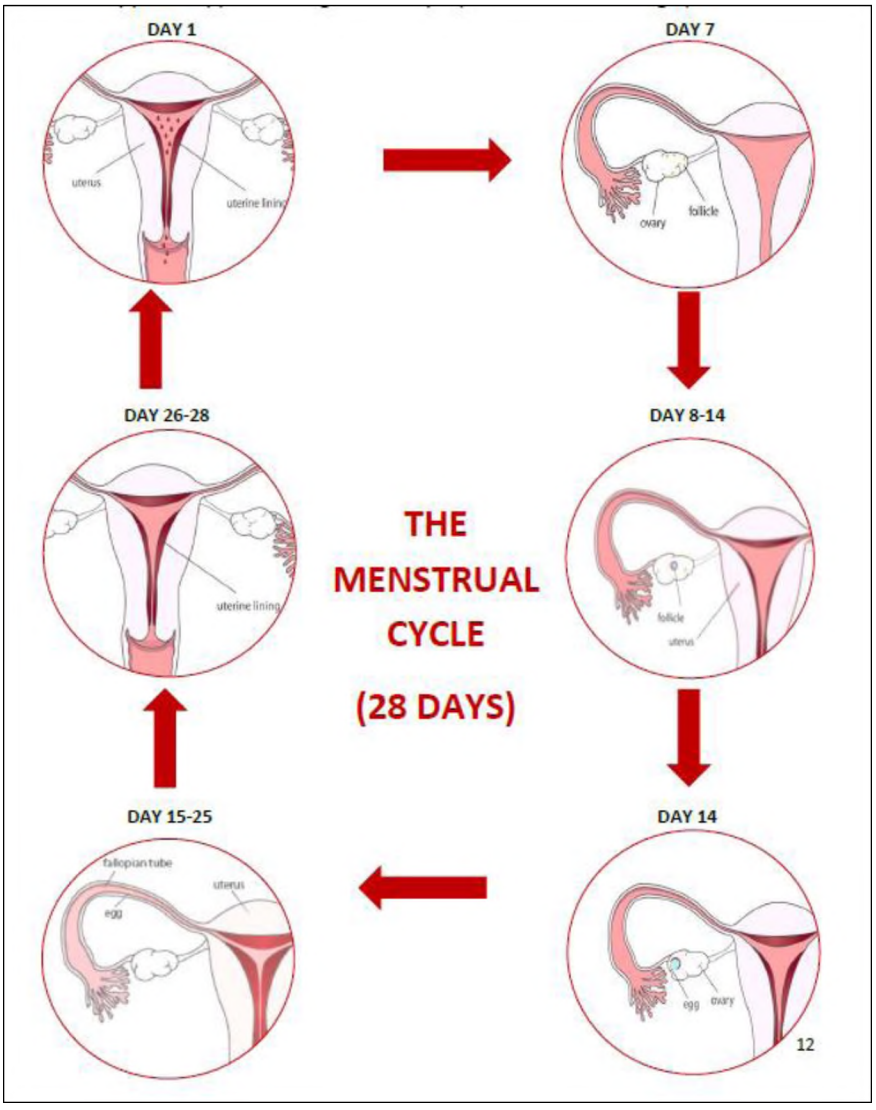
The CCWs, however, discussed how it wouldbe better to involve the men in the communities to talk to the boys in the community, as one explained:

"But sometimes it's just better if it's a male who is speaking with another male because they know what is going on with their body. You see, same as the girls. Because like if you are a female, you know what is going on with your body so it will be easy to explain to the girl." ***Workshop 4***

A section of physical changes occurring in boys during puberty was added to the original manual (Section 4.4 of the Prevention of adolescent pregnancy: Facilitation manual for community care workers).

4.6.3.3 Addition on the menstrual cycle

A diagram of the menstrual cycle in the manual was not clearly understood by the CCWs, and they requested that it be removed and explained in a different way. Figure 20 shows

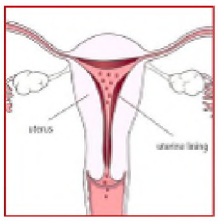


the original diagram.

Figure 20: Diagram of the menstrual cycle removed from the manual.

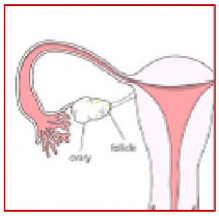
The diagram was not replaced, but the subsequent section explained the cycle in finerdetails, as shown in Figure 21.

DAY 1



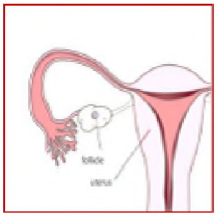
A cycle is counted from the first day of one period to the first day of the next period. **Day 1** starts with the first day of the period. This occurs after some hormones stop getting released in the body at the end of the previous cycle. This results in blood and tissues lining the womb to break down and shed from the body. Bleeding lasts about 5-7 days.

DAY 7



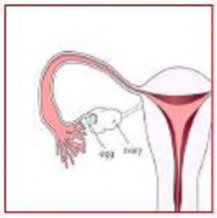
Usually by **Day 7**, bleeding stops. Leading up to this time, hormones are released and cause an egg to start to develop in the ovaries.

DAY 8-13



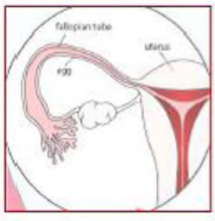
Between **Day 7 and 14**, an egg will continue to develop and reach maturity. The lining of the uterus starts to thicken, waiting for a fertilized egg to implant there. The lining is rich in blood and nutrients in preparation for a baby.

DAY 14



Around **Day 14 (in a 28-day cycle)**, a mature egg is released from the ovary. The process is called OVULATION. This occurs when the hormones begin to be released again.

DAY 15-28



Over the next few days **(Day 15-28)**, the egg travels down the fallopian tube towards the uterus. If a sperm unites with the egg in the fallopian tube, the fertilized egg will continue down the fallopian tube and attach to the lining of the uterus.

If the egg is not fertilized, the egg will break apart and be shed with the next period.

Figure 21: Explanation of the menstrual cycle.

4.6.3.4 Explanation of abstinence

There was a misunderstanding that abstinence meant that one is not involved in a relationship with aperson from the opposite sex. One of the participants responded, to which some of the participants were in agreement, that:

> *"I would say that abstinence means not having a boyfriend, so the advantage of that is that you cannot contract HIV/AIDS, STIs or fall pregnant because you don't have a boyfriend"**Workshop 4***

Under the section of contraception, the concept of abstinence was explained in the manualin section 6.2.1.

4.6.3.5 Understanding behaviour change in the community

The CCWs where disheartened bythe slow results coming from the health promotion activities, as they continued to see pregnant adolescents in their communities. In light of this, a section of understanding behaviour change in response to health promotion information was added to the facilitator's manual.

> *"I don't know where the problem is, because we go to schools, we talk to the adolescents, we tell them what will happen if they fall pregnant without planning, we tell them everything. We teach them even when see them in the street, every time we see the adolescents we tell them everything but we don't know what we must do to make them understand that it's not right to fall pregnant especially when you are at school." **P14***

4.6.4 Modifications to the final facilitation manual

Modifications were made to the balance between white space, text and pictures. Headings were made more noticeable, by making them bold. Bullet points were used to convey information where text only was used to improve the readability of the text. Text was simplified further to render the manual suitable toa low-literate population. The revised English version (APPENDIX M) was the final facilitation manual developed for the CCWs.

The following changes were made to the final draft of the manual to improve readability of the information:

Table 14: Modification of manual to improve readability

Principle used	Draft 1	Final manual
Sentences were made short and did not include more than For example the introduction section	1. INTRODUCTION In the year 2000, the World Health Organisation [WHO] set Millennium Development Goals (MDGs) to speed up global progress in development and are intended to be achieved by 2015. The MDGs were adopted with eight specific aims and measurable targets which involved social determinants of health and health related goals. MDG 5 is aimed at improving maternal health by targeting maternal mortality rate as well as achieving universal access to reproductive health by 2015.18 The WHO set the following indicators to monitor progress on achieving MDG5: maternal mortality ratio, proportion of births attended by skilled health personnel, contraceptive prevalence rate, unmet need for family planning, antenatal care coverage and adolescent birth rate. In 1996 the percentage of girls aged 15-18 who had ever had a live birth was 12.5% which dropped to 11.2% in 2001 but increased to 13.7% in 2011. By the time young girls reach the age of 18 more than 30% of girls would have given birth at least once. The WHO suggested that 5% of teenagers falling pregnant is high therefore this manual was prepared to enhance knowledge of how to deal with teenage pregnancy in the community.	1. INTRODUCTION In South Africa, though efforts have been made by the Department of health to reduce the number of teenage girls that fall pregnant, the number still high. It was recorded that in 1996 the number of girls that fell pregnant who were between the ages of 15 and 18 was approximately 12 in every 100 girls. In 2001, the number of teenage girls who had fallen pregnant was approximately 11 in every 100 girls. In 2011, the number increases to 14 in every 100 girls. By the time young girls reach the age of 18 more than 3 girls in every 10 would have given birth at least once. This manual was prepared to enhance knowledge on teenage pregnancy.

Use of pictures or images For example the calculation of the menstrual cycle	4.3.1 The menstrual cycle A menstrual cycle is counted from the first day of one period to the first day of the next period. The average menstrual cycle is 28 days long and it is different from one person to the next. For most women, the menstrual cycle ranges between 21 to 45 days for teenagers and for adults 21 to 35 days. For teenagers in their early years, their menstrual cycle is irregular and the period

The 5th of October represents Day 1 of this menstrual cycle. This cycle shows that the person will be on her period for 5 days from the 5th to 9th of October

			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

The next period starts on the 3rd of November and lasts 5 days. Between the 5th of October and 3rd of November are 28 days. The 3rd of November represents Day 1 of this menstrual cycle.

30						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

The next period starts on the 3rd of December after 28 days. The 3rd of December represents Day 1 of this menstrual cycle.

	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

Figure 7: An example of calculation of a menstrual cycle

<table>
<tr>
<td>Use of tables For example the section on the physical changes of the body during puberty</td>
<td>3.1.1 Changes in the body during puberty
• Growth spurts- different parts of the body begin to grow
• Hair starts growing around the private parts, under your arms (in armpits), on legs and arms
• Hips get wider
• Breasts and nipples start to grow
• Pimples start to appear on the face, back or chest
• Hair and skin becomes more oily
• Periods start</td>
<td>4.1.1. Changes that happen to body of boys and girls during puberty

Table 1: Changes that occur in boys and girls during puberty
<table><tr><th>Boys</th><th>Girls</th></tr><tr><td>• Testicles grow larger
• Penis grows longer and fuller
• Height and weight increase
• Hair starts growing around the private parts, under arms (in armpits), face, on legs and arms
• Muscles develop</td><td>• Height and weight increase
• Hair starts growing around the private parts, under arms (in armpits), on legs and arms
• Hips get wider
• Breasts and nipples start to grow</td></tr><tr><td>• Wet dreams occur (ability to ejaculate)
• Voice cracks and gets deeper
• Skin and hair become more oily
• Pimples may appear</td><td>• Pimples start to appear on the face, back or chest
• Hair and skin becomes more oily
• Periods start (also known as menstruation)</td></tr></table></td>
</tr>
<tr>
<td>Simple language was used</td>
<td>4.1 Health effects of teen pregnancy
4.2 Social effects of teen pregnancy</td>
<td>5.1 What harm can adolescent pregnancy have on the body of the mother and child?
5.2 How will the community view teen pregnancy</td>
</tr>
</table>

4.7 Evaluation phase

The evaluation phase was the last phase of the study and the results obtained from the evaluation phase are outlined in this section.

4.7.1 Focus group discussions

This section describes the results obtained from the evaluation phase of the study. Themes arising from the focus group discussion with the CCWs are outlined in this section.

4.7.1.1 Empowerment of CCWs

The CCWs confirmed that the workshops on the prevention of adolescent pregnancies were useful, and empowered them to conducthealth promotion activities.

> *"I gained a lot from the workshop because now I am able to talk confidently to the adolescents about contraceptives so that they don't fall pregnant at a young age. Because the truth is: our kids are falling pregnant at a very young age and because they are sleeping with older working man. And if you fall pregnant at such a young age, your future becomes uncertain. So I encourage them to use contraceptives so that they don't fall pregnant and end up dropping out of school"* **FGD1**

> *"I would say that attending these workshops has been very beneficial. I already knew some of the things we talked about, but I gained more knowledge and information about them through the workshops. It also gave me the confidence, boldness and courage to stand infront of people and talk about these things because I understand them better now. I knew about adolescent pregnancy but I believed that the cause was the fact that these children just wanted the support grant. But now I know there are other factors like problems at home, peer pressure and so on. So I always encourage the children to know themselves and what they want in life."*- **FGD 2**

> *"I think it was useful both, because first we do workshop and then we understood and then you gave us a manual. Then with [better] understanding in the workshop, we go through the manual easily because we understand all the things. Then you go there, then you see those things we've already spoken about in the workshop. So they are useful because I see the menstrual cycle in my booklets, I show the girls at Mhakhulu what a menstrual cycle is. So I think because with the understanding from the workshop and we use, then we go through easily in the book"* **FGD 2**

4.7.1.2 Usefulness of the manual

The CCWs confirmed the usefulness of the manual developed for the prevention of adolescent pregnancies in conducting health promotion activities, as well as confirming that it bolstered their confidence.

> *"The manual has been very helpful in building up my confidence when answering some questions from the mothers. Before, I just spoke from the information I heard and when the mothers would ask a question, sometimes I wouldn't be able to answer their questions. But now that I have the manual and have read it, I am better able to answer any questions they ask me."* **FGD 1**

> *"It [manual] is very helpful, I'll probably say the same thing mentioned but it is very helpful. Even if you haven't even read it, the pictures are very helpful, you can also use it to show the people, so I bring it to work with me"***FGD 1**

> *"Unless they have any other additional information, but the one that's already in the manuals helps me be very confident but whatever information they bring, we will welcome it"* **FGD 1**

4.7.1.3 Delayed results of the health promotion activities

With the inception of the health promotion activities, the CCWs had not seen the effects of the activities yet.

> *"Well for me, I haven't noticed any difference in the rate of adolescent pregnancy, it hasn't decreased and in fact it's still the same, they are still falling pregnant"***FGD 2**

> *"But what makes me feel sad is what we are doing, we told them what's happening but as a result, I don't know whether they didn't understand or they don't want to do what we say because what we say, the results are not good. Because we have to see when we teach someone about something, we have to see good results but instead we see that, I feel that I fail; there is something that feels like I failed them because there are more adolescent pregnancy even this year. So I don't know because we talk, we try to make them understand what's happening but instead they fall pregnant. So we don't know what exactly, what we must do to reach them*." **FGD 2**

4.7.1.4 Success stories

Although the results of the implementation of the health promotion activities were not yet evident, as reported in section 4.7.1.3, the CCWs reported some success stories within the programme.

> *"For instance what I said earlier about pregnant adolescents, they do bring their boyfriends with them now"***FGD 2**

> *"It's [health promotion activities for the prevention of adolescent pregnancy] helped a lot because in my area they don't fall pregnant as much, there's only two who are pregnant and also when they fall pregnant they come to the clinic earlier rather than very late like they used to do"***FGD 2**

4.7.1.5 Community response to the health promotion activities

Responses from the community regardingthe conception of the health promotion activities varied from person to person. CCWs confirmed the acceptance of the program by parents and older members of the community, whilst responses from adolescents were diverse.

> *"The parents were pleased with the health promotion activity for the prevention of adolescent pregnancy"* **FGD 2**

> *"There [responses] are different, some will give you that respect of stopping and hearing what you have to say. While others were in a hurry"* **FGD 2**

CHAPTER FIVE
GENERAL DISCUSSION

5.1 Introduction

The aim of this research project was to examine those factors that affect and/or contribute to adolescent pregnancies in threerural communities in South Africa, namely Glenmore, Ndwayana and Grahamstown. The study identified factors in this CBPR approach that facilitated the development and implementation of a facilitator's manual for prevention of adolescent pregnancy.

The chapter discusses the results from the phases of the project, namely the semi-structured interviews in the explorative phase, workshops in the intervention planning phase, discussions in the implementation phase, and the final evaluation focus group discussion. These sections summarise the main findings, and considers how these are either similar or different to those found by other studies with regard to adolescent pregnancy interventions.

5.2 Adolescent pregnancy: A cause for concern

CBPR principles emphasizes the local relevance of public health problems, which was applied in this current study.Research partnerships in CBPR focus on issues and concerns that are identified by participants in the research and seek to address the identified determinants of health. Health research has led to remarkable improvement in the health care and public health. However, conventional research has been viewed as paternalistic, manipulative and irrelevant to participants' needs (107). In contrary, CBPR approaches emphasize the local relevance of public health problems and ecological perspectives that recognize and attend to the multiple determinants of health and disease. The CCWs identified and indicated adolescent pregnancy as a significant cause for concern in the communities under study. The first phase of thisstudy explored the factors affecting adolescent pregnancy in rural communities from a cultural point of view, using the PEN-3 cultural model.

5.3 Factors affecting adolescent pregnancy

The factors affecting adolescent pregnancy in the communities have been classified under the domains and constructs of the PEN-3 cultural model; Perceptions (section 4.3.1.1.1),

Enablers (section 4.3.1.2) and Nurturers (section 4.3.1.3). CCWsidentified health seeking behaviours with respect to contraceptive use, the availability of reproductive health services, andtheinfluence of family and peers as the dominant factors contributing to adolescent pregnancies as described in the subsequent sections.

5.3.1 Perceptionsdomain of the PEN-3 model

According to the CCWs in this study, perceptions, such as fear of weight gain due to hormonal contraceptive use, and the size of the female condoms, had a negative influence on the use of contraceptives amongst adolescents. These perceptions are comparable to those that emerged from studies on factors influencing non-utilisation of contraceptives in rural communities in South Africa(68,177).Ramathuba et al.(177)identified that adolescent pregnancies were a result of a lack of knowledge amongst adolescent girls about contraception, and misconceptions about weight gain, infertility, and watery discharge. In the currentstudy, the condom was cited by the majority as their preferred contraceptive method, whereas hormonal contraceptives (the injection and the pill) weretheleast preferred. The overall result is low contraceptive use amongst adolescents, leading to increased rates of adolescent pregnancies.In the context of adolescent pregnancies in South Africa which is 7.8%, and 10.1% in the Eastern Cape(11), regional estimates for the developingworld indicated that adolescent birth rates were especiallyhigh in Sub-Saharan Africain countries such as Burkina Faso, Ethiopia, Kenya and Malawi(178).

Adolescents often lack of knowledge about reproductive health and healthy sexual relationships.Adults as well as younger adolescents are embarrassed, afraid, or uncomfortable discussing certain health issues such as menstruation and pregnancy.Cultural barriers related to communication about sexrelated matters have been reportedby Lebeseas major obstaclesto having open discussions on sexual and reproductive health in rural communities(179).Their study showed that cultural values and norms hindered sexual health dialogue in communities. It also revealed that parents use indirect language to communicate about sexual health with their children. These barriers result in adolescents lacking the information they need to prevent unwanted pregnancies. These findings are similar to the results found in the current study, where CCWs identified that most parents

perceive that talking to their children about sexrelated issues promotes promiscuity amongst adolescents, and were thus not willing to talk to their children about these.

CBPR principles focus on issues and concerns that are identified by community members seeking to address the determinants of health(112). CCWs reported that the community'sconcern on issues ofas a whole was concerned aboutadolescent pregnancy in the community.

5.3.2 Enablers domain of the PEN-3 Model

Conventional theories of behaviour change often focus on individual perceptions to promote change. The PEN-3 cultural model, however, focuses on the impact of culture on health beliefs and actions, and proposes that public health and health promotion should focus not only on the individual, but also on the cultural context that nurtures a person's health behaviour in his or her family and community(135,180). The Model was therefore used in this study to identify factors contributing to adolescent pregnancies in the socio-economic-cultural context in which they occur. The health-seeking behaviour of any population depends on the availability, accessibility and affordability of services of healthcare providers/facilities in nearby localities. From the results, decisions about contraceptive use are affected by the lack of access to health services, andbythe influence of family, friends and other stakeholders in the community. The current study also showed that, although clinics provide free contraceptives to the community, and CCWs encourage preventing early childbearing, other factors such as the distances from the clinics to their homes and the health services provided discouraged the adolescents from using contraceptives. This concurs with the results reported by Ritcher and Mlambo(181) that, in rural communities, although clinics may be available, transport to the health services becomes a barrier to the accessibility ofsuchservices.Access to primaryhealth services is seen as an important componentof care, including preventive health for young people(182).Moreover, the CCWs also identified that the clinics were not youth-friendly, whenconsidering theirstructure and the attitudes of clinic staff towards thoseadolescents who do come for contraceptives. This can thus result in low adherence to contraceptive use amongst the adolescents. Fears such as being recognised in a clinic waiting room, with the possible stigma attached, deters young people from visiting clinics, and were also identified

by CCWs in this study. This is consistent witha study by Mfonowhere fear about a lack of confidentiality was a major reason for young people'sreluctance to use primary healthcare services in their communities(183).

In addition to a lack of access to health services and youth unfriendly clinic environments, there was a lack of health promotion material, such as pamphlets in the appropriate language, leading toalack of access to information regarding sexual and reproductive health. The current study identified that the health promotion material was sometimesavailable in English, which most of the adolescents and local community members could not understand.Ritcher and Mlambo(181) also identified language on written health education material as a barrier to information. Halcomb et al. (184) suggested that care should be taken to make health education material appropriate to fulfilthehealth information needs of a community, such as the use of a local language, and illustrations to depict certain messages.

The Child Support Grant was introduced by the government to support economically vulnerable and disadvantaged children. This grant is payable to a person who takes primary responsibility for the daily needs of a child, and this person does not need to be necessarily related to the child(185). The CCWs reported that adolescents deliberately fall pregnant in order to access the CSG for financial support, due to their socioeconomic background. Similarly, Kanku and Mash (186) reported that child support grants were seen as a means of increasing household incomes, resulting in adolescent pregnancies. However, Makiwane and Udjo(40) concluded that there was no association between the introduction of the Child Support Grant and an increase in adolescent pregnancy in South Africa. The issue of the influence of the child support grant is still debatable, and requires further research.

Section 4.3.1.2.6 reports on the effect of religion on contraceptive use. CCWs identifiedreligion as hindering contraceptive use amongst the adolescents, as church doctrines do not allow contraceptive use. However, religious institutions in the Grahamstown communities, like in other societies(62), havebeen reluctant in embracing issues affecting adolescents perceived to be in conflict with their religious teachings. This inflexibility has been particularly relevant with the resistance to talk about contraceptives in the Grahamstown area.

The socioeconomic status of the communities was a major contributor to adolescent pregnancies, as describe by the CCWs. These results are in agreement with other research studies, where a link was established between socioeconomic adversity, such as poverty, negative risk behaviours, and early childbearing(187,188).

5.3.3 Nurturers domain of the PEN-3 model

The current study identified thathealth-seeking behaviour and adolescent pregnancy are influenced by a collectivist orientation rather thanby anindividualist one, as it identified the role of parents ininfluencing child behaviour. A study in eastern Uganda related adolescent pregnancy not so much to the sexual practices of adolescents as to the failure of girls' parents and guardians to educate children on sexual and reproductive health issues, which correlates to the perceptions of CCWs found in this study(189). Similarly,Scarinci(166) highlighted the importance of parents and family members ininfluencingsmoking cessation, andtheirsmoking-prompting behaviour in initiation. The health of individuals and communities as a whole aredetermined by an interaction of multiple determinants which are socially, politically, and economically embedded(190). The PEN-3 cultural model was developed by Airhihenbuwa in 1989 to emphasize the need for cultural appropriateness in developing, implementing, and evaluating public health interventions. Cultural context provides a clearer lens through which researchers may view and understand behaviour, while highlighting important variables in future intervention design(166). Adolescent pregnancy is a socially embedded phenomenon, and attitudes and actions of adolescents are shaped by the environment in which they exist. Interventions aimed at reducing adolescent pregnancy in any given community shouldthereforeaddress the broader social environment and social norms. Interventions for the reduction and prevention of adolescent pregnancy should be tailored with a sociocultural orientation, as well as with the provision of reproductive health services.

5.4 Intervention planning

The primary objective of the workshops during the intervention planning phase was the participatory development of a facilitation manual with CCWs, for a culturally sensitive and appropriate health promotion activity for the prevention of adolescent pregnancy. The cultural empowerment and relationship and expectations domains were integral to the needs assessment process, while the cultural identity domain was used to identify the

points of entry for the intervention. The cultural identity domain consists of Person (child), Extended family (parents, grandparents etc.) and Neighbourhood (geographic location). The workshops were used in this study to identify points of entry into the communityfor the educational intervention, as well as to reinforce skills and knowledge of CCWs on the use of those health promotion activities developed for the prevention of adolescent pregnancies.

5.5 Shortage of healthcare professionals

Provision of healthcare services depends critically on the size, skills, and commitment of the health workforce. Yet, in many developing countries,there aredemographic and epidemiological transitions affecting the demand for health serviceproviders(191). South Africa is one of the countries facing a health workforce shortage, especially in rural areas, which has negative implications on theimplementation of access to healthcare. In 2015, South Africa had 151 professional nurses, 11 pharmacists, 2 dentists, and 30 doctors per 100 000 people in the public sector (192). This shortage in healthcare professionals mainly affects 80% of the country's population,whichdepends on public health services. The current study also identified the shortage in healthcare professionals in the communities.

In the Glenmore and Ndwayana communities, there is one clinic in each community, with two nursing sisters in each clinic. This has a huge implication on the delivery of health services to the community members. In 2011, the concept of primary healthcare re-engineering was implemented, with outreach teams consisting of CCWs as part of the strategy to improve services in communities(193). The CCW framework outlines that CCWs are involved in the following health areas: maternal, child and women's health, mental health, TB, HIV/AIDS and sexually transmitted infections (STI's), non-communicable diseases, communicable diseases, and nutrition (193,194). On similar principles this study included CCWs in the implementation of community based health promotion activities for the prevention of adolescent pregnancies.In a study examining a peer led HIV/AIDS prevention program for women in a South African settlement, the researchers acknowledged the valuable internal resources of community members in designing intervention programs (188). This is in parallel with the CBPR principle that builds on resources that exist within communities of identity to address their communal health concerns.

CCWs have a significant role in community based health services within ruraland even urban communities in South Africa. As they are knownand respected by the community, CCWs serve as guides to the health system as they reach out to individuals who had not previously sought care.CCWs are lay health workers whose responsibilities range from implementing biomedical interventionsto acting as community agents of social change (195,196). The integration of the health promotion activities for the prevention of adolescent pregnancy into the already existing community development activities of the two NGOs associated with this project is beneficial to the community. In addition, the use of CCWs provide cultural linkages to health promotion interventions, overcome distrust, and contribute to clinician-clientcommunication, increasing the likelihood of client follow-upand providing cost-effective health services to isolated communities that have traditionally lacked these access (140,197,198).

During the workshops, CCWs identified themselves as agents of change in their communities. CCWs are increasingly advocated as a potential solution to overcoming the current shortfalls in human resources for health in different settings. The use of CCWs for the intervention delivery was beneficial to the study in the development and implementation of culturally sensitive and appropriate health promotion activities for the prevention of adolescent pregnancies. CCWs were from the targeted communities, and had the ability to tailor the health messages to the target audience, and, above all, they were trusted individuals in the community.

5.6 Community care worker's training

The knowledge levels of the CCWs were assessed by a questionnaire, which was based on the information in the draft manual for the prevention of adolescent pregnancy.The training of CCWs took place during workshops conducted over two days in each of the three communities, and was continuously reinforced for 14 months, during the guided implementation phase. Results showedthat overall, for the 10 participants who undertook the questionnaire, there is no difference in mean pre- and post-scores,although results in Figure 6 show an increase in individual scores in 7 of the 10 participants. The varied responses may be due to reasons such as;inconsistent informal CCWs' training, and participants not being familiar with certain medical terms. The highest level of education reported for the community care workers was grade 12, and most of the participants were

learning new information during the workshops, as reported in section 4.4.3. Ngcwabe and Govender (2014) reported that, although the policy framework for community based care indicates that CCWs programmesshould be collaboratively implemented by the Departments of Health and Social Development, the participants indicated that they hadnot been trained, equipped or given the resources needed in order to enable them to respond to theneeds of the community(199).Moreover,in South Africa, the CCW programme remains disease-focused, particularlytowards HIV/AIDS and TB care, treatment, and support, and barely attends toreproductive health services (200). CCWs' contributions are mostlyfocused on taking care of terminally ill patients, and on tracing defaulters at the community level.Six of the CCWs reported to have had experience in maternal health, which included reproductive health, and most of the participants were trained in home-based care. Therefore, depending on the training the CCWs received in terms of what duties they are expected to perform in the community, some of the participants would not be familiar with reproductive health issues. This was also evident in the feedback given after the workshop, where CCWs were asked to evaluate the workshops. From the responses given by the CCWs (section 4.4.4), the information covered in the workshop was fairly new.

5.7 Development of health education materials

The use of a previously developed booklet for the adolescents, and which addressed prevention of adolescent pregnancyenabledthe researcher and the CCWs to coordinate their ideas, and to assemble the first draft of the facilitation manual, which was used in the workshops. The first draft of the manual also included contributions from previous research on the development of health education material for communities (201–203).In the process of analysing the content and the appearance of the educational material, contributions were included from CCWs. They provided information relevant to the modification of the writing and graphics; the CCWs agreed on the applicability and acceptability of the manual for the health promotion activities. The modification of the manual was based on the misconceptions raised during the discussions, and incorporated information that the CCWs wanted to know. For example, there was a misconception that abstinence meantnot having boyfriend at all, rather than refraining from sexual activity.

The effectiveness of health promotion materials in successfully communicating health information is closely aligned to design features which should be considered during the

design process. Factors such as text size, spacing, headings, the use of capital letters, sizeof paper and diagrams are important to makingthe information understandable to the general population(138). Information provided in health promotion material should be relevant, accurate,applicable, and easy to read. A combination of graphics, pictograms, and words enhances the readabilityfor a wider targetaudience(204). These factors were carefully considered and implemented in the development of the facilitation manual in this study. The development of the facilitation manual was a cyclic process, involving consultation with CCWs, modifying content accordingly, and the evaluation of the new information by the CCWs. The cyclic process provided insights regarding the improvement of the manual, so as to make it more culturally acceptable in their community contexts.

Readability formulas provide quantitative estimate of the reading difficulty of written information based on word and sentence difficulty. However, they ignore several factors that contribute to comprehension(204).Based on the SMOG, GFI, F-KGLS, CLI, ARI and FRES readability tests, overall, more than 50% of the text in the facilitation manual was unreadable to the CCWs, as shown in section 4.6.1. The recommended reading level to the general public based on the readability tests is a grade level of between 7 and 8.Although readability tests help analyse the reading ability required to understand written information materials, they do not give a true representation of the reading ability and comprehension of the text(205). Readability tests are based on the surface characteristics of a sample text. These tests are dependent on the construction of words and sentence factors, and do not incorporate the reader's psychological motivation forreading the text, nor their background knowledge of the subject matter (156,158). The readability tests do not measure the effects of visual illustrations and pictogramson the readability of health promotion materials(206). In the current study, bullet points, diagrams, tables and pictures were used to enhance the understanding of the information provided in the facilitation manual. This was done using input of CCWs on the appropriateness of the pictures. The formulae may underestimate or overestimate the difficulty of medical information, as these do not account for scientific or medical terms or for jargon which aremonosyllabic(207). The study, however, provided explanations of the medical jargon, which theformulae did not consider in the calculation of the readability. This study used the advantages of the readability tests and complemented them with other aspects explained in section 5.8.

5.8 Reproductive health services

High priority sexual and reproductive health services areof importance for adolescents as they are at an increased risk of poor sexual health outcomes such as unplanned pregnancy, sexually transmitted infections (STIs) and unsafe abortions (54,208,209). Comprehensive sexual and reproductive health services ideally address a broad range of issues such as STI prevention and treatment and family planning. The concepts of sexual and reproductive health and reproductive rights were first adopted in the Programme of Action of the International Conference on Population andDevelopment (ICPD) in 1994 (31). Theconcept of universal access to reproductive health was then integrated as a goal under MDG 5 target only in 2007. This is an extremely important aspect to highlight that universal access to reproductive health had only eight years instead of the common time lines of 15 years for the remaining MDG targets and goals.

Increasing the use of contraception and reducing the unmet need for family planning, both were indicators of MDG 5B indicators so as to prevent unwanted pregnancies hence reducing maternal death by a third(20,43).MDG 5B recognized that the health and well-being of women is greatly influenced by the health, knowledge and choices available to them. However, little progress has been made towards universal access to reproductive health services by 2015(44). Therefore it is encouraging that sexual and reproductive health and rights have been included in the SDG goal 3 (ensure healthy lives and promote well-being for all at all ages); and SDG goal 5 (achieve gender equality and empower all women and girls). Target 3.8 of SDG 3 explicitly states universal accesses to sexual and reproductive health for all, and target 5.9 under SDG goal 5 reaffirms that universal access to sexual and reproductive health and reproductive rights in accordance with ICPD is crucial for sustainable development(49). Hopefully this allows HCPs and policies to work cohesively in achieving the SDG targets by 2030.

Multifaceted strategies are crucial to achieve sexualand reproductive health for allwhile developing and implementing health care interventions. Strategies may include expansion of servicesby replication to serve larger populations; integration ofadditional services into already existing ones; or efforts toget a particular issue on the policy agenda(210).In most rural settings, appropriate training and use of other health personnel other than physicians is an essentialrequirement for expansion of the coverage of sexual and reproductive health.

This also may include partnerships with NGOs, which are community based and working with communities (5). This project worked strategically in this area by using the CBPR principles.

5.9 Community as the Setting to Implement Educational Intervention

Community-based health promotion activities draw on the principles of the Ottawa Charter (78). CBPR projects, ideally, involve community partners from the beginning stages, including defining the cause for concern in the community (112,114). This involves either a partnership that already exists, or one that time and resources bring together as potential community partners,to decide on key issues (211).

The community settings approach of the Jarkata Declaration acknowledges the physical, organisational, and social context in which people live, work, and play as objects for research. The community settings approach to health promotion activities focuses on a place or a setting in which people gather, such as a school or a workplace, as opposed to an illness or symptom(83). This concept provides a location for health promotion activities. In line with this concept, the implementation of health promotion activities for the prevention of adolescent pregnancies did not only occur in the clinic, butalso in the homes of community members and in schools too. The educational intervention was directed towards the development of a facilitator's manual so that the CCWs could integrate new knowledge and skills in their already existing activities in the community. While the clinic is a very effective site for health promotion activities, Kirby et al. (2005) described the implementation of health promotion activities in community settings and schools as reaching a larger number of youths (212). However, a study on South African teachers' reflections on the impact of culture on their teaching of sexuality and HIV/AIDS identified that some teachers lacked training, skills, and knowledge to tackle reproductive health issues in class(210). Additionally, sexuality talk with learners created a sense of anxiety in some teachers. Therefore, the collaboration of the CCWs in the current study for the design and implementation of health promotion activities was beneficial in bridging the cultural and knowledge gap amongst the youth, which possibly reinforces the efforts of teachers in the school, who address reproductive health issues.

5.10 Evaluation of community based health promotion

At its core, evaluation involves the assessment of the extent towhich an action has achieved its valued outcome. As described in the Ottawa Charter, health promotion in itself is a 'process' with a valued outcome of empowerment of individuals and communities(79,214). The characteristics of health promotion make it difficult to evaluate health promotion activities due to the complex webof interactions of several social determinants of health. Therefore, community based health promotion initiatives are less flexible to evaluation, as it is difficult to set parameters to the interlinked factors(214,215).

Nutbeam (1998) recognises the importance of understanding the process of an intervention in building evidence on which the success of the health promotion activities is determined(216). Investigation of who how a programme was implemented, activities and conditions in which they occur, level of effort,etc., can assist in understanding the success or failure of the programme. Nutbeam (1998) outlined a number of basic and interrelated processes to evaluate the success or failure of the current study: programme outreach, its acceptability and integrity.

The main aim of health promotion activities is to reach the intended target audience of the programme. In the current study, implementation of the programme was successfully achieved in schools, homes and clinics. In schools, the CCWs implemented the health promotion programme to adolescents. As described by the CCWs in section 4.5.1.1, there was an increased amount of adolescents coming to access reproductive health services at the clinics since the inception of the health promotion activities for the prevention of adolescent pregnancies. The target population for the study were not only the adolescents, but also the older men and women in the communities, which was based on the Cultural identity construct of targeted entry according to the PEN-3 model. The CCWs reported that they also talked to other members of the community besides adolescents. CCWs made known to the people in the community the factors contributing to,and consequences of,adolescent pregnancies, and the possible solutions. The implementation data form was used to keep a record of visits and talks as a monitoring tool for the intervention. The implementation was used to determine demographic profiles ofpeople exposed to the programme. This was similar to the monitoring of programme exposure in other studies in literature (217,218).

Nutbeam(1998) reported that the assessment of the acceptability of the program forms an essential part of the process evaluation (216). Even though the intervention reached the target audience, the acceptance of the program by the target audience is equally important for the evaluation of the project. The CCWs reported the acceptance of the program by parents in the community, as shown in section 4.7.1.5. However, amongst adolescents, there was a varied response to the program. Whilst sometook heed of the information provided by the CCWs, others did not accept the information. This was reported by the CCWs, as they described the delayed response of the health promotion activities in section 4.7.1.3. The CCWs expressed concern that there was still a number of adolescents failing pregnant, even after the commencement of the health promotion activities for the prevention of adolescent pregnancy. CCWs play a crucial role in educating people about health and in promoting healthy lifestyles in their communities. However, it is important to identify that behavioural change which involves the process of converting information to knowledge, which then influences the attitude that possibly changes practices, is time consuming. Therefore the section of behaviour change was reiterated in the facilitation manual in section 2 of the 'Prevention of teenage pregnancy' manual.

Despite the challenges faced by CCWs in implementing the health promotion activities for the prevention of adolescent pregnancies, the program was implemented as planned. The manual was used successfully by the CCWs, as they attested to the manual being helpful in the implementation of the health promotion activities. As CBPR principles require, health promotion programmes should be sustainable. The partnership of NGOs-CCWs ensured the sustainability of the health promotion program.

5.11 Empowerment as the ultimate goal

The underlying principles of community participation are empowerment of individuals in promoting and improving their own health and making development strategies based on the people's ideas and aspirations(91,95). Following feedback in the evaluation phase of the study, CCWs highlighted that they felt the workshops provided a forum to facilitate their empowerment in implementing health promotion activities for the prevention of adolescent pregnancies. The CCWS also acknowledged that this project assisted in their ability to influence adolescents and the community to make moreinformed decisions with regard to reproductive health issues. For individuals to feel empowered, they need to believe that

they have a significant influence over the outcomes of their health, and that the institutions working with them are truly committed to sharing knowledge with them (95). Therefore, community empowerment goes beyond mere community participation. The CCWsexpressed that they felt empowered to take ownership of the program. The development and implementation of the health promotion activities, with the active participation of the CCWs, ensured that the CCWs take ownership of health promotion activities in their communities.

5.12 Strengths and Limitations of the study

The current study used a qualitative research design approach, with the use of the PEN-3 model, CBPR principles, SSIs and FGDs, which limits the extent to which findings may be broadly applied to other contexts. The use of qualitative research was appropriate for the aim and objectives of this study, and ensured the designing of an intervention tailored for the specific community needs. This was a specific population, and the findings are specific tothe communities studied. Cultural aspects of health behaviours in one setting may not be applicable in other settings. The researcher in no way attempts to generalize the findings to the experiences of other CCWs.

Although the study had a small sample size and confined to only three communities, the methods used in the research design strived to obtain trustworthy results. The results of the study were validated as described in section 3.10. The study was further strengthened by the involved of NGOs in ensuring the sustainability of the health promotion activity for the prevention of adolescent pregnancies, through the adoption of the facilitation manual developed during the research process.

The time period between the intervention and follow-up interviews was approximately onemonth. A longer interval would possibly have given a better indication of the long-termeffectiveness of the intervention. Time intervals for intervention studies which have behavioural change usually take longer to evaluate the effectiveness of the program.

South Africa is a multiracial country with 12 official languages. The researcher was not familiar with IsiXhosa, and therefore an interpreterassisted throughout all phases of study. All communicationwas conducted via the interpreter; therefore, direct communication between the researcher andthe CCWs was minimal. This resulted in the interpreter being

the person mainly responsiblefor direct communication with the CCWs. After the transcription and transcribing of the interviews, it was identified that some of the information was lost in translation, which required the researcher to follow up on subsequent visits, and which also made it difficult to probe. However, this was resolved in the second phase, by asking the questions that required further clarification.

CHAPTER SIX
CONCLUSION

The aim of this study was to design and implement health promotion activities with CCWs working with two NGOs, for the prevention of adolescent pregnancies by using a community based participatory approach, in conjunction with the PEN-3 cultural model. In the explorative phase, the study identified various factors which influence adolescents' susceptibility tofalling pregnant. The study identified positive and negative perceptions, enablers and nurturers who have an influence on adolescent pregnancies in the communities.Negative perceptions with regard to contraception in the community and peer pressure were identified as contributing factors to adolescent pregnancies. Peer pressure is one of the main factors contributing to adolescent pregnancy. However, the results showedthat the Enablers domain of the PEN-3 model had a greater influence on adolescent pregnancies in the communities. Despite sex education being taught in schools and clinics, the use of contraceptives is still low as shown by the low turn up at clinics for contraceptives. Other factors included lack of health promotion materials and activities with information about prevention of adolescent pregnancy, and when available, the material is in English, which the adolescents may not fully comprehend. Socio-economic factors such as poverty, the Child Support Grant, cross generational relationships and coerced sex contributed to adolescent pregnancy in the communities.Although the results from this study cannot begeneralised to thelarger population, they resound with findings accentuated in other studiesconducted within and outside South Africa.

The workshops provided an equalising platform for developing a facilitation manual for the prevention of adolescent pregnancies through a participatory approach for CCWs. During the workshops, the factors identified in the explorative phase were discussed and the PEN-3 model was used to identify the point of entry for the health promotion intervention. The intervention addressed individuals and their communities as a whole through home visits and school visits. The intervention was not only for adolescent girls but also included adults and men.As advocated by literature review, interventions tailored for the prevention of adolescent pregnancies combined a biomedical and sociocultural orientation. The multiple social determinants of health were taken into consideration using a community based approach,by tailoring programs based on the resources available to the respective communities. The individual perceptions with regard to early child bearing, contraceptive

use amongst adolescents, distance travelled to the nearest healthcare facility, the influence of significant people, socioeconomic status of the communities,and the availability of health promotion information to the community were identified as the key factors. The workshops also served as a platform for knowledge and skills enhancement of the CCWs for use during the implementation of the health promotion activities

This study suggests that considerations should not emphasisethe negative implications of culture, but rather reinforce the positive perceptions of the communities, and build on the current resources available in these communities. The PEN-3 cultural model provides researchers and interventionists with a strategy for identifying and encouraging positive health behaviours (positive perceptions). This study made use of the resources (positive enablers) that already existed in the communities in order to make the intervention a success.Due to the complex social phenomena in which adolescent pregnancy is embedded, interventions for the prevention of adolescent pregnancy in any given community should address these social factors and norms for a successful intervention.

The study also showed the importance of community-NGO-university partnerships in the development of community-based interventions. The use of CCWs in collaboration with Ubunye foundation, St Mary's DCC and Rhodes University in the development and implementation of health promotion activities has proved beneficial to the communities for a culturally sensitive and appropriate intervention to address adolescent pregnancies. CCWs are agents of social change in the community for the success of community based interventions. There is no single approach in encouraging community participation, but research does benefit from involving the communities affected by the problem to develop intervention strategies. There is compelling evidence that the most effective way to improve the health of a community is to put the community itself at the heart of the system that is designed around their own needs and norms.

6.1 Implications for research and practice

It is anticipated that the study willcontribute to the steady prevention of adolescent pregnancies as the manual is incorporated into home visits by the two NGOs. The factors driving adolescent pregnancies in South Africa are complex, and therefore require multifaceted intervention strategies. This study makes a substantial contribution to research

methodology in the new area of CBPR at the Faculty of Pharmacy and Rhodes University, bydemonstrating the effectiveness of universities-community-NGO partnerships in developing and implementing health promotion activities for the prevention of adolescent pregnancies. It is anticipated that after translation of the manual into the local language, IsiXhosa, the manual will be made available to the CCWs for the sustainability and future development of the programme.

6.2 Recommendations for future research

Future studies onthedevelopment and implementation of health promotion activities should investigate the impact of interventions over alonger period of time, to evaluate long-term retention of the knowledge acquired from theintervention amongst CCWs and the community members. Future studies should also assess behaviour changes of adolescents over a long period of time in the community, in order to evaluate the success of the intervention.

This study utilisedpreliminary monitoring tools to monitor the health promotion activities for the prevention of adolescent pregnancies in the communities. However, there is still need for the development of sustainable monitoring indicators and tools for continual evaluation of the project by CCWs and NGOs.

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APPENDICES

APPENDIX A- ETHICAL APPROVAL

RHODES UNIVERSITY
Grahamstown • 6140 • South Africa

FACULTY OF PHARMACY
Tel: +27 (0)46 603 8381 • Fax: +27 (0)46 603 7506 • E-mail: dean.pharmacy@ru.ac.za • PO Box 94, Grahamstown, 6140, South Africa

28 May 2014

Dear Nomsa Chemuru

RE: Ethical approval by the Faculty of Pharmacy's Ethics Committee
(Tracking number PHARM 2014 - 6)

As a registered student in the Faculty of Pharmacy, with student number 10C2600, I am pleased to inform you that the Faculty of Pharmacy's Ethics Committee grants you ethical approval for your research entitled:

Development and implementation of health promotion activities in the prevention of adolescent pregnancies,

Please ensure that the Faculty of Pharmacy's Ethics Committee is notified should any substantive change(s) be made, for whatever reason, during the research process.

Sincerely

C. Oltmann

Carmen Oltmann, PhD
Chairperson

APPENDIX B- DEPARTMENT OF HEALTH APPROVAL LETTER

Eastern Cape Department of Health

Enquiries:	Zonwabele Merile	Tel No:	040 608 0830
Date:	12th June 2014	Fax No:	043 642 1409
e-mail address:	zonwabele.merile@impilo.ecprov.gov.za		

Dear Ms N Chemuru

Re: Development and implementation of health promotion activities in the prevention of adolescent pregnancies

The Department of Health would like to inform you that your application for conducting a research on the abovementioned topic has been approved based on the following conditions:

1. During your study, you will follow the submitted protocol with ethical approval and can only deviate from it after having a written approval from the Department of Health in writing.
2. You are advised to ensure, observe and respect the rights and culture of your research participants and maintain confidentiality of their identities and shall remove or not collect any information which can be used to link the participants.
3. The Department of Health expects you to provide a progress on your study every 3 months (from date you received this letter) in writing.
4. At the end of your study, you will be expected to send a full written report with your findings and implementable recommendations to the Epidemiological Research & Surveillance Management. You may be invited to the department to come and present your research findings with your implementable recommendations.
5. Your results on the Eastern Cape will not be presented anywhere unless you have shared them with the Department of Health as indicated above.

Your compliance in this regard will be highly appreciated.

DEPUTY DIRECTOR: EPIDEMIOLOGICAL RESEARCH & SURVEILLANCE MANAGEMENT

APPENDIX C-INVITATION TO PARTICIPATE

PARTICIPANT INVITATION LETTER

RHODES UNIVERSITY

Title of the project: Development and implementation of health promotion activities in the prevention of teenage pregnancies

Dear Participant

You are kindly invited to take part in this study. This letter will tell you about this project. Please ask me if you do not understand anything in this letter so that I can explain further. You may ask questions at any time in the course of the interview. If you wish to take part in this study, you will be asked to sign a consent form.

What is the study about?

Teenage pregnancy is common in South Africa and has negative impact on the health of the mother or child. Teenagers who fall pregnant are at a risk of dropping out of school which results in a lack of qualifications and future employment. A high rate of pregnancy in adolescence indicates problems with the sexual and reproductive health of a country's young population and poses serious implications for other diseases such as HIV/AIDS and sexually transmitted infections (STIs). The study is aimed at providing health promotion activities in the prevention of teenage pregnancies to be incorporated into community development activities carried out by non-governmental organisations.

Participants

Participants in this project are from the Positive Health Champions (community health workers) of the Angus Gillis Foundation and community health workers of St Mary's Development Care Centre that both focus community development activities.

What will we ask you to do?

If you agree to be part of this study, you will discuss with the researcher your experiences with respect to the beliefs within your community about teenage pregnancies. This will be in a form of a one-on-one, informal question and answer session. During the session, you are allowed to ask questions and give opinions on any of the questions asked, and a voice recorder will be used. If at any point you would like to withdraw from this session you may

do so. You will also be given a booklet with information about prevention of teenage pregnancy and asked questions on the usefulness and appropriateness of the information provided. Your feedback will be used to develop a facilitator's manual for the prevention of adolescent pregnancies. This facilitator's manual will be used in a workshop which you will be asked to attend. The facilitator's manual will be used to aid in role playing activities of field workers which will help you acquire skills and knowledge to incorporate the health promotion materials for the prevention of teenage pregnancy into your existing community development activities. After you have incorporated the health promotion materials for the prevention of teenage pregnancies, you will then attend a focus group discussion to give feedback on your experiences in conducting the activities of this health promotion activity.

Confidentiality

To ensure your privacy, you will be allocated a participant number which will be used instead of your names during the question and answer sessions. The answers obtained from the questionnaire will be kept confidential and your voices will be erased after the information is transcribed. Personal information and your name will not be used to write any report or results. The results of the project will be used for research purposes only.

Benefits

If you participate in the project, you will be involved in the development of the training manuals developed which you will use in carrying out your health promotion activities. You will also increase your knowledge on teenage pregnancy.

Taking part is voluntary

Participation in this study is voluntary. You may decide to leave the study at any time.

Thank you

Nomsa Chemuru

Rhodes University, Faculty of Pharmacy

Email: g10c2600@campus.ru.ac.za, Cell number: 073 756 5965

APPENDIX D-CONSENT FORM

PARTICIPANT INFORMED CONSENT FORM

RHODES UNIVERSITY

Title of Project: Development and implementation of health promotion activities in the prevention of adolescent pregnancies.

Name of Researcher: Nomsa Rutendo Chemuru

1. I confirm that Miss Nomsa Rutendo Chemuru has explained the contents of the Participation Information letter.
2. I understand the participant invitation letter for the development and implementation of health promotion activities in the prevention of adolescent pregnancies. I will have the opportunity to consider the information, ask questions and have these answered satisfactorily.
3. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without my medical care or legal rights being affected.
4. I understand that data collected during the study, will be used by the researcher but all details gathered during this research, especially my name or identity, will be kept private.
5. I give permission to Miss Chemuru and the moderator ..... (Name) to ask relevant questions when I participate in this interview.
6. I give permission to Miss Chemuru to record the interview.
7. I agree to take part in the above study.

Name of Participant.....

Date.....

Signature.....

Declaration

I, Nomsa Rutendo Chemuru (the researcher) and..... swear that any personal details obtained during this research study will remain strictly confidential.

Signature (Researcher).....

Date.....

Name of witness.....

Signature.....

Date.....

APPENDIX E- A QUESTION GUIDE TO SEMI-STRUCTURED INTERVIEWS

RHODES UNIVERSITY

DEVELOPMENT AND IMPLEMENTAION OF HEALTH PROMOTION ACTIVITIES FOR THE PREVENTION OF ADOLESCENT PREGNANCIES

A QUESTION GUIDE TO SEMI STRUCTURED INTERVIEWS

Notes to researcher: make sure the consent form has been signed

A. **Demographics**

Participant number: ____ Age: _____

Gender: ____

Educational Level:_____

Affiliation *(AGF or St Mary's)*_____

Time worked in health promotion activities: _____

Time worked in maternal health: _____

Introductory note: *I will be discussing with you issues related to teenage pregnancies. Please note there is no right or wrong answer, all your views are important. If you do not feel free to answer any questions along the way indicate this to me.*

B. **Background of health workers/work experience**

1. Which health promotion activities are you involved in? (Probe: which area have you been involved in)
2. Have you ever worked with teenagers before?
3. Have you ever worked with teenagers before in health promotion activities?
4. Which health promotion activities do you conduct with teenagers?
5. Is sexual and reproductive health part of your activities? (Probe: age groups)
6. What are your views on teenagers getting pregnant?
7. What are the views of the community in general?
8. Is teenage pregnancy a cause for concern in the area that you work? (Probe: Since when?
9. Is it a recent concern ore has there always been a number of cases of teenage pregnancies in the community that you work in?
10. To your experiences which is the most age at which you find these teenagers pregnant?
11. What ages are most common in teenage pregnant girls?
12. Are there any activities in the community that promote prevention of teenage pregnancy? (enablers)

C. **Factors contributing to adolescent pregnancies**

13. What do you think are the main common causes of teenage pregnancies in the area that you work in?
14. What are the beliefs of the community on early onset of sexual activities?
15. What are the beliefs of teenagers on the early onset of sexual activities?
16. What are the perceived benefits of early onset of sexual activities, if any?
17. Which are the common relationships which result in teenage pregnancies? Why?

D. **Community beliefs, attitudes, & norms about sexuality and sexual behaviour (Community perceptions)**

18. What is the community's perception of teenage sex?
19. What is the perception of the community about teenage pregnancy?
20. What is the role of men in sexual initiation? (gender issues or imbalances, where men have the upper hand)
21. Is women abuse common in the community?
22. What is the common type of abuse?
23. What is the perception of the community regarding the use contraception?
24. What is the conception of a mother when she sees her teenage girl with a pack of contraceptive pills?
25. What do health workers perceive of attitudes of teenagers towards sex?
26. What are the perceived reasons for sexual relations?
27. Are there any teenagers that willingly fall pregnant? (Probe why?)
28. What are the community's beliefs towards abstinence?
29. What are people's beliefs' towards abstinence?

30. Are 'sugar daddies' common? And how does the community view such relationships? (probe: explain)

E. Sources of reproductive knowledge for adolescence(enablers/nurtures)

31. Is reproductive health present in schools curriculum?
32. Do teachers talk to students about sex?
33. Does reproductive health cover both sexes?
34. Where do teenagers get information about sexual matters?
35. What role do peers play in providing information?
36. What role do mothers and elders play in providing such information?
37. What role does the community play in providing information on sexual matters?
38. What role does your organisation (DCC/AGF) play in providing sexual health information?
39. Can teenagers freely discuss sexual matters with elders
40. What are the perceptions of the community about discussing reproductive health with teenagers
41. Is there any 'taboo' issue that parents cannot talk to about to their girls e.g. first menses

F. Access of contraceptives to the adolescence (enablers/barriers/cues to action/self-efficacy)

42. Is there common use of any form of contraceptives in teenagers? (Probe: which are the common ones?
43. Do teenagers have access to contraceptives?
44. How far is the nearest clinic or pharmacy where they can get contraceptives?
45. Is there stigma attached to a young women asking for contraceptives at clinics?
46. Do you think they know how to use them?
47. Where do they get the knowledge to use them, is the information provided at clinics?

G. Questions based on the booklet developed:

Note to researcher: the questions I am going to ask you now are based on the booklet on information about preventing pregnancy

48. Are the words used in the booklet easy to understand?
49. Are the pictures clear and visible?
50. How can we incorporate the information in this booklet into developing a facilitator's manual?
51. How best can we disseminate this information in the booklets to teenagers? (eg demostrations)
52. Which other information can be added to this information to develop a facilitators manual

PROBES ARISING DURING INTERVIEW:

APPENDIX F: TWO-DAY PARTICIPATORY WORKSHOP PROGRAMME

RHODES UNIVERSITY

DEVELPOMENT AND IMPLEMENTATION OF HEALTH PROMOTION ACTIVITIES FOR THE PREVENTION OF TEENAGE PREGNANCY

WORKSHOP PROGRAMME

DATE	TIME	INFORMATION
DAY 1	9.00AM-12.00PM	**Introduction** • Questionnaire • Roles and responsibilities of CCW **Teenage pregnancy** • What is teenage pregnancy • Why teenagers fall pregnant **Becoming a woman** • Puberty • Female reproductive system • Menstruation and the menstrual cycle
DAY 2	9.00AM-12.00PM	**Why teenage pregnancy should be prevented** • Consequences of teenage pregnancy • Health effects • Social effects • Financial effects • Emotional effects **Preventing teenage pregnancy** • Myths around falling pregnant Methods of preventing pregnancy • Abstinence • Delaying sex **Preventing teenage pregnancy** • Barrier methods • Hormonal methods • Teenage pregnancy and HIV • Dual protection against STI and pregnancy • Basic communication skills

APPENDIX G-INTERVENTION QUESTION

PARTICIPANT NUMBER:_____ DATE: _____

DEVELOPMENT AND IMPLEMENTATION OF HEALTH PROMOTION ACTIVITIES FOR THE PREVENTION OF TEENAGE PREGNANCY

PRE-INTERVENTION QUESTIONNAIRE

RESEARCHER: NOMSA CHEMURU

A: TEENAGE PREGNANCY (UKUKHULELWA KWABANTWANA ABASAFIKISAYO)

PLEASE CIRCLE THE CORRECT ANSWER (Yakhaisanqgakwimpenduloeyiyo).

1. What is a teenager?A boy or girl between the ages of (Umntwana ofikisayo, yintombazana okanye inkwenkwe ekwiminyakaephakathikwe-)
   A. 0 to 9 years
   B. 13 to 19 years
   C. 20 to 29 years
   D. 30 to 49 years
   E. 40 to 49 years
2. Why do teenagers fall pregnant (kutheni amantombazana (afikisayo) ekhulelwa)?
   A. Lack of education in sex and relationships (kukungabikho kwemfundiso ngukudibene nezesondo nezobudlelwano)
   B. Abuse (uhlukumezo)
   C. Peer pressure (uxinzelelelo/ukulinganisaoontanga)
   D. All of the above (zonke ezizingasentla)
   E. None of the above (Akukhona nyekwezizingasentla)
3. What is rape (yintoni udlwengulo)?
   A. Willingly having sex (ukufuna ukwabelana ngesondo)
   B. Forced sex (ukunyanzelwa ubawabelane ngesondo)
   C. A man beating a woman (indoda ebetha umfazi)
   D. All of the above(zonkee zizingasentla)
   E. None of the above(Akukhona nyekwe zizingasentla)

B: BECOMING A WOMAN (UKUBA NGUMFAZI)

ANSWER TRUE (T) OR FALSE (F) TO THE FOLLOWING QUESTIONS (PHENDULA UKUBA LEMIBUZO ILANDELAYO IYINYANI OKANYE IBUBUXOKI)

4	Puberty is a change from being a girl (ukufikisa kukutshintsha ukuba yintombazana)to a woman	
5	Puberty brings about changes in the body and feelings (Ukufikisa kuza notshintsho emzimbeni nakwindlela ozivangayo)	
6	Once a woman reaches puberty, she can fall pregnant and bear children (xa intombazana ifikisile, inako ukukhulelwa ibenabantwana)	
7	The female reproductive system consists of a vagina, cervix, uterus ,fallopian tubes and a penis (isizalo sowasetyhini siquka umphakatho, umlomo wesizalo. isibeleko. imibhobho yesibeleko, nexhanyana lendoda)	
8	Menstruation is also called 'having a period' (umntwana oyintombazana xa 'ehlamba' kuthwa uya exesheni)	
9	A menstrual cycle is 28 days only, nothing more nothing less (Ukuya kwentombazana exesheni kuthatha intsuku ezingamashumi ezingamashumi amabini anesine kuphela)ONLY	
10	Pregnancy occurs when the female egg is fertilised by the male sperm (Ukukhulelwa/mitha kwentombazana kwenzeka xa ithambo lendoda lityaleke	

PARTICIPANT NUMBER:_____ DATE: _____

	kwiqanda lentombazana)	

C: PREVENTING TEENAGE PREGNANCY (UKHUSELO KOKHULELWA/MITHA KWAMANTOMBAZANA)

For the following statements, write down whether the statement is true (T) or false (F) regarding falling pregnant (kwezi zingezantsi bhala ukuba ziyinyani okanye zibubuxoki mayelana nokukhulelwa/ukumitha)

11	You cannot fall pregnant the first time you have sex (Awungekhe ukhulelwe xa uqala ukwabelana ngesondo)	
12	You can only fall pregnant if you have sex regularly/every time (ungakhulelwa kuphela xa usabelana ngesondo qho)	
13	There are times of the month that teenagers are safe from falling pregnant (akhona amathuba apha enyangeni apho amantombazana ekhuselekile ekubeni akhulelwe)	
14	You can fall pregnant when the man withdraws before ejaculation (ungakhulelwa xa indoda ingakuyiselanga emva ukuphuma)	
15	A tampon will protect you from falling pregnant (i-tampon iyayikhusele intombazana ekukhulelweni)	
17	If there is no penetration, there is NO risk of falling pregnant (ukuba ixhanyana lendoda alingenanga alikho ithuba lokuba ungakhulelwa)	
18	Washing or taking a bath after sex protects one from falling pregnant (ukuhlamba emva kokwabelana ngesondo kuyaku khusela ekukhulelweni)	
19	One will not fall pregnant if one has sex standing up (ubani akangekhe akhulelwe ukuba wabelana ngesondo emi ngenyawo)	
20	If one has sex with a circumcised man one will not fall pregnant (ukuba ubani wabelana ngesondo nendoda eyalukileyo akazukhulelwa)	
21	Cool drink lowers their sperm count and therefore boys who drink a lot of cool drink cannot get a girl pregnant (iziselo ezibandayo ziyazicutha isperm ngoko amakhwenkwe azisela kakhulu iziselo ezibandayo akanokwazi ukumithisa intombazana)	

Please fill in the information you know in the table below (zalisa ngolwazi onalo kuletafile ingase zantsi).

PARTICIPANT NUMBER:_____ DATE:_____

What are the disadvantages (Ayikuncedi ngantoni)?	What are the advantages (Ikunceda ngantoni)?	How does it work (Isebenza kanjani)?	What is it (Yintoni)?	
				Abstinence (ukuzikhw ebula)
				Male condom 
				Female condom (ikhondom yabafazi) 
				Birth control pill (ipilisi ezilawula ukuzala) 
				Hormonal injection (isitofu sencin di zamadlala) 
				Subdermal implants (ufakelelo phantsi kwesikhumba/ulusu) 

APPENDIX H- PARTICIPANT FEEDBACK FORM

Feedback form – Teenage pregnancy workshop Date.....

1. What did you like about the workshop? (Yintoni onye wayithanda ngoluphuhliso?)

2. What can be changed or improved in the workshop? (Loluphi itshintsho olunokwenziwa ukuze oluphuhliso lubengcono?)

3. What three (3) new things you learnt today? (Zintoni izinto ezintathu (3) ozifundeleyo?)

4. What information was not clear in the booklet/manual that you need clarification?(Ziziphi lincukanca ezikule ngcwadana ofuna zicacuswe?)

5. What information do you think should be added in?(Ziziphi incukanca ezibalulekileyo ocinga ukuba mazongezwe?)

6. Any other comments (Ikhona enye into onokuthethangayo okanye onokuhloma?)

APPENDIX I- GUIDED IMPLEMENTATION DISCUSSION GUIDE

RHODES UNIVERSITY

Development and implementation of health promotion activities in the prevention of adolescent pregnancies.

Researcher: Nomsa Rutendo Chemuru

A GUIDE TO GUIDED IMPLEMENTATION DISCUSSIONS

Background

Health promotion activities in the prevention of teenage pregnancy were incorporated in existing health promotion activities carried out by two non-governmental organisations namely Positive Health Champions of the Ubunye Foundation and St Mary's Development and Care Centre. Focus group discussions are used to assess the success of the health promotion activities incorporated.

1. Do you consider the information provided in the facilitator's manual to be adequate and culturally appropriate?
2. Is the information clear? Have you come across a section that you were not able to explain to someone?
3. What can you say about (i) language (ii) pictures (iii) overall impression?
4. Is the manual useful in the promotion of breastfeeding and exclusive breastfeeding?
5. Where are you implementing the project?
6. Are you able to talk to the intended target i.e. both males and females of all age groups?
7. What problems are you facing? Suggestions on how to tackle such problems?
8. Do the people in the community take time to listen to you?

NOTES

APPENDIX J-GUIDED IMPLEMENENTATION DATA FORM

Development and implementation of health promotion activities in the prevention of adolescent pregnancies.
Researcher: Nomsa Rutendo Chemuru
Maternal and child health promotion: Implementation data form

RHODES UNIVERSITY

Date	Sex /Age		Where the information was given	What information was given /what information was asked by the client?
	F ___years	M ___years	☐ Clinic ☐ Home ☐ School ☐ Other	
			☐ Clinic ☐ Home ☐ School ☐ Other	
			☐ Clinic ☐ Home ☐ School ☐ Other	
			☐ Clinic ☐ Home ☐ School ☐ Other	
			☐ Clinic ☐ Home ☐ School ☐ Other	
			☐ Clinic	

APPENDIX K- FOCUS GROUP DISCUSSION GUIDE

RHODES UNIVERSITY

Development and implementation of health promotion activities in the prevention of adolescent pregnancies.

Researcher: Nomsa Rutendo Chemuru

A GUIDE TO FOCUS GROUP DISCUSSIONS

Background

Health promotion activities in the prevention of teenage pregnancy were incorporated in existing health promotion activities carried out by two non-governmental organisations namely Positive Health Champions of the Ubunye Foundation and St Mary's Development and Care Centre. Focus group discussions are used to assess the success of the health promotion activities incorporated.

1. **Semi structured interviews (problem definition)**
- Did we manage to identify the problem?
- Did we identify community concerns?

2. **Workshops (solution generation)**
- Did we identify the determinants of the problem?
- What solutions did we come up with?
- Did we define our objectives for the activity?
- Did the workshops conducted provide you with enough information and skills to carry out the health promotion activities in the prevention of teenage pregnancy? Please explain

3. **Facilitation manuals**
- Would you consider the information and knowledge about teenage pregnancy provided in the training manual training adequate and appropriate? Please explain
- Was the information clear for you?
- Was the provide information clear for the teenagers you worked with?
- What can be done to improve the facilitators' manuals?
- What pictures did you not understand?
- What images did you have trouble explaining?
- Did you carry the manual around wherever you went?
- Was it easy to walk around with? If not what can we change?
- Was the information in chronological order to understand?

4. **Implementation phase**
- Was the programme implemented as planned? Ie. Schools, clinics, homes?

- Did the programme reach all of the target population i.e. teenagers
- How was the extent and level of exposure? (
- What are the challenges you faced when conducting the health promotion activities for the prevention of teenage pregnancies?
- Would the people in the community take time to listen to you?
- What was their reaction to your advances in sexual and reproductive health?

5. Project evaluation

- Has the process strengthened your capabilities, skills or knowledge?
- Do you feel empowered to tackle any problems with regard to sexual and reproductive health for teenagers
- What can be improved to make the health promotion activities sustainable?
- Has the community accepted the new initiative for health promotion for the prevention of teenage pregnancies?
- To what extent do you think the programme has been successful?

6. Any other questions arising

NOTES

APPENDIX L- RESEARCH OUTPUTS

Research is featured in a UNESCO publication on community-university partnerships in South Africa: Strengthening community university research partnerships: global perspectives. Available at: https://www.academia.edu/15060687/One_bangle_cannot_jingle_community-university_research_partnerships_in_South_Africa (Chapter 4: South Africa; pages 213-217)

Articles published

Nomsa R. Chemuru, Sunitha C. Srinivas (2015) Application of the PEN-3 Cultural Model in Assessing Factors affecting Adolescent Pregnancies in Rural Eastern Cape, South Africa. International Journal of Reproduction, Fertility & Sexual Health, S1:001, 01-08.

National level conferences

Chemuru NR, Hornby D, Srinivas S. Adolescent pregnancy: beliefs of community care workers in two rural communities. 35th Conference of the Academy of Pharmaceutical Sciences, Port Elizabeth, South Africa, 12-14 September 2014. Poster presentation.

Chemuru NR, Hornby D, Srinivas S. Using community-based participatory research to develop a culturally sensitive adolescent pregnancy prevention intervention with community care workers. 29th Annual South African Association of Hospital and Institutional Pharmacists Conference, 12-15 March 2015. Podium Presentation

University level conferences

Chemuru NR, Hornby D, Srinivas. Development and Implementation of health promotion activities for the prevention of adolescent pregnancies. Critical Studies in Sexuality and Reproduction (CSSR) Colloquium. Rhodes University, 10-11 September, 2014. Podium Presentation.

Chemuru NR, Hornby D, Srinivas S. Using a cultural model to explore factors contributing to adolescent pregnancy in rural communities in the Eastern Cape, South Africa. 6th Inter-disciplinary Post Graduate conference, Rhodes University, Grahamstown, South Africa, 8-10 October 2014. Podium Presentation.

Chemuru NR, Hornby D, Srinivas S. Application of the PEN-3 cultural model to adolescent pregnancy: 15th Annual Research Symposium. Faculty of Pharmacy, Rhodes University, 11 November 2014. Podium presentation.

APPENDIX M- FINAL FACILITATION MANUAL

Preventing teenage pregnancy

A facilitator's manual for community care workers

Edited by

Contents

1. INTRODUCTION

In South Africa, though efforts have been made by the Department of health to reduce the number of teenage girls that fall pregnant, the number still high. It was recorded that in 1996 the number of girls that fell pregnant who were between the ages of 15 and 18 was approximately 12 in every 100 girls. In 2001, the number of teenage girls who had fallen pregnant was approximately 11 in every 100 girls. In 2011, the number increases to 14 in every 100 girls. By the time young girls reach the age of 18 more than 3 girls in every 10 would have given birth at least once. This manual was prepared to enhance knowledge on teenage pregnancy.

1.1. Welcome and Introductions by the facilitator

1. Participants are welcomed and thanked for their presence.
2. Facilitate introductions participants.
3. Familiarize participants with the venue and review the general schedule (start and end times, lunch and tea times).
4. Facilitate an icebreaker in order for participants to get to know one another. The following is a suggested ice breaker, though others can be invented or adapted to the local context. Divide participants into pairs. Ask each pair to share their names and where they are from and two or three things they have in common.
5. Setting ground rules for workshops is helpful for managing group discussions. Ask participants to brainstorm ground rules. Feel free to add any important rules that they may have omitted e. g.
    - Participate actively.
    - Respect each other's opinions and experiences. Do not judge people because of what they do or say.

- In general, questions may be asked at any time unless the facilitator indicates that in a particular presentation questions should come at the end. The latter will definitely apply for observation of role plays.
- Be on time for all activities.
- Turn mobile phones off during the workshops.
- Where opportunities present, feel free to discuss and exchange ideas with other participants at the training.
- If at any time one does not agree with the recommendations/advice noted on the manual or presented in the session, raise these issues with the facilitator during the sessions so that everyone can listen and participate in the discussions.

6. Present the learning objectives and compare them to participants' expectations. Allow participants to ask questions. Where realistic, note the additional, relevant objectives based on participants' expectations.

Activity 1: Expectations of Participants

What are your (participants) expectations of this workshop on preventing teenage pregnancy? What do participants hope to achieve at the end of the workshop?

1.2. Overall Learning Objectives

At the end of the training workshop, participants will be equipped with skills needed to support teenagers in the community in terms of sexual and reproductive health. Participants will be able to:

- Understand the stages of behaviour change.
- Incorporate health promotion activities for the prevention of teenage pregnancy in their already existing community development activities.
- Identify and assist in solving sexual and reproductive health problems faced by teenagers to prevent teenage pregnancies
- Develop effective communication skills to establish conversations with teenagers, families, and other community members on teenage pregnancy and prevention.

2. UNDERSTANDING BEHAVIOUR CHANGE IN THE COMMUNITY

By the end of this section, participants will be able to:

- Understand the process of behaviour change
- Assist people change to healthy living lifestyles

Community care workers play a huge role in educating people about health and promoting healthy living styles in their communities. This can be applied to prevention of teenage pregnancy in promoting contraceptive use amongst the teenagers. However, in educating people people, it is important to understand that change will take time to occur as it is process which takes time to achieve.

The behaviour change occurs in the following stages:

1. **Pre-contemplation**- This is when the person is not seriously thinking about changing their problem behaviour usually because they are not aware of the concerns of their current behaviour. For example, teenagers practicing unprotected sex might not know that they are at a risk of getting pregnant.

Figure 3: An example of what one would say during the pre-contemplation stage

2. **Contemplation (thinking) -** At this stage the individual begins to think about making a change. This is when what a person thinks about the benefits of changing behaviour for example use of contraceptives and the benefits of the change. This stage is influenced by the knowledge that the individual have of the benefits of behaviour change.
3. **Action-** This is when a person starts to change behaviour to healthy behaviours. Support from the community is important at this stage to maintain healthy behaviours such as contraceptive use amongst the teenagers.

Figure 3: An example of what one would say during the contemplation stage

Figure 3: Response when one decides to change behaviour

4. **Maintenance**- in this stage the person would have managed to perform the new behaviour for a long period.
5. **Termination-** this is when the individual has managed to change completely and is no longer tempted to go back to the previous behaviour.

Figure 4: Response when one decides to change to healthy behaviours

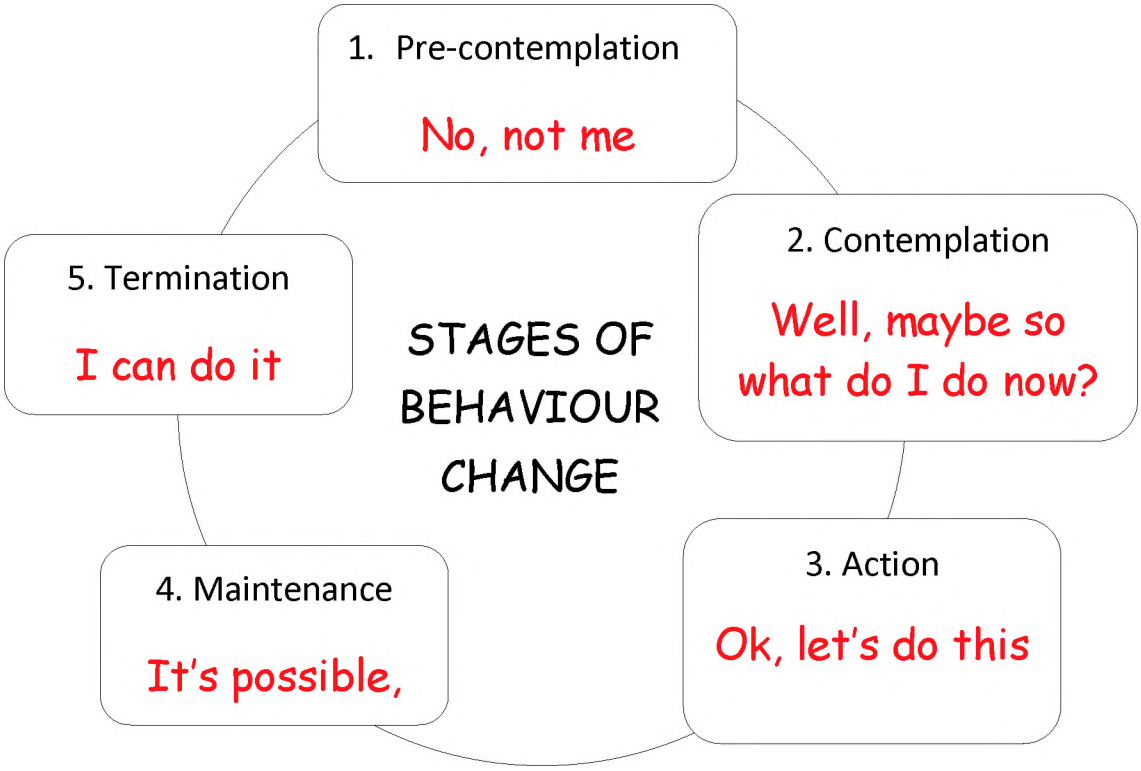


Figure 5: Stages of behaviour change

2.1 Brief behaviour change counselling

The 5 A's is a guideline in order to community members to change their behaviour.

1. **Ask**: ask about what they know about their risky behaviour or what the person might be interested in knowing more about.

2. **Advise**: provide clear information on the consequences of their current behaviour and benefits of behaviour change to a healthy lifestyle.

3. **Assess**: allow the person to think about the information that one might have given them and determine if they are ready to change or not.

4. **Assist:** if the person is ready to change, assist the person in planning for change, and in getting behavioural skills and confidence to succeed.

5. **Arrange**: arrange to meet up with the person to provide continuing support and to adjust plan as needed; refer to clinics if required.

Activity 3: Helping the community change

Discuss how knowledge on the different stages of behaviour change can be used in your everyday work as a community care worker.

3. TEENAGE PREGNANCY

OBJECTIVES

By the end of this section, participants will be able to:

- Understand what teenage pregnancy is
- Identify the causes of teenage pregnancy in their communities
- Advise teenagers dealing with peer pressure

3.1. What is teenage pregnancy?

The word 'teenage' pregnancy and 'adolescent' pregnancy are often used to mean the same thing. Teenage pregnancy is pregnancy that occurs in girls between the ages of 10 and 19.

Activity 4: Discussion

a. Let's talk about the incidences of teenage pregnancies in our community. Are there any girls that are falling pregnant when they are still less than 19 years of age?
b. What do you think are the causes of teenage pregnancy in your area?
c. What are the consequences to the girl's family, her community and the country as a whole?

3.2. Why teenagers fall pregnant

3.2.1. Lack of education in sex and relationships

Most parents do not talk to their children about pregnancy and other aspects such as sex and HIV/AIDS. Lack of parental guidance and counselling on issues of sexuality and sex education may also contribute to causing teenage pregnancies among the teenage girls. Cultural taboos may not allow discussions on sexuality and sex to be discussed in families. This results in teenage girls not knowing how pregnancy occurs and how to prevent it by abstinence or use contraceptives such as condom and pills.

3.2.2 Abuse

Women in violent relationships, domestic violence and who had family problems in childhood are more likely to become pregnant as teenagers. Teenagers who have bad childhood experiences and abuse are more likely to fall pregnant before the ages of 19. Young girls in violent relationships often have little or no negotiating power in the relationship with regards to contraception such as condom use, leading to increased chances of falling pregnant.

3.2.3 Rape

Rape can be defined as forced sex. This is when one does not consent to the act of sex but is forced to do so by someone they KNOW or DO NOT KNOW.

3.2.4 Age Gap/power in relationships

Some teenage girls are in relationships with older boys and in particular with adult men. These older men may provide girls with gifts and money. So the girls may not be able to refuse when older men ask for sex.

3.2.5 Alcohol & drug abuse

The use of drugs and alcohol contributes a lot to teenage pregnancy. A teenager may not be ready for sexual intercourse but being intoxicated makes one to be involved in unintended sexual activity. This may be because sex under the influence of drugs or alcohol maybe is less emotionally painful and embarrassing.

3.2.6 Peer Pressure

Some teenagers engage in sexual activity when they are still young because their friends are doing it, so they want to have that sense of belonging.

3.2.6.1 Coping with peer pressure

Peers are people who are part of the same social group or friends. The term “peer pressure" refers to the influence that peers can have on each other. Although peer pressure does not necessarily have to be negative, the term "pressure" suggests that the process influences people to do things because their peers are doing it.

Teenagers are particularly vulnerable to peer pressure, because they are at a stage of development when they are separating more from their parents' influence, but have not yet

established their own values or understanding about human relationships or the consequences of their behavior. They are also struggling for acceptance amongst friends and the community at this stage, and may be willing to participate in behaviors that will allow them to be accepted that are against their better judgment.

For example, one teenager may negatively influence another into activities that are against the law for their age group such as drinking alcohol, taking drugs or becoming sexually active.

Activity 5: Discussion

How can we influence our teenagers to handle peer pressure and decrease teenage pregnancy?

SUMMARY

- Teenage pregnancy is pregnancy in girls between the ages of 10 and 19.
- The following factors can contribute to teenage pregnancy
  - ✓ Lack of education in sex and relationships
  - ✓ Abuse
  - ✓ Rape
  - ✓ Age gap/ power in relationships
  - ✓ Alcohol and drug abuse
  - ✓ Peer pressure
- Here are some of the things we can tell teenagers when dealing with peer pressure. Teenagers should:
  - ✓ Choose friends wisely
  - ✓ Be surrounded by people who share similar interests in education, sports etc, to reduce the chances of being asked to do something that one might not want to do such as falling pregnant
  - ✓ Think before acting: for example, 'Will the activity get one into trouble? Will it be harmful to one's health?'
  - ✓ Learn to say 'NO' when forced to do what might not be interested in

4. BECOMING AN ADULT

OBJECTIVES

By the end of this session, participants will be able to:

- Understand the changes of the female and male body at puberty
- Explain the menstrual cycle
- Explain how pregnancy occurs

From what we have learnt earlier, many teenagers fall pregnant because they simply do not realize that their bodies are ready to have babies. Teenage years come with great changes in young girls' bodies and feelings and unless they understand what is happening, these changes may cause worry, confusion or even fear. This is a change from being a girl to a woman who can bear children. This change is called *puberty*, and happens during a time called *adolescence*.

4.1. Puberty

Puberty happens to everyone and is a natural stage in the development of both men and women. It occurs at different ages and does not happen to everyone at the same age. Some people go through puberty earlier than others or later. Puberty can start as early as 8 years old or as late as 18 years old. Chemicals called hormones will cause many changes in the body. Examples are the hormones oestrogen and progesterone which are responsible for the changes that occur at puberty .Puberty causes certain changes in the body and feelings and some of them are given below.

4.1.1. Changes that happen to body of boys and girls during puberty

Table 1: Changes that occur in boys and girls during puberty

Boys	Girls
• Testicles grow larger • Penis grows longer and fuller • Height and weight increase • Hair starts growing around the private parts, under arms (in armpits), face, on legs and arms • Muscles develop	• Height and weight increase • Hair starts growing around the private parts, under arms (in armpits), on legs and arms • Hips get wider • Breasts and nipples start to grow

• Wet dreams occur (ability to ejaculate) • Voice cracks and gets deeper • Skin and hair become more oily • Pimples may appear	• Pimples start to appear on the face, back or chest • Hair and skin becomes more oily • Periods start (also known as menstruation)

4.1.2 Changes in feelings

- Mood swings- one can switch easily from being happy to being sad.
- Feeling of physical sexual attraction towards people of the opposite sex.
- Uncomfortable with one's body- one may sometimes feel unhappy or uncomfortable with the way one looks especially if their friends develop slower or faster than them.

4.2. The female reproductive system

Once a woman has experienced puberty, they can fall pregnant. The female reproductive system is composed of the vagina, cervix, womb, fallopian tubes and the ovaries as shown in the diagram below.

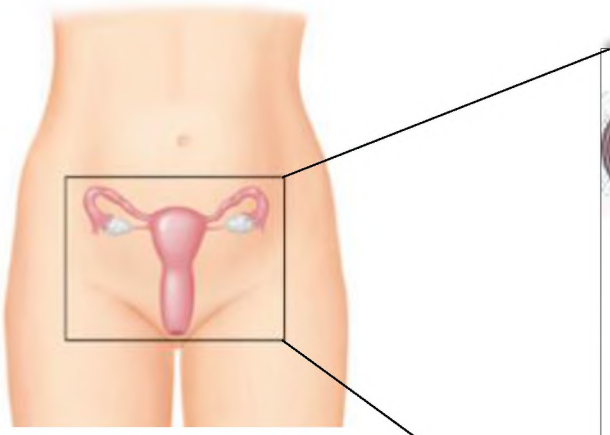


Figure 6a: The female reproductive system

Figure 6b: The enlarged version of the female reproductive system

4.2.1 Vagina

The vagina is a muscular, hollow tube that extends from the vaginal opening to the cervix of the uterus. The vagina has many uses in the body which are:

- Receives a male's erect penis and semen during sexual intercourse.
- Pathway through a woman's body for the baby during childbirth.
- Provides the route for the menstrual blood (menses) from the uterus, to leave the body.

4.2.2. Cervix

The cervix is the lower, narrow portion of the uterus where it joins with the top end of the vagina. During menstruation, the cervix stretches open slightly to allow menstrual blood to flow out. This stretching is believed to be part of the period pain that many women experience. During childbirth, contractions of the uterus will dilate the cervix to allow the baby to pass through.

4.2.2 Uterus

The uterus also known as the womb is shaped like an upside-down pear, with a thick lining of blood and walls made of muscle. This is where the baby develops until it is born. The uterus contains some of the strongest muscles in the female body. These muscles are able to expand and contract to accommodate a growing fetus and then help push the baby out during labor.

4.2.3 Fallopian tubes

These are small tubes that connect the ovaries to the uterus. Eggs (ova) produced in the ovaries travel along the fallopian tubes to reach the uterus. This is the passage way for the egg or sperm.

4.2.4 Ovaries

There are two small oval-shaped (almost round shape) organs that produce female eggs called ova (many) or ovum (single/one). There are two ovaries in a female body, one on each side of the uterus. Ovaries also produce substances called hormones which help with the functioning of the female body.

4.3. Menstruation

Menstruation is usually called 'having a period'. It is a woman's monthly bleeding where the body removes the lining of the uterus. It can start between the ages of 8 and 18 usually start about a

year after the breasts have begun to develop. For some girls it may take longer to start their period. The first period is usually frightening for some girls and arrives without warning. Young girls should be educated of the changes happening to their bodies to help them understand that it is a natural event that happens to every woman. Having a period does not mean has a boyfriend.

4.3.1 The menstrual cycle

A menstrual cycle is counted from the first day of one period to the first day of the next period. The average menstrual cycle is 28 days long and it is different from one person to the next. For most women, the menstrual cycle ranges between 21 to 45 days for teenagers and for adults 21 to 35 days. For teenagers in their early years, their menstrual cycle is irregular and the period days differ from month to month. The diagram in figure 7 shows how days of a menstrual cycle are counted for a 28 day menstrual cycle. It shows how to calculate the menstrual cycle if one was to start their period on the 5th of October.

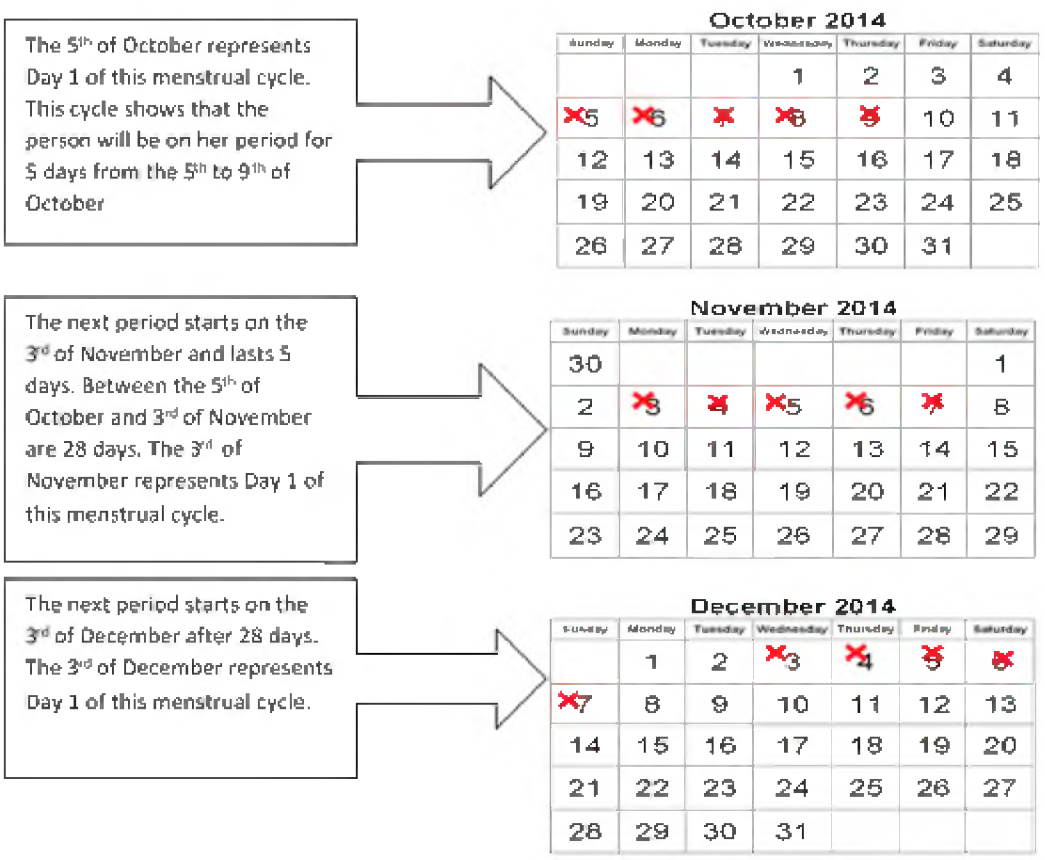
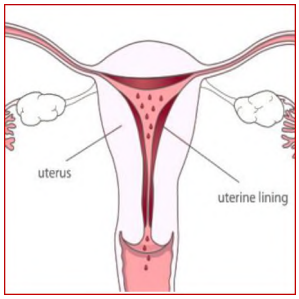


Figure 7: An example of calculation of a menstrual cycle

4.3.1.1 What is happening inside the body during menstruation?

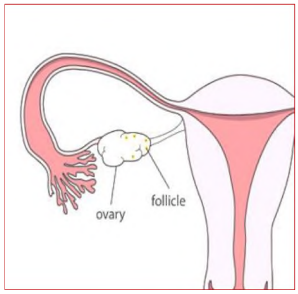
The diagrams shown in this section (Day1-Day28), shows what happens in the uterus during the menstrual cycle.

DAY 1



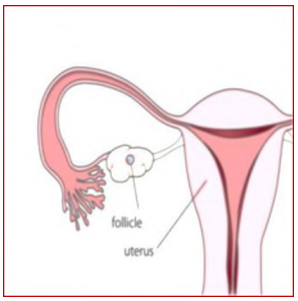
A cycle is counted from the first day of one period to the first day of the next period. **Day 1** starts with the first day of the period. This occurs after some hormones stop getting released in the body at the end of the previous cycle. This results in blood and tissues lining the womb to break down and shed from the body. Bleeding lasts about 5-7 days.

DAY 7



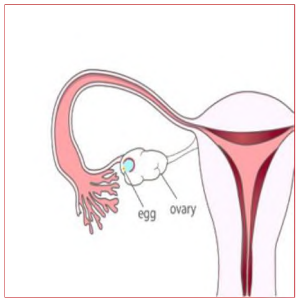
Usually by **Day 7**, bleeding stops. Leading up to this time, hormones are released and cause an egg to start to develop in the ovaries.

DAY 8-13



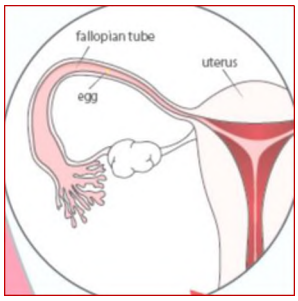
Between **Day 7 and 14**, an egg will continue to develop and reach maturity. The lining of the uterus starts to thicken, waiting for a fertilized egg to implant there. The lining is rich in blood and nutrients in preparation for a baby.

DAY 14



Around **Day 14 (in a 28-day cycle),** a mature egg is released from the ovary. The process is called OVULATION. This occurs when the hormones begin to be released again.

DAY 15-28



Over the next few days (**Day 15-28**), the egg travels down the fallopian tube towards the uterus. If a sperm unites with the egg in the fallopian tube, the fertilized egg will continue down the fallopian tube and attach to the lining of the uterus.

If the egg is not fertilized, the egg will break apart and be shed with the next period.

4.4 The male reproductive system

Unlike the female reproductive system, most of the male reproductive system is located outside of the body. These structures include the penis, scrotum, and testicles shown in the Figure 8.

The purpose of the organs of the male reproductive system is to perform the following functions:

- To produce, maintain, and transport sperm (the male reproductive cells) and protective fluid (semen)
- To discharge sperm during sex
- To produce and secrete male sex hormones responsible for maintaining the male reproductive system

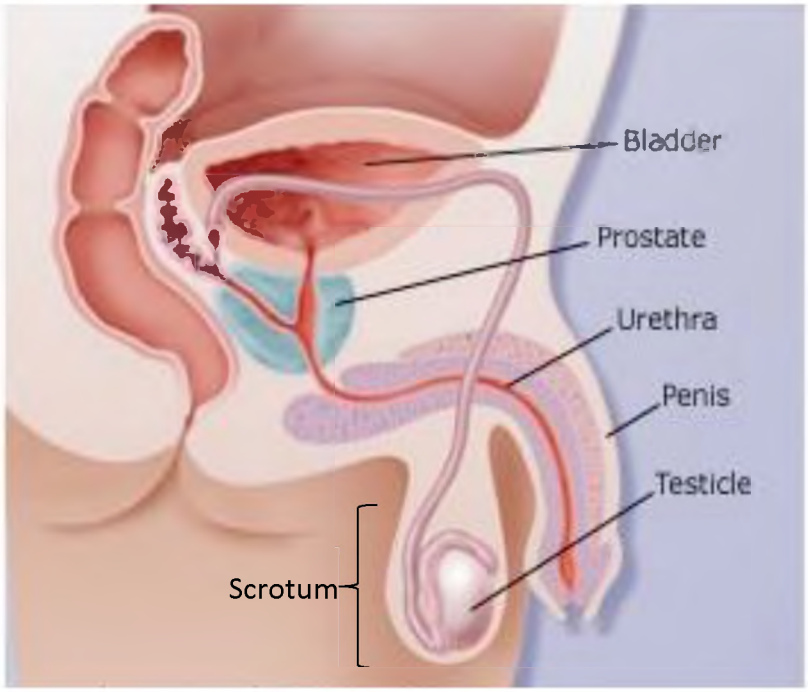


Figure 8: The male reproductive system

4.4.1 Penis

This is the male organ used in sexual intercourse. The tip is covered with a loose layer of skin called foreskin. This skin is sometimes removed in a procedure called circumcision. The opening of the urethra, the tube that transports semen and urine, is at the tip of the penis.

4.4.2 Scrotum

This is the loose pouch-like sac of skin that hangs behind and below the penis. It contains the testicles (also called testes). For normal sperm development, the testes must be at a temperature slightly cooler than body temperature therefore the scrotum hangs outside the body.

4.4.3 Testicles

These are round organs that lie in the scrotum. The testes are responsible for making testosterone, the primary male sex hormone, and for producing sperm.

4.5 What are some other changes that boys will go through during puberty?

4.5.1 **Erections** During puberty, unexpected erections of the penis will occur. Erections are caused by blood flowing quickly into a boy's penis. Erections may happen because of sexual

thoughts, but they may happen for no reason. Some may wake up with erections. This is a normal part of puberty that happens to all boys.

4.5.2 Wet dreams: Wet dreams happen at night whilst a boy is sleeping. A boy may get an erection and ejaculate without realizing it. Ejaculation is when semen rushes out of the penis. When this happens, one wakes up with wet clothing and a wet bed. Wet dreams are normal and one cannot control wet dreams. They will decrease as boys go through puberty and should stop by the time puberty is over.

4.6 How pregnancy occurs

When a girl has sex with a boy without using any contraception method, the male sperm can swim up the female vagina into the uterus and then into the fallopian tube.

Pregnancy takes place when male sperm fertilizes a female's egg cell. Fertilization is when one sperm joins with a female egg. The fertilised egg (now called an embryo) moves down the fallopian tube to the uterus.

The embryo attaches itself to the uterus wall. Once attached, the embryo slowly grows into a full size baby over 9 months.

4.6.1 Signs and symptoms of pregnancy

Here are some of the signs and symptoms of pregnancy

- Breasts begin to grow and become tender.
- General tiredness
- Fainting and dizziness
- Missing periods
- Vomiting
- Weight gain
- Urination

It is important that one gets tested if these symptoms are observed.

- A pregnancy test of urine (Home-based pregnancy tests are available at pharmacies or supermarkets)
- A pregnancy test at the clinic
- A pregnancy ultrasound may be done to confirm or check accurate dates for pregnancy.

4.7 Talking to teenagers about puberty

A lot of changes happen when young people reach puberty and can be one of the most confusing and exciting times of young people. It is important to talk to the young people to make the changes less confusing.

- Young people sometimes feel embarrassed by their changing bodies and concerned that they are not developing at the same rate as their friends. Reassure them that young people grow and develop at their own pace and that the changes are normal.

5 WHY TEENAGE PREGNANCY SHOULD BE AVOIDED

OBJECTIVES

In this session, participants will discuss about:

- Consequences of teenage pregnancy

In South Africa, more teenagers fall pregnant each year. Let us recap on what we discussed in Activity 1 when we discussed about the consequences of teenage pregnancy. Getting pregnant during the teen years has long-term health, social, financial, emotional and consequences for both the teenagers and the babies.

5.1 What harm can teenage pregnancy have on the body of the mother and child?

Teenage pregnancies have harmful effects to both the mother and the child. Both teen mothers and their babies are at an increased risk of suffering from medical problems. Difficulties from pregnancy and childbirth such as excessive bleeding (hemorrhage) and high blood pressure, are a leading cause of death among girls between the ages of 10 and 19. Teenagers are at a higher risk of dying due to complications of pregnancy compared to women aged 20 to 24. This is

because the bodies of teenagers are not fully developed to carry a baby. The pelvis of a teenager is not fully developed enough making childbirth difficult. This usually results in the baby failing to come out through the birth canal (obstructed labor).

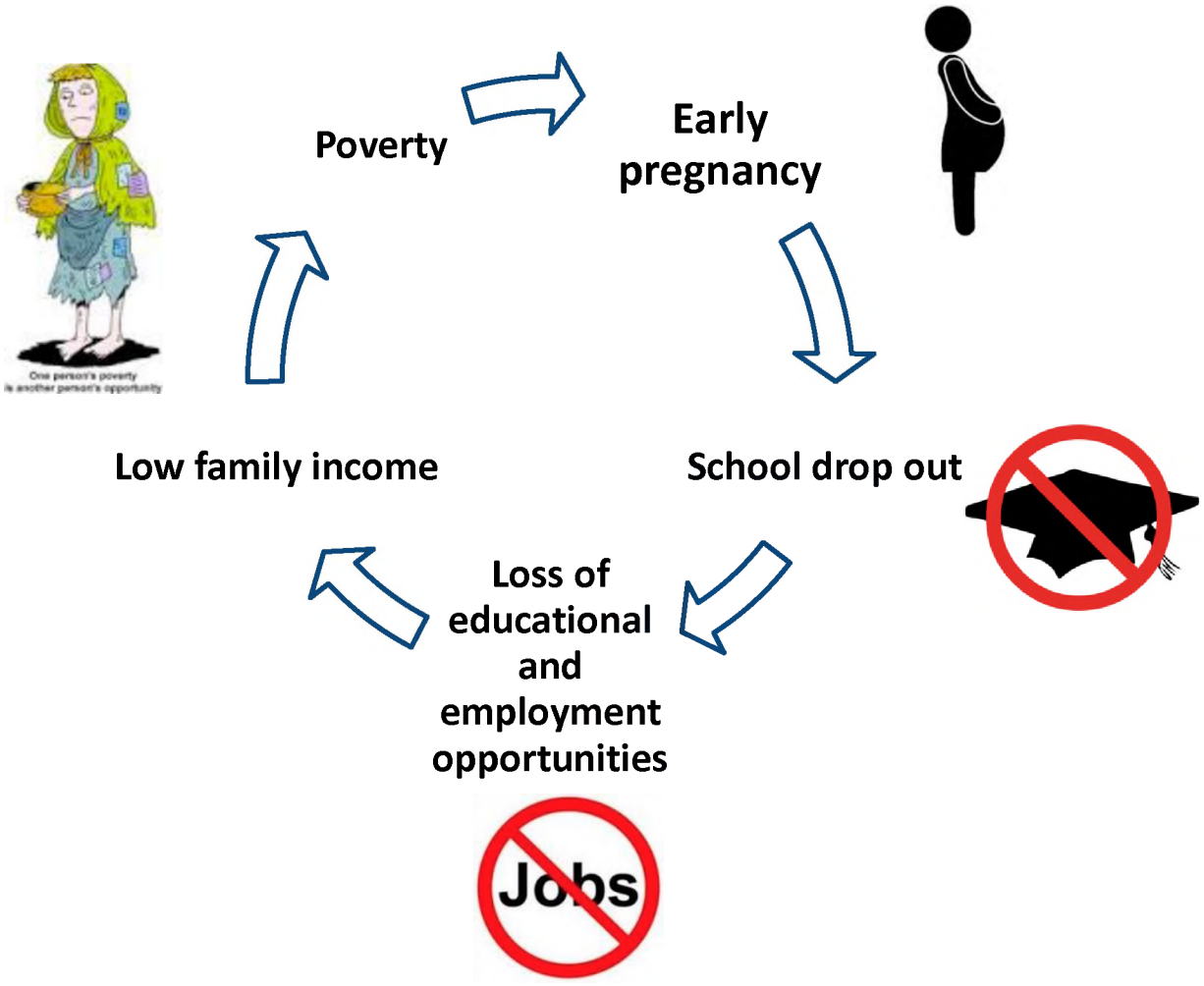
Teenage mothers are more likely to give birth to premature babies. Babies that are born early often suffer from respiratory problems and in some cases, mental retardation and other long-term disabilities or death. Low birth weight babies can also suffer from bleeding in the brain and vision loss (blindness). Teenage mothers are also more likely to suffer with pregnancy-induced hypertension and diabetes.

5.2 How will the community view teen pregnancy?

In addition to increased health risks, there are many social hardships faced by pregnant teens. Pregnant teens may fear their parents' reactions and/or feel isolated from their friends. Many of them feel angry or sad watching their friends shop for parties while they shop for baby clothes. It is often difficult for teenage parents to let go of their lives before they became pregnant and adjust to their new lives as parents. Many teen parents find themselves vulnerable to the 'disgrace' (stigma) that surrounds pregnant teens and babies conceived out of wedlock.

5.3 Financial effects of teen pregnancy

Teenage mothers often experience a great deal of economic difficulty. Teenage mothers are often forced to drop out of high school and some of them never go back to school after delivery. It is very difficult for teenage mothers to support themselves and their baby. With their education cut short, teenage mothers often have trouble finding and holding a decent job. Their lack of education reduces their earning ability, which severely limits their opportunities to build a future for themselves and their child. Many of the teenage mothers find themselves relying on social grants. The limited income of the parents may result in the baby not receiving proper nutrition and care.



5.4 Emotional effects of teen pregnancy

There are various emotional effects of teenage pregnancy. Other teenagers become excited about what the baby will look like and whether it will be a boy or girl. Others become confused and not know what to do because it was an unplanned pregnancy. Many pregnant teenagers are scared of telling their parents, partners and friends and wonder how they are going to react. They worry about the reactions of their parents and friends and this results in girls feeling lonely, depressed, scared and may also feel resentment towards their partners for doing this to them. A lot of young women who are pregnant have a lot of fear that they can't be the mothers they want to be. They also feel frustrated that they will not be able to do the things that the rest of their peers are doing.

Activity 6: Group discussion

Consider how being pregnant would affect one's daily routines. Highlight the activities in a typical day that would be impossible or would dramatically change if one were pregnant. Share your thoughts with everyone.

6. PREVENTING TEENAGE PREGNANCY

OBJECTIVES

By the end of this section, participants will be able to:

- Explain different types of contraception methods
- Demonstrate the correct use of the different types of contraceptive methods
- Identify advantages and disadvantages of the different types of contraceptives

We should encourage teenagers to remember that having sex is a decision that they have to make after considering the consequences. Before making the decision of having sex, one needs to think about the consequences.

Activity 7: Discussion

There a lot of lies or half truths about preventing pregnancies. There are some men who are very good at convincing that contraception is not necessary. Do you know other myths about teenage pregnancy? Discuss them with your group.

6.1 Information to tell teenagers

Many teenagers think that they know how to protect themselves from pregnancy. However, what they know might actually be some of the many myths that surround teenage pregnancy.

What they may tell you	What teenagers should know
A girl cannot fall pregnant the first time you have sex	If a girl's monthly period has started, she can fall pregnant, even if she missed a month. This is because menstruation in teenagers is irregular during the first days
A girl cannot fall pregnant without regular sexual intercourse	Any single act of sex can lead to pregnancy
There are times of the month when teenagers are safe from falling pregnant	An adolescent's menstrual cycle is usually irregular. Once inside the vagina, sperm can stay alive for about 3-4 days. So, a girl who has sex while on her period could be ovulating just a couple of days later, which means she could get pregnant if the sperm is still alive. Having sex when one is on a period has also huge health risks such as sexually transmitted infections and urinary tract infections. At best, it is very risky to use this method.
A man withdraw before ejaculation	Many men cannot control themselves to this degree. The men's pre-ejaculatory fluid may also contain sperm. Pre-ejaculatory fluid is the clear, colorless, viscous fluid that produced from the penis before semen is produced and released.
A tampon will protect someone from falling pregnant	No it will not, and the tampon can be pushed high up into the vagina which might need medical attention.
One is too young to fall pregnant	If one has started their monthly period, they can fall pregnant even if they are young.
If there is no penetration, there is no risk of falling pregnant	If ejaculation occurs anywhere near the vagina, there is a risk of sperm entering the vagina and swimming up to the egg.
Washing after sex can protect someone from falling pregnant	One cannot wash inside their uterus, and sperm usually enters the uterus within minutes of sexual intercourse.
One cannot fall pregnant if they have sex standing up	It does not matter whether one is lying on a bed or standing during sex, one can still fall pregnant as long as the sperm is deposited in the vagina.
If a boy is circumcised the girl will not fall pregnant	Circumcision does not protect someone from falling pregnant.

Some teenage boys have been under the impression that if they drink soda drinks, their sperm count will be lowered and they cannot get a girl pregnant	No amount of soda will lower sperm count.

6.2 Methods of preventing pregnancy

6.2.1 Abstinence

This is when a person decides not to have sex until they are married even if they have a boyfriend. Some think it is old fashioned, others think it is morally the best thing to do. Abstinence is an option for all young people, even those who have already begun sexual activity. Abstinence is a skill that can be developed. Young people need to learn how to communicate, negotiate and make good decisions. This must include practicing how to refuse sex and negotiate condom use. Abstinence is the only method that is 100% safe and effective in preventing pregnancy, HIV and/or STIs.

6.2.2 Delaying sex

Many people feel that they do not want to wait until marriage before having sex. At the same time they do not want to rush into it, so they decide to delay having sex until they are older, more responsible, in a stable relationship with one partner, have a job or even become independent of their parents.

Activity 7: Group discussion

It is important for the teenagers to be involved in the decision making of when to have sex. Have them consider questions that they think should answer before they indulge.

What questions do you think teenagers should ask themselves before they consider have sex with someone?

For example:

Are they both prepared to take responsibility if sex results in pregnancy or baby?

6.3 Contraception

Contraception means a method to prevent pregnancy when one has sex. There are different contraceptives that work in different ways, and they are all designed to prevent pregnancy. All types of contraception stops a female's egg from being fertilised. This means the sperm does not come into contact with the female egg. It is important to know that contraception does not destroy one's ability to have children later in life.

6.3.1 The Barrier methods

The barrier method of contraception works by preventing the sperm from coming into contact with, and fertilizing the female egg. A condom prevents contact with and exchange of bodily fluids. The common forms are male condoms and female condoms.

6.3.1.1 Male condoms

The male condoms are latex (rubber) coverings that fit over an erect penis and prevent sperm from entering the female vagina. They are highly effective if they are used correctly by a male partner. If a condom is not put on correctly or taken off the right way it may not work to prevent pregnancy.

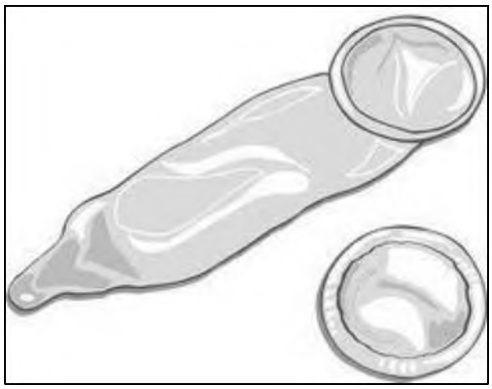


Figure 9: Diagram showing male condoms

<u>Benefits of using a condom</u>

- It is easy to use.
- Effective if used correctly and consistently.
- They are freely available at many places e.g. the clinics, public toilets.
- You do not need a prescription from a doctor or nurse.
- If one chooses to buy, they are fairly cheap.
- No side effects involved.
- Prevents risk of getting sexually transmitted infections (STIs) and HIV.

<u>Some disadvantages with condoms</u>

- Condoms may break or slip off during sex. If this happens, both partners should get tested for HIV and STIs, and the girl should go to the clinic and get an emergency contraceptive pill (discussed in section 6.3.2.5).

Correct use of the male condom

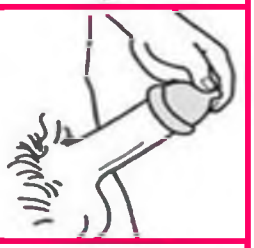
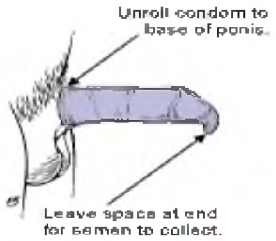
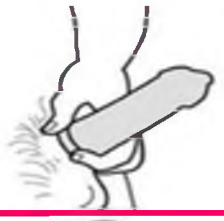
- It is important to explain and demonstrate the proper technique of using a condom (Table 2).
- Lubricants are gels that are used to prevent condoms from breaking. Oil-lubricants e.g. Vaseline should be avoided as it may cause a condom to break.
- It is important to talk about concerns about condom use e.g loss of the erection.
- The male condom is recommended for one time use only and should not be reused **PROMOTE ONE ACT ONE CONDOM.**

Dismissing myths regarding male condoms

Male condoms:

- Do not make men sterile, impotent, or weak,
- Do not decrease men's sex drive,
- Do not promote promiscuity,
- Cannot get lost in the woman's body,
- Do not have holes that HIV can pass through,
- Do not have HIV,
- Do not cause illness in a woman because they prevent semen or sperm from entering her body,
- Do not cause illness in men because sperm "backs up",

Table 2: Basic steps of using a male condom (Source: Adapted from Family Planning: A global handbook for providers (2011 update),WHO/RHR,2011)

IMPORTANT: Whenever possible, show clients how to put on a condom. Use a model of a penis, if available, or other item, like a banana, to demonstrate			
Explain the 5 Basic Steps of Using a Male condom			
Basic Steps		**Important Details**	
1	Use a new condom for each act of sex	• Check the condom package. Do not use if torn or damaged. Avoid using a condom past the expiration date—do so only if a newer condom is not available. • Tear open the package carefully. Do not use fingernails, teeth, or anything that can damage the condom	
2	Before any physical contact, place the condom on the tip of the erect penis with the rolled side out	• For the most protection, put the condom on before the penis makes any genital, oral, or anal contact	
3	Unroll the condom all the way to the base of the erect penis	• The condom should unroll easily. Forcing it on could cause it to break during use. • If the condom does not unroll easily, it may be on backwards, damaged, or too old. Throw it away and use a new condom. • If the condom is on backwards and another one is not available, turn it over and unroll it onto the penis. • Make sure you leave space at the end for the semen to collect.	 
4	Immediately after ejaculation, hold the rim of the condom in place and withdraw the penis while it is still erect	• Withdraw the penis. • Slide the condom off, avoiding spilling semen. • If having sex again or switching from one sex act to another, use a new condom.	
5	Dispose of the used condom safely	• Wrap the condom in its package and put in the rubbish or latrine. Do not put the condom into a flush toilet, as it can cause problems with plumbing.	

Activity 8: Practical session to demonstrate on how to use a condom

In this activity, there will be a demonstration of how to correctly put on a condom. Each person will be provided with an unopened condom and a dummy of the male reproductive organ to use for demonstration. After the demonstration, each of you will be given time to demonstrate to each other, by using a dummy.

6.3.1.2 Female condoms

The female condom is a thin, transparent, soft rubber that is inserted into the vagina before sex to prevent pregnancy and STI. It has two flexible rings; an inner floating ring at the closed end helps with the insertion, and an outer ring at the open end covers the vulva and holds the condom in position.

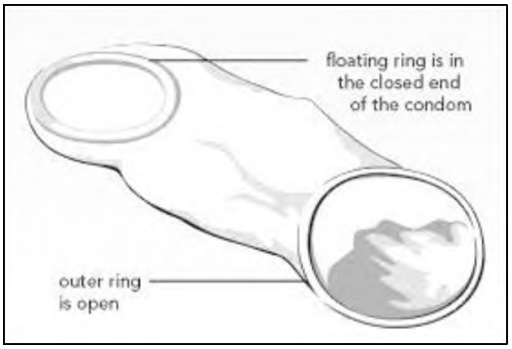


Figure 10: Diagram showing a female condom

NOTE: THE FEMALE AND MALE CONDOMS SHOULD NOT BE USED TOGETHER.If used together, they rub against each other causing them to tear.

The female condom can provide protection against pregnancy and STIs if used correctly and consistently. It may be an acceptable option for women whose partners refuse to use the male condoms.

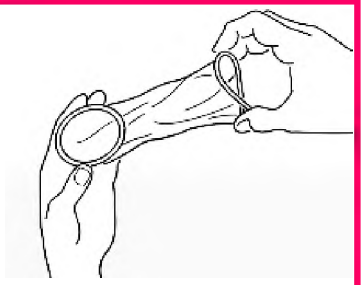
Correct use of the female condom

- The female condom is recommended for one-time use only and should not be re-used. **ONE ACT ONE CONDOM**.
- It is essential to demonstrate the proper technique to insert the female condom (see table 3)

Benefits of using the female condom

- can be put in just before sex, or up to eight hours before sex
- free from clinics and hospitals or can be bought from pharmacies

Table 3:Basic steps of using a female condom (Source: Adapted from Family Planning: A global handbook for providers (2011 update),WHO/RHR,2011

IMPORTANT: Whenever possible, show clients how to insert. Use a model if available, or other item	
Explain the 5 Basic Steps of Using a Male condom	
Basic Steps	**Important Details**
1 Use a new condom for each act of sex	• Check the condom package. Do not use if torn or damaged. Avoid using a condom past the expiration date—do so only if a newer condom is not available. • Rub the sides of the female condom together to spread the lubricant evenly • Tear open the package carefully. Do not use fingernails, teeth, or anything that can damage the condom • If possible, wash your hands with mild soap and clean water before inserting the condom. 
2 Before any physical contact, insert the condom into the vagina	• Insert the condom before the penis comes into contact with the vagina. • Choose a position that is comfortable for insertion – squat; raise one leg, sit, or lie down. • Grasp the ring at the closed end, and squeeze it into a figure of '8'. • With the other hand locate the opening of the vagina. • Gently push the inner ring into the vagina as far up as it will go. Insert a finger into the condom to push in into place. About 2cm to 3cm of the condom and the outer ring remain outside the vagina.  
3 Ensure that the penis enters the condom into the vagina.	• The man or woman should carefully guide the tip of his penis inside the condom- not between the condom and the wall of the vagina. If the penis goes outside the condom, withdraw and try again.
4 After the man withdraws his penis, hold the outer ring of the condom, twist to seal in the fluids, and gently pull it out of the vagina	• The female condom does not need to be removed immediately after sex. • Remove the condom before standing up, to avoid spilling semen. • If the couple has sex again, they should use a new condom. • Do not re-use the used condom.
5 Dispose of the used condom safely	• Wrap the condom in its package and put in the rubbish or latrine. Do not put the condom into a flush toilet, as it can cause problems with plumbing.

Activity 7: Practical session to demonstrate on how to use a condom

In this activity, there will be a demonstration on how to correctly put on a female condom. Each person will be provided with an unopened condom and a model of a female reproductive organ to use to demonstrate.

6.3.2 Hormonal methods

Hormones are chemicals produced by the body that help with different functions of the body. Examples are the hormones oestrogen and progesterone which are responsible for the changes that occur at puberty as discussed in section 2.1. Together, progesterone and oestrogen combine to prevent ovulation (at day 14) and thicken mucus in the cervix, making it difficult for the sperm to enter the uterus. The most common forms of hormonal contraception are the birth control pill, also known as the 'pill', and the injection. The Department of Health has recently introduced the sub-dermal implant. Hormonal type of contraception is for women only.

6.3.2.1 Birth control pills (often called the pill)

Birth control pills are taken by mouth (orally). The pill must be taken every day at a specific time, preferably in the morning. The time to take the pill can be joined to a daily routine for example just after brushing teeth in the morning or before bed.

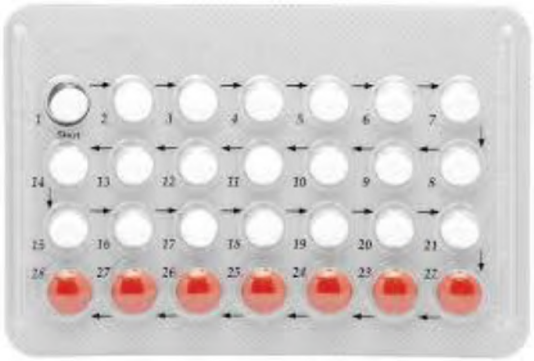


Figure 11: Diagram showing an image of the birth control pill

<u>Some common side effects</u>

Common side effects include

- nausea
- bleeding (this means bleeding between menstrual cycles)
- mild headaches,
- dizziness,
- breast tenderness,
- light periods,

- absence of menstruation

Benefits of using the pill

The obvious benefit of using the pill is its ability to protect a person from an unplanned pregnancy, but remember that it does NOT protect from STIs including HIV. Some benefits may include

- regular, lighter and less painful periods,
- reduction of chances of getting anemia,
- Improvement or worsening of pimples.

Why sometimes the pill may not work properly

- **Forgetting to take the pill**- this leads to ovulation and increases the chances of one falling pregnant. If one forgets, they should seek advice from the clinic or pharmacy.
- **Taking other medications**- for example antibiotics may make the pill not work properly. If one is taking any other medicines they should let the nurse at the clinic know before taking the pill.
- **Some sickness**- for example vomiting or diarrhea after taking the pill may make the pill less effective. If the pill was taken two hours or more before vomiting, then it is unlikely that the person will need a replacement pill. If one vomits within two hours of taking the pill, then the pill may not work properly. One should seek advice from the clinic.

6.3.2.2 Injections

Hormonal injections have the hormone progesterone only. It works similar to the pill by thickening mucus in the cervix, but the additional effect of the injectable is that it prevents ovulation therefore the female egg is not released.

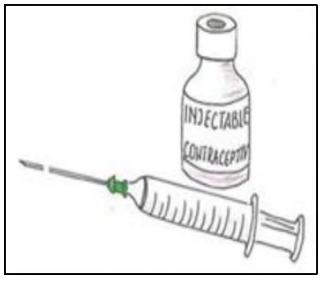


Figure 12: Diagram of hormonal injections

The injection is administered on the buttocks or the upper arm. The single injection provides contraceptive protection either for 8 weeks (2 months) or for 12 weeks (3months) depending on the one given.

Figure 13: Diagram showing site where the hormonal injection is given

Common side effects

Common side effects may include

- Irregular periods.
- Breast tenderness.
- Absence of menstruation, blood is not building up inside the womb.
- Weight gain in the beginning but it become stable later
- Falling pregnant after use of injection could be delayed by 6 months to a year

Benefits of using the injection

- Highly effective if repeated on correct intervals
- One does not have to remember to take it every day
- Can be used during breastfeeding.

6.3.2.3 Sub-dermal implant

A contraceptive subdermal implant contains the hormone progesterone. It consists of flexible tubes or rods, each about the size of a match stick, inserted under the skin of a woman's upper arm by a trained professional.

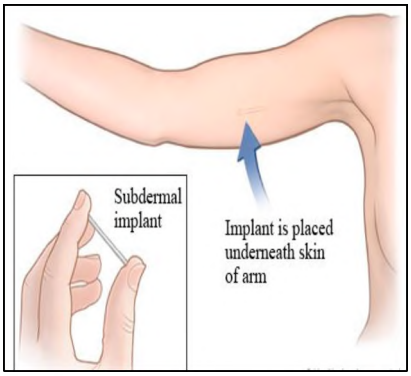


Figure 14: subdermal implant and site where the subdermal implant is inserted

The rods are made of plastic and release small amounts of progestogen into the body over a long period of time. Implants can give continuous protection for three to seven years; depending on the number of rods inserted.

The sub dermal implant is now available in clinics in South Africa and contains a contraceptive hormone which is slowly released over three years or more.

How subdermal implants work

The implants prevent ovulation and thicken cervical mucus so that the sperm does not penetrate the female egg.

Benefits of the subdermal implant

- It is a highly effective and reversible contraception.
- One does not have to remember to use it as it needs to be administered only after long intervals (after every three years for the single rod implant, so it does not depend on a high on a person remembering everyday)

Common side effects of subdermal implants

The side effects include

- Headaches
- nausea,
- dizziness,
- breast tenderness,
- changes in mood
- abdominal pain
- irregular bleeding

6.3.2.4 Intrauterine device (IUD) (also known as the loop)

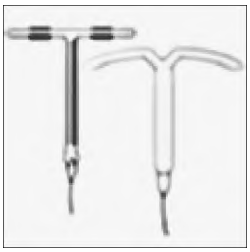


Figure 15: intrauterine device (the loop)

The intrauterine device (loop) is a T-shaped flexible plastic rod inserted into the womb to prevent pregnancies. It is suitable for women who do not prefer the pill or who are forgetful. There are 2 types of the loop; one with hormones and one without..

How the loop works

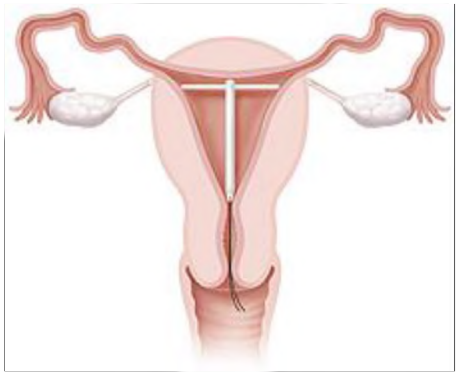


Figure 16: The site of loop insertion

The loop prevents the forming of the lining of the uterus (womb) therefore pregnancy will not occur. The one containing the hormones has an added benefit of thicken cervical mucus so that the sperm does not penetrate the female egg.

Benefits of the loop

- It is an effective and highly reversible contraception.
- It is effective for up to 5 years
- One does not have to remember to use it as it needs to be replaced only after 5 years.

Common side effects of subdermal implants

Some common side effects include

- Headaches,
- breast tenderness,
- abdominal pain
- irregular bleeding

6.3.2.5 Emergency contraception

Emergency contraception pills, also known as the 'morning after pills', like regular hormonal contraceptives, prevent pregnancy primarily by delaying or inhibiting ovulation and fertilization. The pill should be used in emergencies if one's condom breaks or slips off or if one did not use a condom.

The 'morning after pill' should be taken within three days after unprotected sex but there is no 100% guarantee it will work.

The emergency pill is available at the clinic and from the pharmacies.

Common side effects

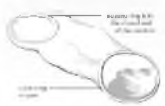
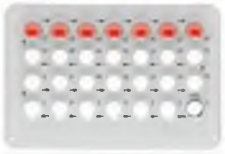
- Nausea, vomiting, stomach cramps, dizziness and loss of appetite.

Can the emergency contraceptive pill be used as normal hormonal contraceptives?

NO. The emergency contraceptive cannot be used like regular method of preventing pregnancy. Emergency contraceptive is for emergencies, like when the condom slips, or forgot to use a condom or one has been raped.

Activity: Role playing

Tshepo is a 14 year old girl that has come to you for advice on which contraceptive method to use. Use role playing (acting) to help Tshepo understand which options available to her.

	Abstinence	Barrier methods		Hormonal methods			
		Male condom 	Female condom 	Birth control pill 	Hormonal injection 	Subdermal implant 	Loop (IUD) 
What is it	•Not having sex	•A rubber covering put on an erect penis	•A thin soft rubber inserted into the vagina before sex	•Tablets that contain hormones that prevent pregnancy	•An injection that contains hormones given every 2 or 3 months	•Small, thin, flexible plastic rods inserted under the skin	•A T-shaped flexible plastic rod inserted into the womb to prevent pregnancies
How does it work		•Prevents sperm from entering the vagina	•It prevents sperm from passing to the vagina	•Prevents the release of the egg from the ovary (ovulation)	•Prevents the release of the egg from the ovary (ovulation	•Prevents the release of the egg from the ovary (ovulation	•The loop prevents the forming of the lining of the uterus (womb) therefore pregnancy will not occur
Advantages	•No pregnancy, STIs and HIV	•Easy to use Protects from pregnancy, STIs and HIV •Free from clinics and hospitals	•A female condom can be put in just before sex or 8 hours earlier •Free from clinics and hospitals	•Regular, lighter and less painful periods	•Highly effective method if repeated at correct intervals •Can be used by breastfeeding mothers •One does not need to remember taking it everyday	•Long-lasting method (over 3 years) •One does not need to remember taking it everyday	•It is effective for up to 5 years •One does not have to remember to use it as it needs to be replaced only after 5 years.
Disadvantages		•May break or slip off during sex		•Less effective when not taken at the same time everyday •Side effects-nausea, vomiting, headaches, breast tenderness, mood changes, weight change	•Less effective when one misses an appointment •Side effects include irregular periods, nausea, weight change, headaches, mood changes and breast tenderness •Does not prevent against HIV and STIs	•Side effects include irregular periods, nausea, weight change, headaches, mood changes and breast tenderness •Does not prevent against HIV and STIs	•Some common side effects include headaches, breast tenderness, abdominal pain, irregular bleeding

7. TEENAGE PREGNANCY AND HIV

Adolescent sex not only exposes young people to the risk of unwanted pregnancy, it also puts young girls at a risk of contracting one or more of the many STI's, including HIV. Adolescent girls are particularly vulnerable to HIV infection. At that very young age, girls may have not found a life partner by then and could be exposed to different sexual partners. The more sexual partners teenagers have, the higher the chances of contracting HIV. Appropriate sexual and reproductive health information, life skills training, and health services can help youth to make healthy choices. Parents, spouses, in-laws, community members, and decision makers are also important in establishing supportive environments for healthy decision making.

To avoid infection by HIV, teenagers need to practice the ABC's;

- know that ABSTINENCE is the only method that is 100% safe and effective in preventing pregnancy, HIV and/or STIs
- faithful to their sexual partners,
- use a condom to protect themselves from HIV and/or STI's,
- use condoms even if they are taking the pill or injectable contraceptive correctly,
- go for regular HIV testing and counselling at the nearest clinic if they are sexually active,

A- Abstinence

B- Be faithful

C- Condomise

7.1 Dual Protection against Pregnancy and STIs

Sexually active young people who do not use any form of protection face the dual risk of pregnancy and infection with an STI, including HIV.

Dual protection is defined as the simultaneous prevention of STIs (including HIV) and unintended pregnancy. For example, a couple may use condoms to protect against STIs and oral contraceptives to prevent unintended pregnancy. Practicing abstinence is also an option.

Although dual protection offers obvious benefits, its use can be problematic for adolescents. This is because both abstinence and consistent use of condoms require high motivation, and members of this age group may have difficulty using two methods consistently and correctly.

Male partners should be engaged in conversations about the importance of condom use, even if hormonal contraception is also used.

Condoms should be promoted and made available whenever possible to protect against STIs and HIV.

Compliance may present a major problem; and clients where pregnancy is undesirable should be encouraged to use more effective, client-independent contraceptive methods in addition to condoms to ensure dual protection.

Examples of dual protection methods

1. Implant and condoms
2. Birth control pill and condoms
3. Contraceptive injection and condoms

8. BASIC COMMUNICATION SKILLS

This manual is focussed on enhancing your knowledge on the different factors affecting young girls leading them to falling pregnant, how to handle such factors by equipping you with the extra knowledge and providing appropriate messages and encouraging healthy behaviors. Communication involves a two-way exchange of information. It can be verbal, but some of the most important aspects of communication are non-verbal (body language, posture, etc.) We all have unique ways of communicating, and may communicate differently depending on the context we are in (for example, the way we communicate at home may be very different than at work). Listening and observing are essential parts of communicating. In order for communication to be effective the CHW must take care to:

Listen "actively."

There are ways in which we show we are listening to someone in our verbal and non-verbal behaviour. Active listening requires us to:

- Listen "non-judgmentally," without being critical of the other person.

- Understand the other person's point of view by imagining himself/herself in the other's position.
- Invite her/him to openly and freely ask questions.
- Ask questions to ensure understanding but avoid giving the impression that the other person's knowledge is being "tested."
- Ask the person you are sharing information with to repeat the key points that you have presented during your talk (i.e., paraphrase) to verify whether he/she has understood the issues correctly.
- Make eye contact (as culturally appropriate) and show real interest in what the other person is saying.

SOLER

The acronym 'SOLER' is useful for attentive listening which means;

S –facing someone **straight**, this shows that you are ready to listen to what the other person is saying

O- Open posture, do not cross your arms or be defensive in any way, try not to cross your legs or turn away from the person you are talking to.

L– Lean towards the person you are talking to if you are seated, if culture allows

E –maintain **eye contact** if necessary, do not stare in a way that will make the person uncomfortable, but continue to show that you are interested and you are listening.

R- Relax. This means you must be comfortable and be yourself.

S- Face someone straight

O- Open posture

L- Lean forward

E- Eye contact

Empathise

Empathy is the ability to understand and share the feelings of another. If you empathise with someone, you are trying to understand how the other person feels and ultimately understanding their experience.

Activity: Read Vuyo's story and then answer the questions below

Vuyo's story

When I was in grade 10, at the age of 15, my boyfriend Tom deceived me. He told me he would marry me if I bore him a child. He was 25, passed Grade 12 and was already working. I believed him. When the child was born he disappeared from the scene. I was left alone with a baby to bring up. My father said I was no longer welcome in his house and I had to go and live with my aunt in a rural area. Life was very hard because I had no one to support me and my child. My child and I had to depend on my aunt's small pension. I often wonder how I could have believed Tom and where he is now. I have no education, no training and there are no jobs in the area. Before I met Tom I was doing very well and everyone had high expectations of me for the future.

1. Refer back to the causes of teenage pregnancy and see if you can identify the cause of pregnancy in this instance.

2. Is there a way in which Vuyo could have avoided falling pregnant at the age of 15? Yes or No, motivate?

3. How has falling pregnant at the age of 15 affected Vuyo's life?

4. What can she do to change her circumstance?

5. What are the lessons learnt from this case study?

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