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FACULTY OF HEALTH AND WELLNESS SCIENCES

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Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana

by

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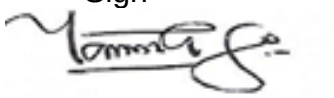
DECLARATION

I, David Nkumincha Yabila, hereby declare that the contents of this thesis represent my own unaided work and that the thesis has not been previously submitted for academic examination towards any qualification. It represents my own opinions and not necessarily those of the Cape Peninsula University of Technology.

Sign



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ABSTRACT

The HIV/AIDS epidemic is a public health concern worldwide. An estimated 36.9 million people are living with HIV/AIDS with about two million new infections annually. An approximate ten million people have died of AIDS-related causes since the beginning of the epidemic. Sub-Saharan Africa (SSA) is the most affected sub-region, with approximately 71% of all People Living with HIV/AIDS (PLHWA) from mid-2016. In SSA, the epidemic has become a socioeconomic burden on developing countries. The literature review established a high prevalence of HIV/STIs among mineworkers and in mining communities, despite the increase in education on HIV/AIDS prevention in the media and public fora.

The aim of the study was to explore and describe the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community in Ghana. An exploratory, descriptive and contextual design was applied. Data collection was done using semi-structured individual interviews. The population in this study was mineworkers who come from other districts and regions in Ghana to live in the catchment community without their families because of employment. Seventeen (17) participants were interviewed, after purposive sampling was done. Interview transcriptions and manual coding were done by the researcher using Microsoft Word. The raw data was coded and sorted into themes and sub-themes and analysed by using Braun and Clarke's six-phase framework for thematic analysis. The Health Belief Model (HBM), a theoretical framework was applied to the study to predict and explain whether a person will perform an action necessary for preventing a HIV/AIDS or not. Findings from this study revealed that although there has been an increase in education on HIV/AIDS across the country and through workplace HIV/AIDS programmes, mineworkers lacked knowledge of HIV/AIDS, as they still had misconceptions about HIV/AIDS, especially regarding the mode of transmission and preventive measures. A strong recommendation was made to embark on a continuous and intensive HIV/AIDS education programme that will be focused on the knowledge needs of mineworkers to dismiss the misconceptions and improve their knowledge level. This will empower them to know the benefits of prevention and ultimately change their behaviour.

Key terms: ***HIV/AIDS, mineworkers, experiences, knowledge, migrant labour, prevention***.

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This thesis is firstly dedicated to **Almighty God, who is the same yesterday, today and forever**.
I also dedicate this thesis to my parents, **Mr Daniel Yabila and Mrs Martha Yabila**.

Thank you for the love and sacrifices you made for me to get this far, and for imparting the fear of God and discipline into my life.

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LIST OF ABBREVIATIONS AND ACRONYMS

ANC: Antenatal Care
ARV: Antiretroviral
ART: Antiretroviral Therapy
BPS: Bureau of Public Safety
CDC: Centre for Disease Control and Prevention
CHAG: Christian Health Association of Ghana
CHPS: Community Health-Based Planning Services
CPUT: Cape Peninsula University of Technology
FBO: Faith-Based Organisation
GAC: Ghana AIDS Commission
GDP: Gross Domestic Product
GHS: Ghana Health Service
GRA: Ghana Revenue Authority
HAART: Highly Active Antiretroviral Therapy
HBM: Health Belief Model
HEI: Higher Educational Institutional
HIV: Human Immunodeficiency Virus
HIV/AIDS: Human Immunodeficiency Virus**/**Acquired Immune Deficiency Syndrome
IDU: Injecting Drug User
IGF: Internally Generated Fund
ILO: International Labour Organization
MOH: Ministry of Health
MSM: Men who have Sex with Men
NACOSH: National Commission on Occupational Safety & Health
NGO: Non-Governmental Organisation
PEPFAR: President's Emergency Plan for AIDS Relief
PLWHA: People Living with HIV/AIDS
PMTCT: Prevention of Mother-to-Child Transmission
PSI: Pre-Shift Instruction
RSA: Republic of South Africa
SDG: Sustainable Development Goal
SSA: Sub-Saharan Africa
STI: Sexually Transmitted Infection

UN: United Nations

UNAIDS: Joint United Nations Programme on HIV/AIDS

UNDP: United Nations Development Programme

UNESCO: United Nations Educational, Scientific & Cultural Organization

UNFPA: United Nations Family Planning Agency

UNICEF: United Nations International Children's Emergency Fund

VCT: Voluntary Testing and Counselling

WHO: World Health Organization

DEFINITION OF KEY TERMS AND CONCEPTS

HIV/AIDS

HIV stands for Human Immunodeficiency Virus, that is, the virus that causes HIV infection. HIV can refer to the virus or to HIV infection (WHO Regional Office for Africa, 2019: Online). AIDS stands for Acquired Immune Deficiency Syndrome. AIDS is the most advanced stage of HIV infection (WHO Regional Office for Africa, 2019: Online).

Prevention

Prevention refers to actions or procedures through which individuals, particularly those at risk, take to avoid the contraction and/or manifestation of a disease (WHO Regional Office for Eastern Mediterranean, 2019).

Experience

Experience refers to the knowledge or mastery of an event or subject acquired through participation in the event or exposure to it (Collins Dictionary, 2019).

Knowledge

Knowledge refers to the understanding of a subject, skills or information acquired by an individual through experience, research or education (*Oxford Learner's Dictionary of Academic English*, 2014:55). In this study, HIV/AIDS knowledge means the acquisition of scientific facts and information regarding the symptoms, mode of transmission, adverse consequences and prevention strategies of the disease.

Mineworker

Mineworker, also called a miner, is any individual who works in a mine, especially a commercial mine producing metallic ores or coal (Dictionary.com, 2019).

CHAPTER 1

ORIENTATION TO THE STUDY

1.1 INTRODUCTION

Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) is a chronic infectious disease caused by a virus (Suthar *et al*., 2015:1351). It is characterized by weakening of the immune system, which exposes the individual to a wide range of opportunistic infections with, or without, the acute syndrome for a relatively long period (Jeihooni *et al*., 2018:7286). The infected person could be in an asymptomatic stage. Thereafter, if not treated, most patients progress to an advanced and life-threatening stage of the disease. The major mode of transmission of HIV/AIDS worldwide is unprotected heterosexual contact with an HIV infected person (Oketunji, 2016:2). Other routes of transmission include transfusion of infected blood and blood products, occupational transmission, prenatal transfusion, and others. The two most important risks of HIV infection are having sexual contact with many partners and having Sexually Transmitted Infections (STIs) (Mohammed *et al*., 2015:1, WHO Regional Office for Africa, 2019: Online).

The HIV/AIDS epidemic is a global public health challenge that diminishes socio-economic growth, especially in developing countries (Mothi, Lala, & Tappuni, 2016:19). The HIV pandemic results in a low human development index in countries with high prevalence and incidence rates (Doosti-Irani *et al*., 2015:146). The epidemic has widespread consequences for all social sectors across the world. It affects the workforce and causes high absenteeism and loss of productivity. It also aggravates poverty and inequality, especially in developing countries (Abdissa et al., 2014:2; ILO, 2018:26).

According to the United Nations International Children Fund (formerly known as the United Nations International Children's Emergency Fund) (UNICEF) (2019) and the World Health Organization, 2019), an estimated 37.9 million people was living with HIV worldwide in 2018. UNAIDS (2019) confirms that about 74.9 million people have been infected with HIV since the discovery of the epidemic. By the end of 2018, 32 million people had died owing to AIDS-related illnesses globally since the start of the epidemic. Only 23.3 million people with HIV representing 62% had accessed antiretroviral therapy by June 2018, compared with an estimate of 20.9 million and 18.2

million in June 2017 and June 2016 respectively. An increase of 1.6 million since 2017 and up from 8 million in 2010 (The U. S. Department of Health and Human Services. 2019: Online).

Africa is ranked to be the most affected region in the world with HIV/AIDS with more than two-thirds of all people living with HIV/AIDS (PLWHAS) worldwide, followed by Asia and the Pacific (Kaiser Family Foundation, 2019:1). As of 2015, there was an estimate of approximately 26 million people living with HIV/AIDS in Africa. Of the estimated 36.7 million individuals living with HIV worldwide in 2015, approximately 70% resided in SSA. It is suggestive that SSA has the highest HIV infection across the globe with the highest prevalence rate in the eastern and southern African countries (Mikkelsen *et al*., 2017:2279). WHO (2018) further revealed that SSA remains most severely affected with HIV infection with nearly one in every 25 adults (4.2%) living with HIV and accounting for almost two-thirds of the people living with HIV globally.

According to WHO Ghana (2016:10), Ghana's annual report (2016) states that the national prevalence rate of HIV infection in 2015 was 1.61% with an antenatal prevalence rate of 1.8%, which is a slight increase in the national prevalence rate, which was 1.47% in the general population in 2014. The WHO (2016) also confirmed that an estimated number of 290 000 people were living with HIV/AIDS in Ghana with a prevalence rate of 1.6% among adults between 15 and 49 years of age. Despite the positive developments in prevention and treatment, HIV/AIDS remains a huge economic burden in developing countries. HIV/AIDS affects primarily young and middle-aged adults during their peak productive and reproductive years if the viral load is poorly managed or left untreated without medications. HIV-positive individuals can be productive in their jobs when being effectively treated and managed with antiretroviral (ARV) medications. They continue to work well if they take their medication correctly. However, it impacts negatively on the economy: it reduces disposable income, savings, investments and consumer spending (Kabajulizi & Ncube, 2015:1).

Local and global efforts in the fight against HIV/AIDS are geared towards the prevention of further spread among all people. Sexuality is an indispensable and natural process of life and it comes with human rights issues. However, many diseases are transmitted through sexual relationships, of which HIV/AIDS is one of the major

ones (Parmar & Dhingra, 2016:348). In recent times, collaborative efforts have been used by various stakeholders in different health sectors, to educate, empower and improve the attitudes of all persons towards safer sexual practices to reduce and control HIV/AIDS infection (Meehan *et al*., 2017:43). Among these interventions are: health education and awareness creation campaigns on HIV/AIDS, voluntary counselling and testing, abstinence, loyalty and faithfulness to your partner, and accurate and consistent use of condoms. Other interventions also include Prevention of Mother-To-Child Transmission (PMTCT), post-exposure prophylaxis for HIV (PrEP), school HIV/AIDS sex education drives, as well as workplace HIV/AIDS programmes (Gyasi & Abass, 2018:140, Siedner & Bogoch, 2018:1).

1.2 BACKGROUND

HIV/AIDS is a multifaceted issue that requires multi-disciplinary experts to address it in a comprehensive and holistic manner. HIV/AIDS spans across socioeconomic, social development, cultural, national and political concerns (Mahlangu *et al*., 2017:1). The pandemic requires collaborative efforts from all stakeholders. This includes not only stakeholders at the policy formulation level, but also the involvement of all participants at the implementation level, to reduce the burden of HIV infection around the globe (International AIDS Society, 2019). The President's Emergency Plan for AIDS Relief (PEPFAR) (2017:15) states that an HIV/AIDS-free generation is achievable. However, it cannot be realised by any single player alone and no single HIV-preventive approach can end the HIV/AIDS epidemic. Achieving ambitious 2020 and 2030 targets involves focused combination packages that offer a combination of proven high-impact HIV prevention interventions (UNAIDS, 2015:3). There is a need for inter-sectoral collaboration in all sectors with diverse partners working together to provide financing, prove political will, and carry out interventions, both within and outside their healthcare delivery sectors. It is also stated that this collaboration should not exclude people directly affected by HIV in any response (Mahlangu *et al*., 2017:2). The sad narration of the HIV/AIDS story in Ghana is not different from many SSA countries. SSA accounts for 70% of those People Living With HIV/AIDS (PLWHA) globally (Geldsetzer *et al*., 2015:4). Within the African continent, the southern region has been hit hardest by the epidemic. Countries such as Botswana, Lesotho, South Africa, Swaziland, and Zimbabwe were classified as hyperendemic countries because these countries have an adult HIV prevalence greater than 15% (UNAIDS, 2014).

In 2016, Ghana recorded an estimate of about 290 000 PLWHA with an adult prevalence rate of 1.6% between the ages of 15 and 49 years. There were about 15 000 HIV-related deaths in 2016 (WHO, 2017:2). The national prevalence rate in 2015 was 1.61% with an antenatal prevalence of 1.8%. There has been a slight decrease in HIV prevalence over the previous 1.47% in the general population in 2014 (GAC, 2015:39). According to the National Tripartite Committee on HIV/AIDS (2012:8) and Uganda AIDS Commission (2016:1-2), HIV epidemic remains to constitute one of the challenging issues for national development and social progress in respect of the health of citizens. The disease has the possibility of seriously undermining socioeconomic growth and has adverse social and political implications. Since Ghana diagnosed its first index case of HIV infection in 1986, the government, through the Ministry of Health and Ministry of Information, as well as non-governmental organisations (NGOs), has never relented on extensive education awareness programmes to improve public awareness to contain the epidemic (Hushie *et al*., 2016:9). Education to increase public awareness on HIV/AIDS was clouded by misconceptions, backed by sociocultural, religious and unscientific explanations, some of which were just mere myths and misconceptions that have not contributed positively to all these efforts (Masanja, 2014:27).

According to Sano et al. (2016:1-2), misconceptions about HIV transmission are still more prevalent in SSA, despite recent substantial advancements in public awareness of HIV/AIDS. The researchers cited instances in their studies in Kenya and Ghana where it was revealed that some participants hold the assertion that the HIV infection could be spread through mosquito bites and touching an infected person. Other myths are that a healthy-looking individual cannot be HIV positive, or HIV infection can be cured by sleeping with a virgin and eating fresh vegetables. Making ancestral sacrifices is still a notion in many parts of SSA (Sano *et al*., 2016:2).

The high-risk groups prone to this epidemic infection and most likely to believe these myths may include commercial sex workers, migrant workers, healthcare professionals, truck drivers, mineworkers, caregivers of HIV patients, and students (Colledge, Walker & Ralston, 2013:391; Avert 2019). Mineworkers are also categorised as migrant workers, since they come from other regions and districts within Ghana to the mining community to live and work. Stuckler et al. (2013:640)

found in their study that mineworkers are considered a high-risk population, infected with HIV owing to risk behaviours. These behaviours are associated with migratory work patterns, hence there is a possibility of a high prevalence of HIV infection and other STIs in the mining communities. Despite the success attained through social interventions in the reduction of the annual incidence of HIV/AIDS, there are several behaviours and beliefs that impede its success (Peter & Juma, 2016:988). In recent times, the Ghana Health Service and the Ghana AIDS Commission have embarked on massive education and awareness interventions for the prevention of HIV/AIDS. It is anticipated that all rural communities under the District Health Directorate would be covered by health education on HIV/AIDS. This would be decentralised via the healthcare system through the establishment of Community Health-Based Planning Services (CHPS). This is expected ultimately to increase communities' knowledge, influence their sexual behaviours and improve their attitudes towards HIV/AIDS preventive activities (Ghana Health Service, 2017:79).

Most employers in both private and public sectors have begun health education in the workplace to empower their employees with knowledge regarding HIV/AIDS prevention. This initiative is aimed at reducing the transmission of the infection, to manage and mitigate the impact of HIV/AIDS impact in the workplace, as well as to increase access to prevention, knowledge, and skills. Adequate knowledge of HIV/AIDS has great potential for facilitating the prevention and control of the pandemic. On the other hand, inadequate knowledge and/or being uninformed of the disease may have a negative effect contrary to all prevention and control efforts. Health education programmes in the workplaces target preventive strategies such as abstinence, faithfulness to one partner, the use of condoms accurately and consistently, and the correction of unscientific beliefs, prejudices, and wrong notions held about HIV infection (Dipeolu, 2014:136-140).

Generally, only a handful of employers in both the private and public sectors have organised a seminar/workshop or any health education programme on HIV and AIDS for workers. However, some have embedded their HIV/AIDS preventive activities in their reproductive health programmes. Moreover, in some workplaces, handbills, paraphernalia and posters are displayed with brief and self-explanatory messages for all employees to read that can help to increase their knowledge about HIV and AIDS prevention. Institutions with occupational health clinics counsel all workers to go for

voluntary counselling and testing to ascertain their HIV status (Dipeolu, 2014:138). Despite all these efforts and awareness campaigns, HIV statistics are still soaring (Appiah-Agyekum & Suapim, 2013:144; Oyero & Salawu, 2014:2026) and the researcher encounters various challenges in employees' behaviours, attitudes, and beliefs regarding HIV/AIDS and sexuality in his workplace within this mining community. Hence, the researcher's interest in pursuing mineworkers' knowledge and experiences regarding the prevention of HIV/AIDS.

1.3 STATEMENT OF THE RESEARCH PROBLEM

Kharsany and Karim (2016:35) suggest from their findings that the perverse spread of HIV infection in SSA may be apportioned to multiple factors. This includes socio-cultural beliefs, spiritual beliefs, and poor perception of the effective implementation of HIV prevention strategies. Together with these, attitudes about gender roles in the family structure, attitudes concerning procreation, gender differences in negotiation skills, lack of recreational outlets, and perceived self-efficacy, also play a major role in the HIV/AIDS epidemic (Nxumalo *et al*., 2014:137). Over the past decade, there has been an increase in health education and awareness creation in the bid to control the spread of HIV/AIDS in Ghana. Health promotion activities at district and community health clinics in Ghana have incorporated HIV/AIDS awareness campaigns into their public health systems (Ghana AIDS Commission, 2016:10-12). Community health nurses conduct many HIV/AIDS awareness campaigns at grassroots level in rural areas. With these campaigns it is expected to influence behaviours and attitudes of people with regard to the prevention of HIV infection.

However, Moura et al. (2013:1008), identified limitations in the knowledge acquired, attitudes towards and sexual behaviour of people regarding HIV prevention in mining communities. Despite the high level of education and awareness creation instituted in the workplace, mineworkers still exhibit unsafe sexual behaviours which predispose them to acquire STIs and HIV/AIDS (Moura *et al*, 2013:1009).
Mineworkers are a key population at risk of HIV infection and transmission. In South Africa, the prevalence of HIV/AIDS among mineworkers is higher than the national adult average. The mining sector has been affected by the HIV epidemic but improved

access to affordable and effective treatment through prevention programmes has improved the quality of life of Mineworkers.

High prevalence of HIV/AIDS in the mining communities is a grave concern to stakeholders in Ghana, even though Ghana is rank low generalised epidemic. This drives the research to embark on this study to assess and explore the knowledge and experiences on mineworkers regarding HIV/AIDS a mining community of Ghana.

The researcher chose this study site because the indigenes of the community engages mainly subsistent farmers and small-scale miner. Commercial mining activities has existed in this community for more than two decades, that attracted many jobseekers and employees who migrate from other parts of the region and country to the community.

As the occupational health nurse practitioner in this mining area, the researcher encounters daily the believes and behavioural gaps that exist among these mineworkers, hence the researcher explored the following research question in this study;

Research question

What are the mineworkers' knowledge and experiences with regard to HIV/AIDS prevention in the mining community in Ghana?

1.4 JUSTIFICATION FOR THE STUDY

Knowledge acquired from health education is expected to facilitate the transformation of individuals and behaviour change towards a positive outcome in the attempt to control HIV infection. For this reason, formal education has been described as a social vaccine that can be used to curb the spread of HIV *infection* (De Neve *et al*., 2015: e470). Adequate knowledge and experience are expected to bridge the gap between unsafe sexual behaviours and the safer sexual practices of mankind, hence empowering the individual to take charge of his/her personal health (Vidanapathirana & Peiris, 2015:9-10). Mineworkers are considered an at-risk population because of the migratory nature of their lives. Most mineworkers spend a long time away from home owing to their work circumstances (mostly expatriates and immigrants from other countries). These circumstances expose them to multiple sex partners and extra-marital sexual acts (World Bank, 2003; Cham, 2015:28). Research has revealed the

high prevalence of HIV and other STIs among migrant mining workers. This is due to factors such as dangerous working conditions, male dominance in the industry, living and working away from their families, and the lack of a home environment (Abdissa *et al*, 2014:1).

Most occupational health services programmes in the workplace embark on health education on HIV/AIDS and other STIs through toolbox talks, safety meetings, and Pre-Shift Instruction (PSI) during contact sessions with the healthcare teams in the occupational health clinic (Tiwari, Sharma, Zodpey, & Khandare, 2014:109). Despite these interventions and health education programmes, the high prevalence of HIV among mineworkers was associated with high-risk sexual behaviours such as multiple sex partners (multiple spouses, cross-border relationships, multiple occasional partnerships), inconsistent condom use, and lack of knowledge regarding their HIV status which put them at a higher risk of transmitting HIV infections to other partners (Baltazar et al., 2015: S59-67). Hence, this study sought to explore the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community in Ghana.

1.5 PURPOSE OF THE STUDY

The purpose of the study was to explore and describe the knowledge and experiences of mineworkers with regard to the prevention of HIV/AIDS in a mining community in Ghana.

1.6 OBJECTIVES OF THE STUDY

Objectives of the study were to:

- explore the knowledge of mineworkers on HIV/AIDS prevention
- describe the experiences among mineworkers in the prevention of HIV/AIDS

1.7 LITERATURE REVIEW

An estimated 36.9 million people currently live with HIV/AIDS in the world at the end of 2017 (WHO, 2019). An estimated ten million people have died of AIDS-related causes since the beginning of the epidemic and about two million people are newly

infected with HIV/AIDS annually (Poudel *et al*., 2017:2; Kaiser Family Foundation, 2019:1). The recent World Health Organization (WHO) report (WHO, 2019), revealed that SSA continues to be the most severely affected region, bearing a disproportionate share of the global HIV infection and its associated devastating burden. Furthermore, in mid-2016, about 71% of all people living with HIV/AIDS (PLHWA) resided in SSA, a region with only 12% of the global population (Hegdahl *et al*., 2016:2).

In recent decades, major global efforts have been mounted to arrest the HIV epidemic, and despite challenges, significant progress has been made (Kaiser Family Foundation, 2019:1). Significant progress has been achieved towards the goal of ending the HIV/AIDS epidemic due to advancements in both the prevention and treatment of HIV. Nevertheless, major challenges still exist (Jones *et al*., 2019:1).

The global community decided, under the Sustainable Development Goal (SDG) 3, to end the AIDS epidemic by 2030. The UNAIDS "90-90-90" target is a framework for all UN member countries to work towards achieving the target by 2020. The "90-90-90" implies that "90% of people living with HIV will know their HIV status; 90% of people who know their HIV positive status will be on treatment; and 90% of people on treatment will have a suppressed viral load" (Nunes *et al*., 2016:2-3).

In Western and Central Africa, there were 6.1 million persons affected by HIV infection in 2016, whereas in Ghana, the national prevalence of HIV/AIDS was 2.4% as reported in the 2016 HIV Sentinel Survey (Osei-Yeboah *et al*., 2018:1). Ghana has made substantial progress in the fight against HIV/AIDS. An estimated 272 092 people were living with HIV and 81 987 of them were receiving antiretroviral therapy (ART) at the end of 2015 (Ghana AIDS Commission, 2017:5).

Despite the success attained through social interventions in the reduction of the annual incidence of HIV/AIDS, there are several behaviours and beliefs that impede its success (Peter & Juma, 2015:988). Kharsany and Karim (2016:35) suggest that the perverse spread of HIV infection in SSA may be apportioned to multiple factors. This includes socio-cultural beliefs, spiritual beliefs, and poor perception of the effective implementation of HIV prevention strategies. Together with these, attitudes about gender roles in the family structure, attitudes concerning procreation, gender differences in negotiation skills, lack of recreational outlets, and perceived self-efficacy,

also play a major role in the HIV/AIDS epidemic. The high-risk groups prone to this epidemic infection and most prone to believe these aforementioned myths, may include commercial sex workers, migrant workers, healthcare professionals, truck drivers, mineworkers, caregivers of HIV patients and students (Colledge, Walker and Ralston, 2013:391; Becerra *et al*., 2016:453). Mineworkers are also categorised under migrant workers, since they come from other regions and districts within Ghana to the mining community to live and work. Stuckler et al. (2013:639), found in their study that mineworkers are considered a high-risk population in respect of HIV infection due to risk behaviours. These behaviours are associated with migratory work patterns, hence there is a possibility of the high prevalence of HIV infection and other STIs in mining communities**.**

1.8 THEORETICAL FRAMEWORK

There are many theories underpinning health beliefs and behaviours. A theory that is intrapersonal, places emphasis on individual factors that influence behaviour. This includes beliefs, knowledge, attitudes, motivation, and self-concept (National Cancer Institute, 2005 cited by Hayden, 2014:3). Among others, these theories include, Theory of Reasoned Action/Planned Behaviour, Self-Efficacy Theory, the Health Belief Model (HBM), the Trans-Theoretical Model and Attribution Theory (Hayden, 2014:3).

The theoretical framework for this study was based on theories of knowledge and experience. The HBM was applied to this study as the theoretical framework to explore the knowledge and experiences of mineworkers in the prevention of HIV/AIDS in a mining community of Ghana. According to Jeihooni et al. (2018:7286), the HBM is a model generally used in health education and promotion. It was developed in the 1950s as a cognitive model to identify the factors affecting behaviours and understand the effects of high-risk behaviours on an individual's health. The HBM has been applied to smoking, substance abuse, obesity, STIs and HIV/AIDS. The HBM was originally formulated to model the adoption of preventive health behaviours in the United States and is one of the most widely applied theories of health behaviour. The HBM and the traditional concept of knowledge and experiences were used as the basis of a theoretical framework for this study (Jones *et al*., 2016:567). A key concept in the HBM is barriers. Each mineworker's knowledge and experiences of perceived benefits of HIV/AIDS preventative measures, without perceived barriers, determined whether the

mineworkers would adopt these preventive measures in respect of HIV/AIDS. The underlying concept of the HBM is that behaviour is determined by personal beliefs or perceptions about a disease and the strategies available to mitigate its occurrence (Nareswara et al., 2016:596). Therefore, the HBM should assist in understanding mineworkers' knowledge of and experiences in respect of the prevention of HIV/AIDS. The three major components of the HBM are perceived susceptibility and severity, perceived benefits, and perceived barriers (Tarkang & Zotor, 2015:2).

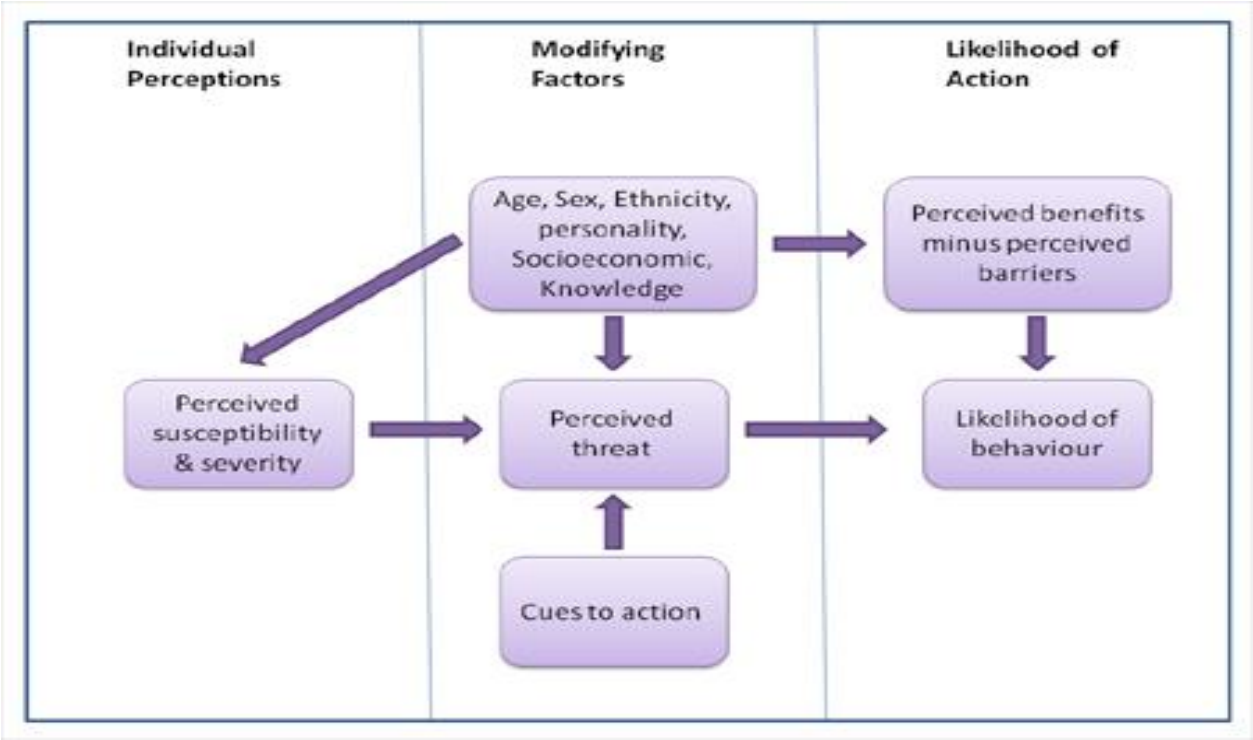

Figure 1: Health Belief Model (Bishop et al., 2015:3021)

According to Tarkang and Zotor (2015:4), the HBM is a value expectancy theory, with two values: the desire to avoid illness or to get well. This model suggests that specific health actions are available to an individual. Jones et al. (2016:567) suggest that the HBM is based on the following concepts (constructs). These six constructs predict health behaviour, which includes risk susceptibility, risk severity, benefits to action, barriers to action, self-efficacy, and cues to action.

Perceived Susceptibility: Perceived susceptibility is whether or not an individual identifies himself or herself as vulnerable to contracting a disease or being harmed owing to engaging or not engaging in a behaviour (Nchabeleng, 2018:152).

Perceived Severity is the subjective belief of an individual regarding how serious a condition and its consequences may be (Tarkang & Zotor, 2015:5).

Perceived Benefits refer to an individual's perception of the effectiveness of strategies (preventive measures) intended to reduce the risk of threat of illness (Mntlangula *et al*., 2017:54).

Perceived Barriers refer to an individual's belief in the physical and psychological effect of risky behaviours (Glanz, Rimer, Viswanath, Tarkang, Zotor, Rosenstock, Strecher, Becker, Jones, Jensen, Scherr, Brown, Christy, & Weaver, 2016:3).

Cues to Action: Refer to events or experiences that stimulate an individual to take action. These events or experiences may include personal (physical symptoms of a health condition), interpersonal or environmental (media publicity) that motivate people to take action. Cues to action occur when individuals feel the desire to take the necessary action after believing that they have the capacity to do so. The required action will benefit one as one will know how to deal with the expected barriers (Nareswara *et al*., 2016:596).

Self-Efficacy: Refers to the ability of an individual to implement successfully the behaviour required to produce the desired outcomes. Self-efficacy is the individual's ability to take action successfully.

It can be inferred from the HBM that the higher an individual's perceived susceptibility to HIV/AIDS, the higher the probability of the individual's prospect of adopting safer sex behaviours. The greater the individual's perceived barriers to HIV/AIDS, the higher the probability that the person will not protect himself or herself (hence indulging in risky sexual behaviours) (Zareban *et al*., 2015:13).

The assumptions are:

- Knowledge of HIV/AIDS is essential for the prevention of HIV/AIDS. Correct knowledge about HIV transmission increases safer sexual behaviour and is considered an important step toward behavioural change
- Preventive strategies on HIV/AIDS are needed for a positive attitude towards risk susceptibility and self-efficacy

- Safe sexual practices are highlighted through knowledge and positive attitudes towards preventive strategies on HIV/AIDS

The HBM has been proved to be successfully adapted to fit diverse cultural and topical contexts within the United States (Tarkang & Zotor, 2015:4; Jones *et al*., 2016:566-567). Hence, the HBM was found appropriate to apply as a theoretical framework for this study.

1.9 PARADIGM AND APPROACH

According to Rahi (2017:1), a paradigm is a term used to describe a collection of beliefs shared by scientists, a set of agreements about how problems are to be understood, and how we view the world and thus go about conducting research. A paradigm is essentially a worldview, a whole framework of beliefs, values, and methods within which research takes place (Kivunja & Kuyini, 2017:27). A qualitative approach is a systematic investigation of social phenomena in natural settings. These phenomena include how people experience aspects of their lives, how individuals and or groups behave, how organisations function and how interactions shape relationships (Teherani *et al*., 2015:669). A qualitative research approach assists researchers to access the thoughts, feelings, and experiences of research participants, which enables the development of an understanding of the meanings that people assign to their experiences (Sutton & Austin, 2015:226). Brink et al. (2018:104) state that in a qualitative research approach, the researcher explores meaning and provides an in-depth understanding of the human experiences regarding the phenomenon being studied because these human experiences are subjective and cannot be quantified.

Qualitative research methods are usually associated with the social constructivist paradigm which emphasises the socially constructed nature of reality. The researcher employed constructivist theory throughout the study (refer to 3.2.1 for in-depth discussion on constructivism). In qualitative research, the researcher is the main data-collection instrument. Data-collection methods such as interviews are used to obtain these multiple realities (Patel, 2015).

The researcher followed an inductive approach in gaining a rich understanding of participants' views and not a deductive approach to obtain information that could be generalised to other larger groups (Alzheimer Europe, 2009). Hence, a qualitative

inductive research approach was used to conduct this study to explore the experiences of mineworkers in respect of HIV/AIDS preventive strategies in a mining community in Ghana.

1.10 RESEARCH DESIGN

A descriptive, explorative and contextual qualitative design was applied to elicit and describe the experiences of mineworkers with regard to the prevention of HIV infection. Chapter 3 gives an in-depth discussion of the design.

1.11 METHOD OF DATA COLLECTION

Face-to-face semi-structured interviews were used to collect data for the study. The semi-structured interviews were conducted according to an interview schedule (refer to Appendix C and Chapter 3 for further discussion).

1.12 RESEARCH SETTING

According to Polit and Beck (2017:2130), the research setting is the physical location in which data collection takes place. The location where the researcher collected data was in a mine clinic at a mining company in a rural district in Ghana. The company is located in a rural mining community with gold deposits. Mineworkers who come from far and near live there and commute daily to work in this organisation. The researcher used the mine clinic to ensure easy access for the mineworkers and ensure that the privacy and confidentiality of the participants were maintained during the interviews (refer to Chapter 3 for a more in-depth discussion).

1.13 POPULATION

Polit and Beck (2017:273) defined a population as the entire collection of a targeted group of individuals or objects with some similar characteristics and of interest to the researcher. The population for this study comprised mineworkers who come from outside Amansie South District in the Ashanti region of Ghana, who had come to live in this community and work. These mineworkers were from diverse religions, cultures, genders, marital status and ages, as well as educational backgrounds. The target

population constituted mineworkers who met the researcher's inclusion criteria (refer to Inclusion and Exclusion Criteria, Sections 1.14.1 and 1.14.2).

1.14 SAMPLING

Sampling is the process of choosing a part or a fraction from a population to obtain information in respect of the phenomenon that represents the population of interest (Brink *et al*., 2018:115). Bertram and Christiansen (2017:59) confirm that sampling involves deciding carefully which people, settings, events, or behaviours to include in the research. The researcher needs to decide on the number, groups or objects that will form part of the study.

A non-probability sampling technique, known as purposive sampling, was used in the study (Palinkas *et al*., 2015: 533). The sample is selected by a researcher based on the characteristics of a population and the objective of the study. Purposive sampling is often employed in qualitative research to identify and select information-rich data related to the phenomenon of interest. The sample selected met the researcher's characteristics set in the inclusion criteria (refer to Section 1.14.1). Inclusion criteria were used to select eligible participants. Seventeen semi-structured interviews were done until data saturation was reached (refer to Chapter 3 section 3.5.2 for an in-depth discussion on sampling).

1.14.1 Inclusion criteria

Mineworkers who met the following criteria were included:

- Mineworkers from other parts of the region or country who lived and worked in the catchment community
- Mineworkers who attended the clinic for medical examinations

1.14.2 Exclusion criteria

- Mineworkers who reported sick and came to the clinic for treatment

1.15 RECRUITMENT

After ethical clearance was granted by the Faculty of Health and Wellness Sciences Research Ethics Committee, Cape Peninsula University of Technology (CPUT) (refer to Appendix F), the researcher visited the catchment area and interacted with mineworkers who live in that community. The researcher also met some of the potential participants who came to the clinic for medical examinations and others who attended the PSI meetings. Eligible mineworkers, who availed themselves voluntarily and who were willing to sign a consent form, were able to participate in this study. Participants for this study were recruited by the researcher using the purposive sampling method. The researcher contacted and booked appointments with the eligible mineworkers for face-to-face interviews. Separate appointments with each participant for the interview session were scheduled. All interviews were scheduled after official working hours when the moderator was present at all interview sessions. Interviews were conducted in a consulting room of the mine clinic to ensure privacy (refer to Chapter 3 section 3.5.4 for greater detail).

1.16 DATA ANALYSIS

Responses from the semi-structured interviews were audio-recorded. The researcher then listened to the responses and transcribed them word-for-word into a Microsoft Word document. Thereafter, coding of the transcriptions was done, and thematic content analysis was applied. Refer to chapter 3 (section 3.9) for an in-depth discussion.

1.17 DATA PRESENTATION

After transcription of the data from participants, data were presented in themes and subthemes and discussed (refer to Chapter 4 for more on data presentation).

1.18 RIGOUR IN QUALITATIVE RESEARCH

According to Bertram and Christiansen (2017:207), rigour is the degree to which research methods are carefully and accurately conducted to recognise important

influences that occur in a research project. Rigour is also known as trustworthiness in a qualitative study.

Rigour includes trustworthiness, validity and reliability. Trustworthiness comprises credibility, transferability, dependability and conformability (Jooste, 2018:350-351). This was discussed in detail in Chapter 3.

1.19 ETHICAL CONSIDERATIONS

The following ethical considerations were applied in this research (Louhiala, 2015:7; Holloway & Galvin, 2017:59).

- Informed Consent
- Autonomy
- Beneficence and Non-Maleficence
- Confidentiality
- Justice
- Right to privacy and confidentiality

All of the above are discussed in detail in Chapter 3.

1.20 CHAPTER DIVISIONS

Chapter 1: Orientation to the study

This chapter gave an overview of the study. The overview of the research study consists of: introduction, background to the research problem, statement of the research problem, justification for the study, purpose, and objectives of the study. Furthermore, the theoretical framework, paradigm and approach, research design and method, rigour, ethical considerations, and justification, were discussed.

Chapter 2: Literature review

During the review of literature in this chapter, the emphasis was on diverse publications, inter alia, journal articles, textbooks, and internet sources related to HIV/AIDS prevention among mineworkers and their experiences. Literature in this study has been reviewed under the following major headings; introduction, overview of HIV/AIDS, prevention of prevention of sexual transmission of HIV/AIDS, HIV/AIDS

testing, global burden of HIV/AIDS, HIV/AIDS and its economy impact on mining companies, HIV/AIDS prevention and health services in the mining sector of Ghana and labour migration. Furthermore, effects of stigmatisation on HIV/AIDS prevention, experiences of mineworkers regarding HIV/AIDS education, experiences of mineworkers regarding sexual abstinence, experiences of mineworkers regarding faithfulness in HIV prevention, and experiences of mineworkers regarding the use of condom as were deliberated in detail.

Chapter 3: Research methodology

This chapter describes the research methodology used in this research. The methodology was discussed under the following major headings: qualitative research approach; research design; research setting, population and sampling; methods of data collection; the process of data collection; data protection; data analysis research rigour; and ethical considerations.

Chapter 4: Results

The results were presented and interpreted in themes and subthemes that emerged during the data-collection process.

Chapter 5: Discussion of the results

In this chapter, the results of the study were discussed in detail, relating to the literature review and the theoretical framework.

Chapter 6: Conclusions, limitations and recommendations

This chapter constitutes the conclusions and highlighted limitations of the study and recommendations emanating from the findings of the study.

CHAPTER 2
LITERATURE REVIEW

2.1 INTRODUCTION

According to Mudavanhu (2017:189), the literature review refers to an account of what previous researchers have published in relation to the subject under study; it is presented in the form of a summary. A comprehensive review of related literature should take the form of a critical discussion, showing insight, critique and an awareness of differing arguments, theories, and approaches. It was confirmed by Nakano and Muniz (2018:1) that the literature review plays an essential role in unveiling the theory, or theories that strengthens the argument sets its limits and defines and clarifies the main concepts that will be used in the empirical sections of the text.

The review of literature in this chapter emphasised diverse publications such as journal articles, books and internet sources that dealt with findings on the experiences of mineworkers with regard to the prevention of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) in a mining community. This review thus covers HIV/AIDS, mineworkers' knowledge and attitudes, and the preventive strategies used to prevent HIV virus infection. The literature has been reviewed under the following major headings: theoretical framework, an overview of HIV/AIDS, global burden of HIV/AIDS, HIV/AIDS in Ghana, HIV/AIDS and its health implications in Ghana, and HIV services and occupational health services in the private sector of Ghana. Other headings include: HIV/AIDS and its economic impact on mining companies, HIV/AIDS prevention interventions in Ghana, the experiences of mineworkers on HIV/AIDS prevention regarding abstinence, being faithful to your partner and condom use.

2.2 OVERVIEW OF HIV/AIDS

According to UNAIDS (2019), HIV/AIDS is a chronic infectious lifestyle disease of the immune system caused by HIV which leads to the destruction of the T-lymphocytes of the body that fight against infections and predisposes the individual to opportunistic infections. AIDS infection is caused by a retrovirus called the Human Immunodeficiency Virus (HIV). AIDS is a group of diseases (thrush, pneumonia, tuberculosis (TB), meningitis) that attack different parts of the body because of the

weakened immune systems (Sokoya *et al*., 2017:5). The term 'pathophysiology' refers to the study of the functional and structural changes that take place as a result of a disease process in the body or the physiological processes or mechanisms whereby such condition develops and progresses (*Webster New World Medical Dictionary*, 2013). The pathophysiology of HIV/AIDS is too complex to be understood. However, studies conducted by Heron and Elahi (2017:1) have revealed that HIV is a retrovirus that gains access into the bloodstream, mainly through unprotected sex with an infected partner, breastfeeding or via blood transfusion with infected blood.

HIV infection is acquired through unprotected sexual intercourse with an infected person, exposure to infected blood, or perinatal transmission. The distribution of the modes of transmission of HIV infection varies in different countries. The major route of transmission is penile–vaginal intercourse that is responsible for 70 to 80 percent of HIV infections, while perinatal transmission and injecting drug users (IDUs) account for 5 to 10 per cent each (Cohen, 2019). These are factors that predispose an individual to acquire the disease. Others may be attitudinal, genetics, personality and environmental factors associated with health. The following behaviours put youth at high risk for contracting HIV/AIDS and STIs: **l**ow, inconsistent, and inappropriate condom use; substance use/abuse and sex; multiple sex partners; older partners; high rates of STIs; and migration (What Works in Youth HIV, 2019).

Mineworkers and migrant workers are regarded as high-risk groups, together with people who inject drugs or take illegal drugs, men who have sex with men (MSM), transgender persons, as well as commercial sex workers and their clients. Others, like prisoners and low-income and socially disadvantaged people, are regarded as a high-risk group or population (Pottie *et al*., 2014:1; UNAIDS, 2018:3).

2.3 PREVENTION OF HIV/AIDS

HIV prevention programmes are interventions that aim to halt the transmission of HIV. There are several approaches that have been devised to prevent, protect and control the spread of HIV/AIDS. According to UNAIDS (2015:17), HIV prevention programmes were primarily concentrated on preventing the sexual transmission of HIV through behaviour change over the years. The ABC approach – 'Abstinence, Being Faithful, Using Condoms', was used in response to the growing epidemic in sub-Saharan Africa.

Nevertheless, studies in the mid-2000s revealed that effective HIV prevention needs to take into account the underlying socio-cultural, economic, political, legal and other contextual factors (Avert, 2019). The complex nature of the HIV epidemic requires a more comprehensive approach, the 'combination prevention' that has now generally replaced ABC-type approaches. Components of this combination preventive approach include behavioural intervention, biomedical intervention, and structural intervention. For the sake of simplicity, this study will consider prevention under the main modes of transmission: sexual intercourse, perinatal and parenteral or (IDU) routes.

2.4 PREVENTION OF SEXUAL TRANSMISSION OF HIV/AIDS

Sexual intercourse is the major route of transmission of HIV throughout the world (Kharsany & Karim, 2016:34). A person can take certain actions to reduce the risk of acquiring HIV. Education is an essential element of every successful prevention campaign. Everyone must be made aware of how to avoid acquiring HIV and must be empowered to act on that information. The following models are widely known as the elements of ABC prevention campaigns. According to Workowski et al. (2015:1), abstinence means not engaging in any sexual activity in which there is a direct risk of exposure to blood, semen, or vaginal fluid. Refraining from sexual intercourse is the best way to prevent transmission of HIV and other STIs. Mutual faithfulness between two partners, who are sero-negative to HIV (uninfected), and enter into a strictly monogamous sexual relationship, will not be at risk of contracting HIV infection sexually (Kakchapati *et al*., 2018:158). Monogamy works as a preventive strategy only if both partners are known to be uninfected when their sexual relationship begins, and if neither partner has sex, even only once, outside this relationship. However, if one partner engages in sex with a third party, only once, both partners are at risk of acquiring the virus. Correct and consistent use of latex condoms during sexual intercourse (vaginal, anal, and oral) can greatly reduce the chances of acquiring or transmitting HIV and other STIs (USAID, 2019). Condom use is an essential element of a comprehensive and sustainable approach in the prevention of HIV and other STIs and for preventing unwanted pregnancies, most especially among people with HIV-positive clients (Ali *et al*., 2019:30; UNAIDS, 2015). Natural-membrane condoms, often made from sheep gut, are not recommended, because they have tiny pores through which HIV can pass.

Prevention of Mother-to-Child Transmission (PMTCT) (also referred to as prevention of vertical transmission), refers to strategies to prevent transmission of HIV from an HIV-positive mother to her infant during pregnancy in utero, delivery, or lactation (Vrazo *et al*., 2018:249). PMTCT requires that all pregnant women living with HIV are immediately provided with lifelong ARVs, regardless of CD4 counts, to attain a stable viral suppression to minimise the chances of their unborn infants acquiring HIV infection (Hanrahan & Williams, 2017:1-2).

2.5 HIV TESTING

HIV testing, also referred to as Voluntary Counselling and Testing (VCT), is the process by which an individual voluntarily and willingly undergoes counselling, enabling him or her to make an informed choice about being tested for HIV to enable the individual to know his/her HIV status. Knowledge of HIV status also helps people to make informed decisions about HIV prevention strategies, including prevention of children from becoming infected with HIV, male and female condom use, harm reduction services for people who inject drugs, voluntary medical male circumcision, and pre- and post-exposure prophylaxis. Despite all the benefits of knowing one's HIV status, it was stated by the WHO that at the end of 2016, approximately 30% of people living with HIV, were still unaware of their HIV status (WHO, 2019). HIV-positive individuals can immediately be put on ARVs to achieve viral load suppression and reduce the transmission of the virus (WHO, 2019). HIV testing is important in ensuring that all PLWHA can be healthy and productive at the workplace. It is also vital to the attainment of the 90–90–90 targets by the end of 2020 (Bain *et al*., 2017:1-2). HIV testing also empowers people to make choices about HIV prevention, so that they can protect themselves and their loved ones (United Nations, 2019). Despite the benefit of HIV testing in the prevention, treatment and control of the epidemic, fear of stigma and discrimination, as well as the lack of adequate knowledge of HIV testing, discourages individuals from undergoing an HIV test, resulting in further spread. (UNAIDS, 2018:3).

2.6 GLOBAL BURDEN OF HIV/AIDS

HIV/AIDS is not only a threat to public health, but also a socioeconomic burden that has a significant negative impact on most countries, especially SSA that is worst affected by the epidemic (Trapero-Bertran & Oliva-Moreno, 2014:1). AIDS was

declared an “economic development crisis” by the World Bank in 2000. This was a result of the falling per capita Gross Domestic Product (GDP) growth as a result of the HIV/AIDS pandemic that had a negative effect, particularly in some of the countries in SSA. According to the United Nations Children’s Fund (UNICEF, 2018) and the World Health Organization (WHO, 2019), an estimated 36.7 million people were living with HIV worldwide in 2016. UNAIDS (2018) confirms that about 78 million people have been infected with HIV since the outset of the epidemic. By the end of 2016, 35 million people had died from AIDS-related illnesses and an estimated 36.7 million people were living with HIV globally. Only 18.2 million people with HIV had accessed antiretroviral therapy by June 2016, compared with an estimated 15.8 million in June 2015 and 7.5 million in 2010.

According to the WHO (2019), more than 70 million people have contracted HIV infections, while about 35 million people have died of HIV/AIDS and its related complications since the beginning of this epidemic. It is, however, a sad revelation that about 0.8% of adults within their productive ages, between 15 and 49 years, are living with HIV infections globally. Sub-Saharan Africa remains the worst and most severely hit by the HIV epidemic, with nearly two-thirds of the people living with HIV worldwide and a ratio of 1 in every 25 adults (4.1%) confirmed to be living with HIV (WHO, 2019). According to Osei-Yeboah et al. (2018:7), women account for almost half of all the people living with HIV across the world and more than 58% of the women are infected with HIV in SSA. It is estimated young people of 15–24 years’ account for approximately a third of new HIV infections, with women within this age category being the most severely affected. In SSA, affected young women between the ages of 15 and 24 accounted for 25% (a quarter) of all new HIV infections in the sub-region in 2017, even though these young women constitute only 10% of the population (Kaiser Family Foundation, 2019:1).

2.7 HIV/AIDS IN GHANA

HIV infection first appeared in Ghana in March 1986 in Accra and has spread rapidly to become a national burden over time (Tanle *et al*., 2017:1). The first cases recorded were 42 in 1986, which rose to 43 587 cases and 185 000 estimated actual cumulative HIV cases by the end of December 2000. According to the Ghana AIDS Commission (GAC, 2015:13), the HIV epidemic in Ghana has been described as a “low-level

generalised epidemic" by the WHO, because the prevalence has not consistently exceeded 1% in the general population nationally or 5% in any subpopulation. High HIV prevalence is recorded among certain communities and special groups such as border towns, slums, mining communities, tourist communities, commercial sex workers, and immigrants, among others. In Ghana, HIV sub-type 1 is predominant and accounts for about 98.5% of all infections (GAC, 2017).

In Ghana, the national prevalence of HIV infections, as determined by the 2016 HIV Sentinel Survey, was estimated at 2.4%. The Volta and Brong-Ahafo Regions are the most HIV affected regions with the highest regional prevalence of 2.7% each, while the lowest prevalence of 0.7% was recorded in the Northern Region of Ghana. The prevalence among pregnant women during antenatal clinic visits in 2016 was 2.4%, while the young population between the ages of 15 and 24 years, in terms of new infections, recorded 1.1%. The highest prevalence rate was 5.6% recorded in adults between the ages of 45 and 49 years, followed by 3.5% of those between 35 and 39 years. The lowest prevalence rate was 0.6% occurring between the ages of 15 and 19 years (Osei-Yeboah *et al*., 2018:2).

The Ghana AIDS Commission (GAC) is a multi-sectoral organisation established by an Act of Parliament of Ghana (Act No. 938 of 2016) aimed at formulating policies on the HIV/AIDS epidemic and directing and coordinating activities in response to HIV/AIDS (Tanle *et al*. 2017:4). The GAC has been tasked with the responsibility for the day-to-day coordination, management of funds, and supervision of HIV- and AIDS-related activities. It collaborates with other organisations and departments concerned with the implementation of policies to mobilise requisite efforts in terms of interventions, campaigns and resources to prevent and control the spread of the disease. This is managed through information sharing, education and communication, all aimed at behavioural change (GAC, 2015:19).

2.7.1 Mining and its health implications in Ghana

Mineral mining has contributed substantially to the development of Ghana. It has stimulated economic growth, infrastructural development and social amenities (Mensah *et al*., 2014:69). Ghana is endowed with enviable mineral resources such as gold, diamonds, bauxite, and manganese. These resources generate revenue that

contributes to the growth of the economy. Mining has a huge economic, environmental, labour and social effect on the countries or regions where it is carried out and beyond. For many developing countries, mining accounts for a significant proportion of the GDP and for the bulk of foreign exchange earnings and foreign investment (Dorin *et al*., 2014:157). Ghana is the second largest producer of gold in Africa, with about 16 large gold mines, one bauxite mine and one manganese mine. The mining industry has created about 300 000 direct and indirect jobs in the country and over 100 000 people are engaged in artisanal (largely illegal) small-scale gold mining called *galamsey* in the local parlance.

Despite all benefits stated above, mining operations also pose considerable health risks for both the workforce and communities in which these mining operations operate. The catchment communities continue to suffer negative health impacts as a result of mining activities. Some of these include a high incidence of malaria, skin diseases, respiratory diseases, and chemical poisoning. Mining activity is found to be associated with the spread of HIV/AIDS in SSA at population level and this risk affect the mining communities accounting for high prevalence of HIV/AIDS and TB in these communities (Stuckler *et al*., 2013:640). Mining operations and HIV infections are inseparable owing to the migratory nature of the workforce and high prostitution in the mining communities (Emmanuel, Jerry, & Dzigbodi, 2018:52).

According to the International Labour Office (ILO, 2013:4-5), the mining sector tends to record higher than average HIV prevalence levels. Benton (2016) claims that out of more than 40 million people worldwide infected with HIV, it is estimated that 26 million are workers aged from 15–49 years, thus within their reproductive years. As a result of this, the obligation is on employers in affected countries to implement wellbeing programmes for their employees in order to protect and maintain the health of workers living with HIV and protect those not HIV positive. According to the ILO, there are several factors that make the mining industry, mineworkers and the surrounding communities particularly vulnerable to HIV and TB infections. This is as a result of the workforce in the mining sector that consists of a high percentage of migrant workers who live far from their homes, families and communities. The risk for HIV/AIDS infection is not confined to the mining community. The labour migration system of mineworkers creates an avenue for the transmission of HIV/AIDS and TB with concomitant risks to their families and home communities. Mining industry reports from

Deloitte (2005:18), as cited by Stuckler et al. (2013:640), state that about one-third of mineworkers become infected with HIV within 18 months of working on the mines in South Africa. HIV/AIDs and tuberculosis infections are inseparable in mining, as HIV/AIDS significantly increases the risk of developing active TB (Liu *et al*., 2015:1392).

Regardless of the automation of the mining industry, some amount of hard physical labour is still required in its operations, therefore the mining industry is mainly younger person- and male-dominated. This tends to encourage risk-taking behaviours, especially unsafe sexual practices (Abrahamsson *et al*., 2014:2). Mines are often located in remote areas, far away from major cities and towns. Mining communities, despite the efforts made by several employers, often lack the recreational facilities and services available in less remote areas. This may lead mineworkers to employ other means of recreation because of boredom. This results in some indulging in multiple partners and high-risk sexual behaviours (Kilale *et al*., 2015:2).

2.7.2 HIV services and occupational health services in the private sector of Ghana

According to the International Labour Organization (ILO, 2018), it is mandatory for all ILO member countries, including Ghana, to implement the Occupational Health Services Convention, 1985 (No. 161), in accordance with the description given in the guidelines. The occupational health service has an essentially preventative function, responsible for advising the employer, workers and their representatives on the requirements for establishing and maintaining a safe and healthy working environment and work methods to promote optimal physical and mental health in relation to work. With reference to the aforementioned, Ghana has no legislation implementing and regulating the practice of occupational health services in the country. However, some organisations and industries such as mining and a few manufacturers concerned about the health and welfare of their employees, establish and render occupational health services on site.

In response to the HIV/AIDS pandemic, the ILO and WHO jointly developed a code of practice on HIV/AIDS and the world of work in 2001. This code of practice is internationally recognised and is expected to be adopted by all member states as a guideline to help prevent the spread of this epidemic and reduce the impact on workers

and their families. According to Chatora et al. (2018:1), HIV/AIDS workplace policies are now a vital tool in addressing the HIV pandemic in sub-Saharan Africa. Scott, Campbell, Skovdal, Madanhire, Nyamukapa, and Gregson, (2013:174) noted that workplaces in sub-Saharan Africa had become favourable avenues and channels in addressing HIV among employees, families of employees, and the communities in which they operate. In Zambia, the National AIDS Council has been advocating the establishment of HIV/AIDS workplace policies to interested companies. Thus far, no formal evaluation has been done to assess uptake and implementation (Chatora *et al*., 2018:2).

HIV/AIDS is a non-occupational related disease in the mining industry (unlike in the healthcare sector). Owing to Highly Active Antiretroviral Therapy (HAART), HIV/AIDs has become a chronic condition known to be manageable (not curable). People currently diagnosed with HIV have a better prospect of a healthy future than ever before and nearly the same life expectancy as people without HIV. However, if not well managed, this can influence the suitability of employees for a particular job (Verbooy *et al*., 2018:1265).

2.7.3 HIV/AIDS and its economic impact on mining companies

The epidemic has resulted in a loss of income of millions of PLWHA. The effects of the epidemic are concentrated among the most productive age groups. It imposes an enormous cost on enterprises in all sectors through the decrease of productivity and income, increasing labour costs, and the loss of skills and experience (ILO, 2019). These claims by the ILO were confirmed by the South African Labour Guide (2018) that HIV is recognised as an epidemic that affects every workplace, with prolonged staff illness, absenteeism, and death impacting on productivity, employee benefits, occupational health and safety, production costs, and workplace morale.

It is an indisputable fact that the majority of people affected by HIV/AIDS are of working age (Zhira, 2014:5). HIV/AIDS mostly affects working-age adults. Its impact is seen in most workplaces. There is an increase in absenteeism and sick leave and a faster staff turnover rate due to early deaths and the loss of skilled personnel. Furthermore, more employees are placed on disability pensions. Staff morale is lower and there is more pressure on employee benefit funds.

The International Labour Organization (ILO) Convention 161 mandates that all member countries have to ratify, formulate and enforce the implementation of enterprise-level occupational health services that will render care to the workforce. This is to protect the health of employees in the workplace (ILO, 2018). It is, however, a pity that Ghana does not have legislation to enforce the implementation of this convention. The ratification of the ILO convention on occupational health and safety and the passage of the National Commission on Occupational Safety & Health (NACOSH) Bill into law, will compel employers to take adequate responsibility to establish occupational health services in the workplace which will cater for the health needs of employees (Bureau of Public Safety, 2018; Ghanaweb.com. 2018). These occupational health services could alleviate the burden on the already congested public health institutions, as primary healthcare and health promotion activities, such as health education on HIV infection and awareness programmes, as well as education on other conditions, could be done at the workplace.

2.7.4 HIV/AIDS prevention and health services in the mining sector of Ghana

HIV/AIDS is a major threat to the world of work. It affects the most productive segment of the labour force and reduces earnings (National Tripartite Committee on HIV/AIDS, 2012:8). According to the ILO (2018:26), HIV has become a substantial impediment to the attainment of decent work and the Sustainable Development Goal (SDG) 3 which focuses on health and wellbeing. SDG 3 aims at reducing child mortality, improving maternal health, and fighting HIV/AIDS, malaria and other diseases across the world (United Nations Development Programme (UNDP), 2018).

In Ghana, the Ghana AIDS Commission (GAC) is the multi-sectoral governing body mandated to provide technical support, guidance and leadership in response to the HIV/AIDS pandemic. The GAC was established by Act 613, 2002, of the Parliament of Ghana and is chaired by the President of the Republic of Ghana. It is aimed at working actively and in partnership with stakeholders, both in the public and private sector, to combat HIV and AIDS. The GAC is the highest decision-making body in the country in response to national HIV and AIDS control. It collaborates with ministries, departments, the private sector, NGOs, community-based organisations, faith-based organisations, and other civil society organisations by providing them with funding support and effective supervision to control HIV infections in the country (GAC, 2018).

Osei-Yeboah (2017:19) states that heterosexual intercourse, also known as 'penovaginal sex' is the major mode of transmission of HIV infection in Ghana, as it accounts for about 75–80% of all HIV infections. It is followed by the Mother-To-Child-Transmission (MTCT), otherwise known as vertical transmission.

The Ghana AIDS Commission's main task is to contain HIV through the prevention of new infections through reducing MTCT and VCT. The commission, since its establishment, has formulated policies and programmes intended to meet international standards which target HIV infection reduction and provide technical assistance and care for those who are HIV positive. The approaches adopted include intensive education and condom distribution, setting up of voluntary counselling and testing centres, and establishing antiretroviral clinics. The ABC approach was widely used in the early 2000s and is known to be effective in the reduction of HIV infection in countries like Uganda. It is focused on highlighting abstinence from sexual intercourse of any kind for all unmarried people, being faithful to partners, and condom use for those who cannot abstain (Avert, 2017).

An HIV-positive woman can transmit the virus to her unborn child during pregnancy, childbirth and breastfeeding. MTCT, also referred to as 'vertical transmission', accounts for the vast majority of new infections in children. The World Health Organization recommended that all pregnant women living with HIV must have access to ART if the goal of eliminating HIV infection in infants and young children is to be achieved (Ejigu & Tadesse 2018:1). PMTCT programmes provide antiretroviral treatment (ART) to HIV-positive pregnant women to prevent their infants from acquiring the virus. Without ART, there is a higher probability of transmitting the infection from mother to child. This is estimated at between 15% and 45%. ART and other effective PMTCT interventions could have reduced this risk to below 5% (Avert, 2018).

The PMTCT initiative in Ghana was introduced in 2002 and a significant increase in utilisation was observed between 2002 and 2007 (Osei-Yeboah, 2017:20). Ghana has been named among seven countries in SSA to have reduced new infections among children by more than 50% since 2009 through the implementation of the PMTCT intervention programmes in the country (Ministry of Health Ghana, 2014:7).

2.7.5 Labour migration

According to the International Organization for Migration (2019:135), labour migration refers to the movement of individuals from one country to another, or within their own country of residence, for employment purposes. Migration in SSA is a multifaceted problem that impacts the prevalence of HIV. A critical link to HIV infection includes the sexual networks that occur with migration and that are known to expand the spread of the disease (Nicholas *et al*., 2016:1). Mineworkers constitute migrant populations that contribute to the high prevalence of HIV in the SSA sub-region. It is believed that heterosexual transmission is mainly sexual behaviour in the general population and will persist, despite effective interventions for the high-risk group.

Mine workers are considered a high-risk group for targeting HIV/AIDS prevention and treatment for multiple reasons. Mineworkers are classified as the at-risk population for HIV/AIDS as a result of the risky sexual behaviours that accompany migratory work patterns. Migration itself is linked with higher HIV prevalence among migrant individuals and their non-migrant sex partners living in the communities (Baltazar, *et al*., 2015: S59). Moreover, mineworkers are predominantly male and in the era of easy access and availability to VCT AND ART, male trail behind women in VCT and ART uptake. This may result further spread of the epidemic as migration of these men implies even greater barriers to continuity of care hence high HIV viral load (Klein *et al*., 2015:108).

2.8 EFFECTS OF STIGMATISATION ON HIV/AIDS PREVENTION

According to UNAIDS 2015 guidelines on terminologies, as cited by Odimegwu et al. (2017:2), stigma denotes beliefs and/or attitudes of labelling or identifying a person or group of people as unworthy or shameful. In the context of HIV/AIDS, HIV-related stigma is described as any negative beliefs, feelings, and attitudes towards PLHWA groups and other key populations at higher risk of HIV infection. Discrimination is any form of distinction, exclusion, or restriction of an individual because of an attribute or a personal characteristic. For operational purposes, HIV-related discrimination is the unfair and unjust treatment (act or omission) of an individual based on his or her real or perceived HIV status (Caliari *et al*., 2017:2).

Stigma arises when an attribute or a characteristic creates a gap between who we think we are (our actual social identity) and how we are viewed by others (our virtual identity). This gap forms a misleading identity that frequently cuts the stigmatised person off from society and from himself, so that he stands as a discredited person against an unaccepting world (Odimegwu *et al*., 2017:2).

According to Fatoki (2016:1), HIV-related stigma has been categorised into three different types of domain: perceived, experienced and internalised stigma. Perceived stigma refers to the belief that a person will be discriminated against or judged in a negative manner if the individual's HIV status is made known to others or someone else. Experienced or enacted stigma, on the other hand, is the actual event of being treated unfairly or judged, and constitutes discrimination experienced by PLWHA. Internalised stigma denotes the shame and negative self-image felt by PLWHA.

According to Saki et al. (2015:2), HIV infection is not socially acceptable in most countries and women living with HIV/AIDS are labelled as adulteresses. The first cases of HIV/AIDS in the USA were found among homosexual young men. It is widely alleged that HIV is transmitted mainly through sexual intercourse and that HIV/AIDS mostly occurs among people who indulge in unsafe sexual activities.

Evidence shows that PLWHA in the workplace are more likely to be stigmatised and discriminated against than people with most other health conditions. This is as a result of the manifestation of the clinical changes that happen because of HIV infection. These changes become obvious and visible (Kassile *et al*., 2015:31). Stigmatisation causes serious psychosocial, emotional and mental disorders in PLHWA owing to feelings of inferiority. These mental disorders like depression, low self-esteem, isolation and feelings of hopelessness or loss of control can finally result in lack of motivation to remain in care, non-adherence to treatment, and even suicidal intent (Fatoki, 2016:1).

Stigma and discrimination against PLWHA thwart national efforts to prevent and control the epidemic (Kassile *et al*., 2015:31). Despite considerable efforts to reduce its prevalence and impact, stigma continues to be a major obstacle to HIV/AIDS prevention efforts around the globe (Bekalu *et al*., 2014:1). In sub-Saharan Africa, although research suggests an inconsistency in the level of stigma by country, the

problem remains a common concern across the sub-region (Odimegwu *et al*., 2017:2). Findings have shown that HIV-related stigma is among the factors that impede efforts to prevent and control HIV/AIDS and mitigate the impacts of the epidemic in SSA. This is generally because stigma hinders uptake of HIV testing, a critical requirement for access to HIV treatment (Bekalu *et al*., 2014:1). Stigma is a challenging threat to the success of HIV care and treatment programmes. Perceived and experienced stigma may negatively affect someone's HIV testing, retention of care and adherence to ART. HIV-related stigma reduces the likelihood of people using condoms and accessing preventive HIV services such as educational meetings and counselling. Stigma and discrimination also exacerbate existing prejudices and can lead to delayed testing and disclosure of HIV status, accusations, rejection, partner violence and negligence. Stigma also reduces quality of life, delays treatment and reduces survival among PLWHA, as well as impeding adherence to treatment (Fatoki, 2016:1).

Several studies have shown stigma and discrimination to affect HIV testing, disclosure of serostatus retention, and adherence to treatment (Hargreaves *et al*., 2016:1344). Stigmatisation could lead to delay and failure in seeking treatment by PLWHA and delay in diagnosis of high-risk patients. This may contribute to the spread of the disease within the community, impact healthcare services in general, and disrupt the reduction of the global HIV/AIDS pandemic (Caliari *et al*., 2017:2).

2.9 EXPERIENCES OF MINEWORKERS REGARDING HIV/AIDS EDUCATION

According to the *Cambridge Dictionary* (2019a), experience is defined as the knowledge, skills or understanding that is acquired through direct participation in a job, activity or event. Health education refers to a combination of learning experiences that have been planned and designed in a particular way to influence, enable, and reinforce voluntary behaviour that is positive for the health of individuals, groups and communities (Mthobeni & Peu, 2013:2). According to Win et al. (2015:1), the main objective of health education is to assist individuals and communities to develop healthy behaviours themselves by influencing the precursors of behaviour such as knowledge, beliefs and attitudes. Knowledge and behaviour determine an individual's risk of acquiring HIV/AIDS. HIV transmission is dependent on a number of high-risk behavioural and physical factors that an individual engages in. Some of these factors include the number and nature of unprotected sex acts and the number of sex partners.

Individuals who have multiple partners concurrently have a higher risk of HIV transmission than individuals who engage in monogamous sexual relationships (Ghana AIDS Commission, 2015:13).

The Ghana Health Service and Information Department in collaboration with the Ghana AIDS Commission has embarked on massive education and awareness creation in the prevention of HIV/AIDS. It is anticipated that all urban and rural communities will be covered by health education on HIV/AIDS. This will be decentralised via the healthcare system through the establishment of Community-Based Health Planning and Services (CHPS). This is expected to increase communities' knowledge, influence their sexual behaviours, and improve their attitudes towards HIV/AIDS preventive activities (Ghana Health Service, 2017:79).

Most employers in the private sector have implemented health education in the workplace to empower their employees with knowledge regarding HIV/AIDS prevention. This initiative is aimed at reducing the transmission of the infection and to manage and mitigate the impact of HIV/AIDS in the workplace, as well as to increase access to prevention, knowledge and skills. Adequate knowledge of HIV and AIDS has great potential to facilitate the prevention and control of the pandemic. On the other hand, inadequate and/or faulty knowledge of the disease may militate against prevention and control efforts. Health education programmes in workplaces target preventive strategies such as abstinence, faithfulness to a partner, accurate and consistent use of condoms, and correction of unscientific beliefs, prejudices and wrong notions held about HIV infection (Dipeolu, 2014:136-140).

HIV/AIDS health education intervention includes instruction on the nature of HIV/AIDS, methods of transmission, strategies to reduce the risk of HIV infection, and social and public health issues related to HIV/AIDS. Knowledge about HIV/AIDS is among the most important tools for fighting the epidemic, especially among high-risk groups such as mineworkers, sex workers, immigrants, young people and prison inmates. Many may not have the level of knowledge that will empower them to protect themselves against HIV/AIDS infection. Knowledge acquired from health education is expected to facilitate the transformation of individuals and encourage behaviour change towards a positive outcome in an attempt to control HIV infection. For this reason, formal education has been described as a social vaccine that can be used to curb the spread

of HIV infection (De Neve *et al*., 2015: e470). Adequate knowledge and experience are expected to bridge the gap between unsafe sexual behaviours and the safer sexual practices of mankind, hence empowering the individual to take charge of his/her personal health (Vidanapathirana & Peiris, 2015:9-10).

Mineworkers are considered an at-risk population because of the migratory nature of their lives. Most mineworkers spend a long time away from home at their places of work (especially expatriates and immigrants from other countries). This exposes them to extra-marital sex or predisposes them to multiple sex partners (Ruark, 2014:39; World Bank, 2003). Research has revealed that the prevalence of HIV and other sexually transmitted infections (STIs) is high among migrant mining workers. This is due to factors such as dangerous working conditions, male dominance in the industry, living and working away from families, and creating a home environment away from their real home (Abdissa *et al*., 2014:1).

Oladipo *et al*. (2014:529), concluded in their research on HIV/AIDS knowledge that until people are knowledgeable about HIV/AIDS and its devastating consequences, all efforts to curb its rapid spread will be ineffective. Research has shown that engagement in unsafe sexual behaviours such as sex with multiple partners, sex with unknown persons, as well as negative views of condom use and a low rate of behaviour change, are driving the spread of HIV infection (Grangeiro *et al*., 2015:45). Significant barriers to health education messages have resulted in limited HIV-related knowledge. Some of the barriers that frustrated Tanzania's national efforts to reduce HIV transmission were misconceptions regarding HIV, the continuation of high-risk sexual behaviours, language barriers, limited education, and being far away from health services (Freitas & Nayak, 2014:35).

2.10 EXPERIENCES OF MINEWORKERS ON ABSTINENCE

Sexual abstinence refers to the practice of refraining from some or all aspects of sexual activity such as anal, vaginal, and oral sex to protect oneself against sexually transmitted infections, including HIV. Abstinence is a conscious decision to avoid certain sexual activities or behaviours (Planned Parenthood Federation of America, 2019).

Evidence from a study conducted among HIV student peer educators at the Cape Peninsula University of Technology (CPUT) revealed that 80.6% of the HIV student peer educators believed that abstinence was the safest technique to prevent HIV/AIDS/STIs and pregnancy. However, it was the most difficult option to adhere to. Of the HIV student peer educators, 6.5% suggested the approach of mutual faithfulness (be faithful) in a sexual relationship to be the most effective option; however, they felt this could be a dangerous option if partners were unfaithful. Only 3.2% of peer educators recommended condom use as an effective approach to HIV/AIDS prevention if a condom were used correctly and consistently during sexual intercourse (Kalunga, 2016:43).

Studies conducted by Mokwena and Morabe (2016:81) among young males and females in secondary schools in the Bojanala district, North-West province of South Africa, showed that the learners in this area understood sexual abstinence as the decision not to have sex, and this was associated with prevention of HIV, STIs and unwanted pregnancies. This would ensure a better future for all of them. Barriers to sexual abstinence include peer pressure, myths, and wrong perceptions about sex, the influence of drugs and alcohol, and the influence of television. Depending on the methodology, or how it is delivered, a section of the population believes that school-based sex education is a barrier to sexual abstinence. It is recommended that programmes to promote sexual abstinence be strengthened and such programmes need to be community-based (Mokwena & Morabe, 2016:82). Ssenyonga and Potts (2014:344) indicate that being faithful and partner reduction are the preferred modes of HIV prevention for sexually active adults. Ssenyonga and Potts (2014:344) argue that partner reduction was a significant factor in Uganda's HIV success story. This success story was due to abstinence and delayed sexual debut advocated for the younger generation as their preferred HIV prevention strategies.

2.11 EXPERIENCES OF MINEWORKERS ON 'BEING FAITHFUL'

Faithfulness is the concept of remaining loyal to someone or something and putting that loyalty into consistent practice, regardless of whatever circumstances ensue (*Cambridge Dictionary*, 2019b). In the context of this study, it may be exhibited by two partners (usually husband and wife) who do not engage in sexual relationships outside of marriage. The individual chooses only one partner (monogamy), and if both know

their HIV status and remain true to each other, it constitutes faithfulness. Being faithful reduces the number of sex partners and it lessens the chances of acquiring HIV/AIDS (CDC, 2019). In order for this intervention to be effective, both partners must ensure that their HIV status is negative. When one faithful partner is HIV-positive, condom use is recommended to protect the uninfected partner (Dokubo *et al*., 2014:1).

2.12 EXPERIENCES OF MINEWORKERS ON CONDOM USE

According to Avert (2018), a condom is a thin piece of rubber material that fits over a man's penis during sex or is inserted into the woman's vagina, forming a barrier to protect the individual from sexually transmitted infections (STIs), including HIV, and unplanned pregnancies. A condom is easy to use and a low-cost device. If used accurately and consistently, it offers adequate protection against the transmission of HIV and other STIs (Crosignani, 2014:957).

Findings from a study conducted by Cham (2015:32) in Sierra Leone revealed an increase in condom use among males who assert that men are responsible for contraception, partner communication about sexually related topics, perceptions of partners' sexual inexperience, and being in an early stage of a relationship. It was reported that condom use among mineworkers in Sierra Leone was recorded as very low, despite the availability of condoms and education on their use. Approximately 82.4% of mineworkers confirmed that they had never used condoms in their sexual relationships (Cham, 2015:74). These sad statistics indicate that many mineworkers who may transmit the HIV virus to their sex partners, may not have used condoms consistently to protect themselves and their partners from contracting HIV.

Currently, the effect of HIV/AIDS is the primary factor that constrains the economic growth of the country, especially low-income developing countries in SSA. Evidence found that consistent condom use, and one sexual partner among mineworkers, was low (Abdissa *et al*., 2014:2). These mineworkers visit sex workers, and patronage of commercial sex workers was high. This population group is known to be at high risk of HIV infection in different parts of the world (Abdissa *et al*., 2014:2). Findings from a study conducted by Nakathingo, Lerebo, Van Wyk, Nuuyoma (2017:41) among mineworkers in Namibia about the knowledge, attitudes and practices in terms of HIV and AIDS, showed general negative attitudes towards condom use. A similar study

revealed that about 67% of mineworkers in Namibia knew that condom use prevents the spread of HIV and other STIs, but only 40% reported using condoms regularly.

Uganda's success story in reducing HIV and AIDS is as a result of the increase in condom use among high-risk groups. Despite this evidence from Uganda, there are religious leaders in sister countries in SSA who oppose the policy of promoting the use of condoms in the prevention of HIV and STIs. According to Smith (2004), as cited by Adamptey *et al*. (2015:12697), research conducted in Nigeria found that there are Christian and Islamic religious leaders who oppose the promotion of condom use. The study further revealed that most Christians did not accept the use of condoms. This was mainly due to religious beliefs. According to Keele et al. (2005), as cited by Adamtey, Ocloo and Oduro (2015:12697) Islamic believers condemn the use of condoms. It is viewed as a sin, and thus is a key factor accounting for the low condom use in Matemwe, Zanzibar. The Roman Catholic church specifically does not accept the use of condoms and contraception, even among married people. These religions thus believe condom use violates the teachings of the Bible and the Quran, as the use of condoms means taking human life (Adamtey *et al*., 2015:12697).

2.13 SUMMARY

In summary, there are only a few studies that have been conducted on HIV infection among mineworkers living in the catchment's communities in Ghana. Some of these studies have identified that knowledge, negative attitudes, beliefs, and risky practices are major barriers to HIV prevention in other countries in Africa (Thanavanh *et al*., 2013:1). The results of this study will add to the body of knowledge on the prevention of HIV/AIDS among mineworkers living in the mining communities in Ghana. This study aims to explore the experiences of mineworkers on the prevention of HIV/AIDS in a mining community in Ghana. The next chapter, chapter 3, gives a detailed account of the methodology used in this study.

CHAPTER 3
RESEARCH METHODOLOGY

3.1 INTRODUCTION

According to Holloway and Gavin (2017:43), research methodology refers to a framework of principles upon which methods and procedures are based. In other words, a methodology is a systematic way to solve the research problem. Maree (2016:119) confirms that research methodology is the process whereby the researcher collects the data to analyse, describe and explain the phenomena. It may be understood as the science of how research is conducted scientifically. According to Purushothama (2014:8), methodology includes the design, setting, sample, methodological limitations, and the data collection and analysis techniques in a study.

Bertram and Christiansen (2017:40) define a research design as a plan of how the researcher will systematically collect and analyse the data required to answer the research question. Basavanthappa (2014:185) notes that a research design is the plan, structure and strategy of investigations of answering the research question. In other words, the design is the overall blueprint that the researcher selects to conduct the study. This is done in a coherent and logical manner by ensuring that it effectively addresses the research problem.

Data may be collected via mixed methods, quantitatively or qualitatively. According to Schoonenboom and Johnson (2017:108), mixed-methods research is the type of research in which a researcher or team of researchers uses both qualitative and quantitative research approaches for the broad purpose of breadth and depth of understanding the phenomena studied.

This chapter describes the research methodology and design used in this study. The methodology is discussed under the following main headings: qualitative research approach; research design; population and sampling; methods of data collection; presentation of results; trustworthiness and rigour; and ethical considerations.

3.2 QUALITATIVE RESEARCH

Qualitative research is inductive in nature, and the researcher generally explores meanings and insights in a given phenomenon (Mohajan, 2018:23). A qualitative research method is a form of social action that emphasises the way people interpret and make sense of their experiences to understand the social reality of individuals. Characteristics or qualities that cannot be quantified in numbers are what qualitative research usually concentrates on. The tools used in the qualitative approach include the use of interviews, diaries, journals, classroom observations and immersions, and open-ended questionnaires, as well as visual and textual materials, and oral history to collect data (Zohrabi, 2013:254; Hammarberg *et al*., 2016:499).

Qualitative research is exploratory and seeks to explain 'how' and 'why' a particular social phenomenon, or a programme, operates as it does in a particular context. It tries to help us to understand the social world in which we live, and why things are the way they are (Yilmaz, 2013:311: Mohajan, 2018:23). Qualitative research is the approach typically associated with the social constructivist paradigm that emphasises the socially constructed nature of reality. It is about recording, analysing and attempting to uncover the deeper meaning and significance of human behaviour and experience, including contradictory beliefs, behaviours and emotions (Kivunja & Kuyini, 2017:26).

The qualitative researcher's main interest lies in gaining a rich and complex understanding of people's experience and not in obtaining information which can be generalised to other larger groups (Austin & Sutton, 2014:437). By gaining more knowledge of a specific topic through unstructured evidence and data, qualitative research seeks information and explores insights into human behaviour (Hammarberg *et al*., 2016:500).

In qualitative research, data is collected from a relatively small group of participants. The data may not be analysed by statistical methods but may follow an inductive process of research. It involves searching the data for patterns, holistic features and themes. Qualitative research seeks to understand the processes underlying various behavioural forms (Austin & Sutton, 2014:436).

3.2.1 Constructivism

Adom, Yeboah, and Ankrah (2016:1) define constructivism within the philosophical paradigm as an approach that emphasises that people create their own understanding and knowledge of the world through experiencing things and reflecting on these experiences. Creswell and Creswell (2018:7-8) also describes constructivism as an interpretive framework through which individuals in society seek to understand their world and develop their own particular meanings parallel to their experience. Constructivism is also referred to as interpretivism or social constructivism.

Social constructivists view knowledge and truth as created by the interactions of individuals within a society. Constructivism maintains that individuals create or construct their own new understandings or knowledge through interaction with what they already know and believe and the ideas, events and activities with which they come in contact (Mogashoa, 2014:52). Constructivist researchers believe that there is no single reality, but that the researcher elicits participants' views of reality. Qualitative research generally draws on post-positivist or constructivist beliefs (Teherani *et al*., 2015:669). Constructivism is founded on the basis people form or build, much of what they learn via experience. According to Kalender, 2007, as cited by Adom, Yeboah and Ankrah (2016:2), the constructivist viewpoint believes in the idea that learning does not occur only from traditional methods whereby teachers stand in front of a class and lecture. Constructivist researchers use open-ended questions to obtain responses from the study participants. This allows the participants to fully and freely describe their own experiences in their own words in the language in which they can fluently express themselves. The interpretation of these experiences expressed by the participants affords the researcher a significant amount of information regarding the phenomenon under study. This also gives the researcher new insight into the overall study. Social constructivism was chosen as a philosophical paradigm to guide this research assumption more clearly. In the interpretive framework, individuals seek to understand their world and develop their own particular meanings that correspond with their experience.

According to Taylor (2018:218), social constructivism is a theory that focuses on the development of knowledge through human interaction in society. This theory asserts that truth is created by social processes and that it is historically and culturally specific.

Social processes are contingent, based on human perception and social experience. Social constructivism examines the learning that an individual person gains from the interaction process. According to social constructivism, the process of learning builds on the knowledge that already exists; an individual can interpret existing knowledge in new ways. It is a philosophical explanation of the nature of learning. Knowledge is identified as a product of human interaction and is not something to be discovered. It is the outcome of interactions between people within the environment. Hence, the researcher explored the knowledge and experiences of mineworkers on HIV/AIDS prevention in their own environment where they live and work.

3.2.2 Role of the researcher

In the context of qualitative research, the researcher is recognised as a member of the social group or culture that is being studied (Greene, 2014:1). This is termed 'insider research', which is conducted within a social group, organisation or culture of which the researcher is also a member. This makes the qualitative researcher's role highly questionable in a study (Ross, 2017: 748). In the positivist tradition, outsider status is considered the ideal, objective norm, while insider status is seen as fraught with potential bias, thereby threatening research quality.

In qualitative research methodology, pre-understanding and honesty, familiarity and distance, the co-construction and locating of knowledge, trustworthiness and integrity, power relations, and ethical dilemmas are of the greater priority to the researcher (Råheim *et al*., 2016: 748).

The qualitative researcher is viewed as a data-collection instrument. This implies data collected is facilitated through this human instrument, instead of by inventories, questionnaires and machines. In order for a qualitative researcher to fulfil this role successfully, the researcher needs to describe relevance pertaining to him or herself that should include any biases, assumptions, and experiences to qualify his or her ability to conduct the study. This will enable readers to know more about this human instrument, hence their confidence in the findings. A good qualitative researcher asks probing questions, then listens, then thinks, and probes further to obtain in-depth information about the phenomenon under study (Austin & Sutton, 2014:437).

In this study, the researcher, who works as an occupational health nurse practitioner, was the primary tool of data collection and analysis. He collected the data himself. The supervisor assisted with the coding and thematic analysis of the data. Thus, there is the potential for bias on the researcher's part, which could impact the outcome of the study. Hence, the researcher constantly should be aware of the challenging balancing act of being objective and non-judgemental in thoughts, observations, and actions. However, the researcher bracketed himself outside of this study in order to avoid any bias (refer to Section 3.3.3). That potential bias could be created through his four years of working experience in the company. The researcher is instrumental in organising and executing awareness and health promotion programmes at his workplace, where he witnesses the attitudes of mineworkers during HIV/AIDS awareness programmes.

However, being close to the participants could also be regarded as positive, as this could have assisted the researcher in data collection, inductive analysis, and an understanding of the process and phenomena being studied, as it is necessary to develop a deep relationship and familiarity with the study participants (Dilaver, 2015:1). This needs to be truly experienced to offer the researcher the ability to write clearly about the phenomenon.

3.2.3 Bracketing

Bracketing is a means of demonstrating the trustworthiness of the data collection and analysis in a study. It requires that the researcher should make conscious efforts to put aside a range of knowledge, ideas, beliefs, values and experience to describe appropriately the participants' life experience of the phenomenon under investigation. In phenomenology, it helps the researcher to remain impartial in the description of the phenomenon. However, the researcher emphasised the experiences of the participants only (Chan, 2013:1).

According to Abakpa et al. (2017:393), the primary aim of a researcher in phenomenology is to describe accurately the phenomenon under investigation. Hence, it was important that the researcher refrained or abstained from preconceived beliefs and a pre-given framework and focused only on the participants' life experiences in this research study. This assisted the researcher in reducing any preconceptions which could have flawed the research process.

3.3 RESEARCH DESIGN

A research design is the plan, structure and strategy of investigations in answering the research question (Basavanthappa, 2014:185). Bertram and Christiansen (2017:40), define a research design as a plan of how the researcher systematically will collect and analyse the data required to answer the research question. The design used for this study was explorative, descriptive and contextual.

3.3.1 Descriptive design

Polit and Beck (2017:401) define a descriptive research design as a study that is conducted with its purpose the exact interpretation of the characteristics of persons, situations, or groups, and/or the occurrence of certain phenomena. A descriptive design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way (Rintaugu & Muthee, 2016:96). Descriptive designs help to provide answers to the questions of who, what, when, where, and how, associated with a research problem. A descriptive design cannot conclusively ascertain answers to 'why'. A descriptive design is used to obtain information concerning the status of the phenomena and to describe 'what exists' with regard to variables or conditions in a situation (Purushothama, 2014:169). In this study, the researcher described the attitudes of mineworkers to HIV/AIDS prevention, as well as the sexual practices among mineworkers in the prevention of HIV/AIDS.

3.3.2 Exploratory design

Exploratory research is a study that is conducted with the intention of obtaining in-depth knowledge and understanding of the experiences and perceptions of a designated population group through asking questions and probing until data saturation is achieved (Clow & James, 2014:4-5). It provides insights into and understanding of an issue, situation or events. Qualitative research is mostly aimed at exploring what is unknown; when little is known about the phenomenon, the researcher attempts to explore and discover more about it (Green & Thorogood, 2018:18). An explorative design, as the name implies, was used in this study to investigate the experiences of mineworkers in HIV prevention. It helped to unravel information that assisted the researcher in answering the research questions. An explorative research

design was conducted to determine the nature of the problem. It assisted the researcher in obtaining a better understanding of the problem. It also required the researcher's willingness to change direction because of the revelation of new data and insights. Hence, the researcher explored the knowledge of mineworkers about HIV/AIDS prevention.

3.3.3 Contextual design

Contextual design is defined by Holtzblatt and Beyer (2015:1) as a user-centred design process that uses in-depth field research to drive an innovative project. Extensive field data is utilised as the foundation for understanding users' needs, tasks, intents, and processes to design products and systems that meet both users' and business' needs. Contextual designs serve as a guide to analyse and present data, drive ideation from data, design specific product solutions, and iterate those solutions with customers. In this study, customers were the mineworkers. The contextual design was used because the researcher wanted to understand and describe the real experiences of the participants in the context of their natural environment. The interviews were conducted in the natural setting where these participants work. The researcher lives and works within this mining community. Hence, he spent much time on and off duty, interacting with the participants in their social activities and in their own environment, where they live with their partners and families, forming their own community.

3.4 RESEARCH SETTING

A research setting constitutes the geographical location and conditions in which data collection takes place for the study (Polit & Beck, 2018:568). In a qualitative study, the researcher collects data in various natural circumstances (Holloway & Galvin, 2017:41). This study took place in a mine clinic at a mining company in a rural district in Ghana. This is a district located in the Ashanti region of Ghana and is endowed with gold deposits. These mining activities attract people from multinational, multicultural, sociocultural and religious diversity to live and work in the community. Mining activity draws jobseekers (prospective employees) from near and far, within and even across the borders of Ghana to the district. The occupational health clinic provides both primary and occupational health services to the workforce. The clinic has several wellness programmes in place to ensure the health and wellbeing of the workforce.

3.5 POPULATION AND SAMPLING

3.5.1 Population

According to Brink et al. (2018:116), a population is defined as the entire group of persons or objects that is of interest to the researcher. Brink et al. (2018:116) affirm that a population is a specific group of people on whom the research study focuses. The population in this study consisted of mineworkers at a mining company, living in the community, which is one of the catchment areas of this mine. A target population comprises a group of individuals who meet the researcher's criteria for sampling (Martínez-Mesa *et al*., 2016:326). The target population corresponds to the entire set of subjects whose characteristics are of interest to the research team. This group of people has satisfied all the criteria set by the researcher in the inclusion criteria (refer to Section 3.5.5.1) for this study. The target population for this study comprised male mineworkers who came from another part of the region or country to live and work in the catchment community. These male mineworkers were living without their spouses and occasionally visited their homes and families on their off days.

3.5.2 Sampling

A sample denotes a part or fraction of a whole or a subset of a larger set that is chosen by the researcher as the study population. It forms the basic unit in respect of which information regarding the study is collected (Brink *et al*., 2018:117). Alvi (2016:11) defines a sample as a group of a relatively smaller number of people selected from the total population for investigation purposes (to participate in a study). Sampling is the process through which the researcher chooses the sample from a population to obtain information with regard to the phenomenon that represents the population of interest (Polit & Beck, 2017:162; Brink *et al*., 2018:115). Sampling involves carefully deciding and selecting from the entire population which people, settings, events, or behaviours to include in the research (Bertram and Christiansen, 2017:59). There are two main types of sampling techniques: probability and non-probability sampling (Setia, 2016:505).

The probability sampling technique is also referred to as "random sampling" or "unbiased sampling" (Elfil & Negida, 2017:1). It involves the selection of elements or

components of a sample that ensures that each member of the entire population stands an equal chance of being selected. This technique is useful when the total population from which the elements of the sample is drawn has homogeneous characteristics (Adwok, 2016:95).

The non-probability sampling technique is also known as the "judgemental sampling technique"; as the name implies, it is based on the judgement of the researcher. Non-probability sampling is a sampling method through which elements of the sample are selected in a process that does not allow all the participants or units in the population equal chances of being included in the study (Etikan *et al*., 2016:1). In this sampling technique, every unit of the population does not get an equal opportunity to participate in the study (Alvi, 2016:13). Non-probability sampling can be most beneficial in exploratory research that aims to ascertain if a problem or issue even exists in a quick and inexpensive way (Alvi, 2016:13-14). Quota**,** convenience**,** purposive**,** haphazard, modal instance, heterogeneity**,** snowball and expert sampling are the eight main types of non-probability sampling techniques (Setia, 2016:505).

3.5.3 Purposive sampling

Purposive sampling is widely preferred in qualitative research to enable the researcher to identify and select an information-rich sample or study participants for the investigation (Palinkas *et al*., 2015:533). The purposive sampling technique is also known as judgement sampling (Alvi, 2016:30). Purposive sampling involves the deliberate selection of a participant based on the qualities the subject has. It is a non-random sampling technique that does not requires essential theories or a set number of participants (Etikan *et al*., 2016:2). Palinkas et al. (2015:533) note that purposive sampling includes finding and choosing persons or groups of individuals who have particular knowledge of or experience with a phenomenon of interest to the researcher. In purposive sampling techniques, the decision to include a subject in the sample size is the decision of the researcher. It is entirely based on the subject's ability to provide rich data that will assist in answering the research question regarding the phenomenon under study. The criteria of the elements of whom to include in the study are predefined by the researcher (Alvi, 2016:30). The purposive sampling technique was used to select participants for this study. The table below presents the mineworkers purposively sampled for this study.

3.5.4 Recruitment

Participants for this study were recruited by the researcher. After ethical clearance was granted by the Faculty of Health and Wellness Sciences Research Ethics Committee, Cape Peninsula University of Technology (CPUT) (refer to Appendix F), the researcher visited the catchment community and interacted with mineworkers who live in that community on several occasions. During these visits, he discussed the title of the research, the purpose, benefits, and risks of the research, and the time frame for conducting the interviews with the mineworkers he met (refer to Information Sheet: Appendix A). The researcher invited mineworkers who met the inclusion criteria and had visited the occupational health clinic for their regular annual medical examinations. Participants were contacted and requested to participate willingly and voluntarily in the study. Recruitment was also done during a walk-through in the various departments. Mineworkers who satisfied the inclusion criteria and were willing to participate, were informed about the study and invited. It was also explained to each participant in the language he or she understood, that participation was strictly voluntary with no coercion, and that the identity of the participants would be anonymous. It was further explained that they had the right to withdraw from the study at any time, without any penalty and without furnishing a reason (refer to Information Sheet: Appendix A). Their identity would not be disclosed, and responses could not be linked to any participants. Individual appointments with each participant for the interview session were scheduled at a time selected by the participants. All interviews were scheduled for after official working hours in order not to interfere with participants' work. To ensure privacy, a consulting room in the mine clinic was secured to conduct all the interviews.

3.5.5 Inclusion and exclusion criteria

3.5.5.1 Inclusion criteria

Mineworkers who meet the following criteria:

- Mineworkers from other parts of the region or country who lived and worked in the catchment community
- Mineworkers who attended the clinic

3.5.5.2 Exclusion criteria

- Mineworkers who reported sick for treatment at the clinic

3.6 METHOD OF DATA COLLECTION

Semi-structured face-to-face interviews with audio recordings were used as a data-collection tool to collect qualitative data in this study. The interview guide was used to guide the data-collection process and to prevent deviation from the topic under investigation (refer to Appendix C).

3.6.1 Personal Interviews

Purushothama (2014:124) states that there are three types of interviews used in data collection: structured, unstructured and semi-structured interviews. Structured interviews involve the use of a set of predetermined questions and highly standardised techniques of recording. The researcher (interviewer) follows a rigid pre-determined procedure, asking questions in a prescribed form and order. The unstructured interview is a non-formalised conversation that leaves the wording and organisation of the questions, and sometimes even the topic, to the interviewer's discretion. Unstructured interviews are often carried out in a conversational manner but with the aim of obtaining information (Brink *et al*., 2018:143). A semi-structured interview is suitable for collecting qualitative data, as this approach enables the interviewee to speak relatively freely. At the same time, this approach allows the researcher to ensure that certain issues are covered, through the use of probing, to explore and clarify ambiguity (Alzheimer Europe, 2009). A semi-structured interview, using an interview schedule, (refer to Appendix C), was used in this study. During the interview process, any ambiguous or unclear questions were clarified by the researcher. The moderator was present at all the interview sessions (refer to Section 3.7.4). During the interviews, the participants' (mineworkers) verbalised their experiences of the prevention of HIV/AIDS in the mining community in which they were living.

The researcher interviewed and recorded 17 mineworkers. The researcher scheduled appointments with those who consented on an individual basis. The participants were also allowed to schedule a time that suited them, as they work long hours and do not

have much free time. The participants chose the most suitable time (it was mostly after they had finished work, from 17:00 to 17:45), to enable them to catch the 18:00 bus to the community. The venue for the interviews was a consulting room at the occupational health clinic.

A briefing session was held to inform the participants about the nature of the research and what the interview entailed. The research information sheet (refer to Appendix A) was explained and used in this briefing session. Participants were given the opportunity to ask any questions for clarification. Each participant had to give written consent for the interview and for the interview to be recorded with a digital hand-held recorder. An Olympus digital voice recorder was used. Participants were told that the interview would take between 30 and 45 minutes. All participants agreed to this time frame. To ensure confidentiality during interviews, participants were asked not to mention their names in the recorded interview. Names of participants were not asked during the interview; the researcher gave each participant a number according to the sequence in which he or she was interviewed. The first to be interviewed was P1, followed by P2, up to P17.

The researcher used the interview schedule (Appendix C) as a guide to questioning. Questions asked were based on the experiences of mineworkers in respect of the prevention of HIV/AIDS; these included experiences about sexual abstinence, being faithful to a partner, and condom use in the prevention of HIV/AIDS and various sexual practices.

3.6.2 Advantages of interviews

Interviewing is a primary means of collecting data in qualitative research to direct the participant in responding to a specific research question. The major advantage of interviews as a tool in qualitative data collection is the use of open-ended questions and probing, which grants the study participants the opportunity to answer the questions in their own words, instead of forcing them to choose from fixed responses. Open-ended questions provoke responses that are meaningful and culturally salient to the participant, unexpected by the researcher, and rich and explanatory in nature (Alshenqeeti, 2014:43; DeJonckheere & Vaughn, 2019:3). In addition, interviews also allow the researcher some level of flexibility to probe initial participant responses (that

is, to ask, ‘why’ or ‘how’). The researcher should listen carefully to what is said by the participants and should be able to clarify doubts and ambiguities in their responses. The researcher should engage participants based on their individual characteristics and probe to encourage elaboration of their responses (Young *et al*., 2018:11).

3.6.3 Disadvantages of interviews

An interview as a data-collection tool in qualitative research can be a time-consuming process. The researcher has to set up all interviews to be conducted. These interviews have to be translated, if not the first language of the interviewee. Then transcribing, analysis, feedback and reporting on interviews will have to take place. Interviews are prone to the possibility of bias, as different interviewers may understand and transcribe interviews in different ways (McIntosh & Morse, 2015:7). It is a costly data-collection tool because the researcher requires recording devices and privacy to conduct the interview. An interview has a high potential for inconsistencies and is often used for small-scale studies (Alshenqeeti, 2014:43).

3.6.4 Interview schedule

According to Polit and Beck (2017:407), an interview schedule is a formal instrument that contains the wording of questions to be used to elicit responses from the participants in a structured and semi-structured interview. In this study, the researcher formulated open-ended questions in the interview schedule. The interview schedule (refer to Appendix C) was used to collect data for this study. The following questions were included in this schedule:

- Describe in your own words what HIV/AIDS is.
- Where did you get the information on HIV/AIDS?
- Do you think you are at risk of getting the disease and why? (Probing …)
- How will you prevent getting the disease?
- How will you protect yourself?
- What precautions do you take?
- Experience of mineworkers on abstinence in the prevention of HIV?
- Can you please explain the importance of abstinence in HIV prevention?

- Do you practise abstinence? If no, why? What are some of the difficulties in sexual abstinence?
- Experiences of mineworkers on faithfulness in the prevention of HIV?
- Can you please tell me the benefit of faithfulness in HIV prevention?
- Do you practise faithfulness in your sexual relationship? If not, why?
- What are some of the challenges you encounter in practising faithfulness in your relationship?
- Experience on condom use in the prevention of HIV infection?
- What are some of the benefits of using a condom?
- How often do you use a condom in your relationship? If never, why?
- What are some of the challenges you face with condom use?
- Can you describe to me some of the benefits of or reasons why we need to do Voluntary and Counselling Testing (VCT) services?
- Have you tested yourself to know your HIV status? If not, why?
- What are some of the reasons that you think many people do not want to do the HIV test to know their status?

3.6.5 Probing

Probing is a technique used by the interviewer to elicit in-depth information from the study participants to enable them to explain further useful information about the phenomenon relating to the specific subject under discussion (Polit & Beck, 2017:407; Weller *et al*., 2018:1). Probing can be described as asking follow-up questions when the researcher does not fully understand a response, when answers are vague or ambiguous, or when a researcher wants to obtain more specific or in-depth information. Nonverbal communication, such as pauses, body language or gestures, or verbal, with follow-up questions, can be useful in probing (DeJonckheere & Vaughn, 2019:6). During the interview session, the researcher prompted the respondents by asking follow-up questions to substantiate and explain further their views and experiences regarding the prevention of HIV. Some respondents were asked follow-up questions for clarity and to correct ambiguous statements. In order to explore and extract rich data during the interviews, probing questions were also included and used when required.

3.7 PROCESS OF DATA COLLECTION

Data were collected during individual semi-structured interviews with mineworkers at the mine clinic. The data for this study were collected between 10 February 2019 to 1 April 2019, over a period of 50 days, between the hours of 17:00 and 18:00 each day. The researcher ensured that the moderator was present at all times. A pre-interview briefing was organised with all prospective participants, where they were briefed on the study, using the information contained in the information sheet (see Appendix A). The purpose, benefits, risks, and terms of participation, as well as emphasising that no penalty would be enforced if anyone declined to participate in the study, were explained to the participants, using the information sheet (Appendix A). This information sharing, as part of the recruitment process, occurred during the morning and evening Pre-Shift Instruction (PSI) meetings, as well as when the researcher visited the workers within their communes. At the end of the meeting, the researcher booked an appointment with each participant who had agreed to be interviewed. Written permission to do the interview, as well as to audio record the interview sessions, was sought from each participant. The researcher set a time convenient to the participant for an interview. Consent forms (Appendix B) were distributed to study participants, who voluntarily consented to participate in the study and for the interview session to be recorded. The researcher safeguarded the completed consent forms by putting them under lock and key in his private residence to ensure confidentiality. On completion of the study, all transcriptions and recorded interviews will be stored for five years at the nursing department at the Higher Educational Institutional (HEI) where the researcher is currently a registered student. The study participants were invited to the consulting rooms where the interviews took place to ensure privacy and confidentiality of the interview process. The moderator welcomed the respondent and offered the individual a seat. The researcher began the interview on a friendly note by sharing work experiences with the participants in order to allow the participants to settle down and to expel any anxiety or fears about the interview.

On the day of the appointment, the researcher again reviewed the information sheet with the participants. After the review, the participants signed the consent forms. The researcher alerted the participants that the interview would take about 30–45 minutes of their time and the interview would be audiotaped, to which all participants consented. The researcher used numbers, e.g. P1, P2, P3 ... where P indicates Participant in place

of the participant's name to ensure confidentiality. Questions from the interview schedule (Appendix C) were used to elicit information in relation to the participants' knowledge and experiences of the prevention of HIV/AIDS in a mining community in Ghana. At the end of each interview, the researcher thanked each participant for his or her contribution. The researcher then listened to the recorded audio interviews and transcribed the content into a Microsoft Word document. The researcher saved and identified each interview with the number used on the original manuscripts, thus P1, P2 … P17. Data was captured and typed verbatim, and according to the order of questions on the interview guide. Schwandt (2015:66) stresses the importance of gathering data appropriately. Data collection requires adequate planning by evaluating the purpose of the research and the research questions that need to be answered. This study used one of the approved methods to collect data in qualitative research – a semi-structured interview. It was a suitable data-collection instrument as it assisted the researcher in answering the research questions and it was relevant for the purpose of the research.

3.7.1 Recording of interviews

According to Sutton and Austin (2015:227), audio recordings and other graphic images gradually have become a significant part of qualitative research. Silverman (2014:43-45) concurs that audio recordings and graphic images give the researcher the actual details of the conversation about their social life. The researcher has the responsibility of asking permission to record the discussions from the participants. In this research, the researcher had a separate permission consent page (refer to Appendix B) that explained the purpose of the study. The researcher explained to the research participants the purpose of the audio recording, as it would be impossible to remember everything or to note overlaps. It was also made clear to the participants that if they were uncomfortable with the recording, the researcher would respect that decision by stopping the interview. The participants read and signed the consent for the audio recording separately (Jooste, 2018:310). The researcher used an Olympus digital voice recorder to record the interviews. The interviews were recorded in English language since all the participants are literate and have at least secondary school education or A-level to ensure consistency. The recordings assisted in the transcription of the data as they could be replayed and the transcripts improved (Silverman, 2014:330). The data for this study were collected between 10 February 2019 and 1

April 2019. The collected data were transcribed by the researcher to help the researcher familiarise himself with the data for easy analysis. The researcher and the supervisor listened to the recordings, comparing them with the transcripts. This was done to check for any inconsistencies that may have emerged or any interruptions that may have occurred during the interview. Necessary corrections could then be performed.

3.7.2 Pilot interview

A pilot interview is a trial interview conducted on a smaller number of participants to assess the feasibility of the data-collection instrument in the main or full-scale study. In other words, the pilot study is vital to the improvement of the quality and efficiency of the data collection (Junyong, 2017:601). A pilot interview is an integral and useful aid in conducting qualitative research, as it helps to identify areas of improvement to the major study. It can help to identify errors or inconsistencies in the study design and therefore allow for adjustments. Pilot interviews are useful in testing the collection instruments, such as the audio recorder and interview schedules used in the current research (Majid *et al*., 2017:1074). In this study, the researcher recorded a pilot interview in English language with one of the mineworkers in the mine clinic in the presence of a moderator. This was done to test the interview schedule and the audio recorder. The interview was recorded and transcribed. It was found that the interview questions were insufficient and inconsistent with the objectives. Therefore, the pilot interview was discarded, and the interview schedule reviewed. The Olympus digital voice recorder was in perfect condition.

3.7.3 Data saturation

Data saturation refers to a point in the research process when no new information is discovered in the data collection or analysis (Faulkner & Trotter, 2017). According to Squires and Dorsen (2018:16), data saturation arises when a researcher has conducted a sufficient number of interviews, as no new information is forthcoming. Data saturation is an essential component in qualitative research as it shows the researcher that no additional interviews are required, and data collection thus can be stopped. Saunders et al. (2018:1893) reveal that data saturation is used in the qualitative study to halt data collection and/or analysis.

This point in the study alerts the researcher that data collection may cease, and that the researcher can be reasonably sure that continuing with data collection will yield the same results. It therefore serves to confirm emerging themes and conclusions. In this study, the researcher used a purposive sampling method to select a sample of 17 mineworkers who met the eligibility criteria. It was not necessary to source more participants, as data saturation occurred after the seventeenth interview.

3.7.4 Moderator role

The moderator plays a major role in ensuring that rich and accurate information will be obtained through encouraging interaction and participation from the beginning of the interviews (Dilshad & Latif, 2013:193; Nyumba *et al*., 2018:24). The moderator encouraged openness and ensure the comfort of the participant. The moderator ensured that the participants were given respect and treated fairly during the interview. The personal interviews were moderated by a health and safety officer with extensive knowledge and expertise in conducting interviews. The moderator ensured that participants were comfortable and relaxed during interviews. The moderator established rapport with the participants. The moderator further ensured that researcher was unbiased and non-judgemental, so that participants could express themselves freely.

3.8 DATA PROTECTION AND MANAGEMENT

Data protection and management is an essential part of the research plan. The aim of data protection and management is to ensure good scientific practice is duly followed throughout the research process. It ensures that data generated is kept safe and secure at all stages of the research, and that data sharing is possible after the study has been completed. Data management involves transcribing, organising, developing categories, and coding data. In this study, the researcher used the thematic content approach as a framework to guide the data analysis process (Holloway & Galvin, 2017:41). This process of data protection and management began during the data-collection process. The Olympus digital voice recorder used for the interviews was stored securely under lock and key at the researcher’s home, as the researcher was the only person to access the raw data. The researcher played the audio recording,

listened to it, and transcribed all the data. The transcribed documents were sent to all respondents for correction to confirm that the content reflected the information given during interviews. This is called member checking (refer to Section 3.8.1). The audio-recorded data and transcribed documents will be locked in a safe at the nursing sciences department of the Cape Peninsula University of Technology for a minimum of five years. Only the supervisor and researcher will have access to the data for the purpose of publishing journal articles emanating from the research.

3.8.1 Member checking

Member checking, also known as participant or respondent validation, is a technique for exploring the credibility of results. Member checking is an element of research rigour in qualitative research and is used to establish the principles of credibility and trustworthiness (Birt *et al*., 2016:1802). Member checking is defined as either sharing a summary of the findings or sharing the entire findings with the research participants. Member checking is one of the elements of trustworthiness that helps to ensure that data collected is accurate and a true reflection of the participants' opinions. The trustworthiness of a study finding is the bedrock of high-quality qualitative research. Data and results were returned to participants to cross-check for accuracy and quality with their experiences. Member checking is often mentioned as one element in a list of validation techniques (Harper, 2012:1; Thomas, 2017:23).

3.9 DATA ANALYSIS

According to Purushothama (2014:198), qualitative data analysis refers to the analysis of the content of narrative data to identify prominent themes and patterns arising from the data. It comprises breaking down of the data into smaller units, then coding and naming the units based on the content they represent. Data analysis starts with data management, which comprises transcribing, organising and developing the data collected from participants (Vaismoradi *et al*., 2016:102). There are different approaches to thematic analysis in analysing qualitative data (Javadi & Zarea, 2016:37-38). These diverse approaches suggest there is also some confusion about the nature of thematic analysis, including how it differs from qualitative content analysis. The most significant and easy way to use this approach in the social sciences

is Braun and Clarke's Six Simple Steps. This offers a clear and usable framework for analysis.

Maguire and Delahunt (2017:3354) explain Braun and Clarke's six-phase framework for thematic analysis and offer a six-phase guide that is useful for conducting qualitative analysis. Braun and Clarke's Six Simple Steps are as follows:

- Step 1: Become familiar with the data
- Step 2: Generate initial codes
- Step 3: Search for themes
- Step 4: Review themes
- Step 5: Define themes
- Step 6: Writing-up

Step 1: Become familiar with the data

The first step in any qualitative analysis is reading and re-reading the transcripts (refer to Appendix G). This step involves the researcher to be fully immersed and actively engaged in the data during the transcription process and thereafter reading (and re-reading) the transcripts and/or listening to the interview recordings. Initial ideas should be noted. It is essential for the researcher to be familiar and have a comprehensive understanding of the content of the data transcribed (Gray *et al*., 2013:281). This step serves to provide the basic foundation for the subsequent analysis. The recorded interviews were transcribed by the researcher. The researcher engaged with the transcribed data numerous times by listening to it repeatedly. The researcher compared all information gathered and did member checking to ensure that all recorded data corresponded with what the participants said.

Step 2: Generate initial codes

Once the researcher was familiar with the data, the researcher began to organise the data in a meaningful and systematic way. Coding reduces lots of data into small chunks of meaning (Maguire & Delahunt, 2017:3355). There are various methods of coding. The choice of method is determined by the researcher's perspective and research questions (Theron, 2015:5). In this study the researcher adopted manual coding, using a Microsoft Word document, and highlighting significant words and sentences with different colours in order to identify and classify the codes.

Step 3: Search for themes

According to Brink and Wood (1997), as cited by Javadi and Zarea (2016:35), a 'theme' is a term used to describe the fact that the data are categorised around the main issue. In other words, a theme is a structural meaningful unit of data which is necessary for providing qualitative findings. Maguire and Delahunt (2017:3356) confirm that a theme is a pattern that captures something important or interesting about the data and can assist the researcher in answering the research question. There are no hard and fast rules on what constitutes a theme. A theme is characterised by its value in answering the research question in a study. There may be overlapping of codes during this early stage of establishing the themes. Appropriate code extracts are sorted and combined or separated according to the main themes. The researcher begins to think and establish the relationship between codes, subthemes, and themes based on the objectives and research question (Nowell *et al*., 2017:8). During the analysis process of this study, the codes were organised into broader themes closely related to the specific objectives and research questions of this study.

Step 4: Review themes

This step requires a careful review and modification of those themes identified in step 3 to determine whether to combine, refine, separate, or discard earlier themes. Data within the themes should be linked meaningfully to the objectives and research questions (Maguire & Delahunt, 2017:3358). At this point, it is useful to gather all the data relevant to each theme. There should be clear and identifiable distinctions between themes. In the study, the researcher read the codes thoroughly and associated them with each theme, considering whether the codes really supported the theme. Subject to the research question, the researcher was interested in the prevalence of themes, that is, how often the themes occur. The researcher experimented with codes by separating and adding codes when necessary to identify the themes in relation to the objectives of the study.

Step 5: Define themes

This step includes the final definition and refining of the themes and potential sub-themes within the data collected. This is aimed at identifying the importance of each theme regarding the subject of the study.

Step 6: Writing-up

In conclusion, the researcher transforms the analysis into a written report for easy comprehension. The report should be a logical and interpretable piece of writing. It should use exact and persuasive extracts from transcriptions that correlate with the themes, research question, and literature. The report should communicate the outcomes of the analysis in a way that will convince the reader of the merit and validity of the analysis. It should not be a mere description of the themes and analysis; it should be supported with evidence that addresses the research question and objectives (Nowell *et al*., 2017:10).

In this study, the six steps of thematic content analysis were applied. Coding and thematic content analysis were used to analyse and interpret the results. The researcher developed themes emerging from the coding.

3.9.1 Describing the sample and participants

The 17 study participants sampled comprised different ages, and ethnic, religious, socio-cultural, gender and educational backgrounds. All met the inclusion criteria and participated voluntarily. The age classifications were between 24 and 49 years. Eight were married and the remaining nine singles. Their working experience ranged from 2 to 20 years in the mining industry. They were all migrant workers, as they came from other regions in the country to live and work in the community. Their educational status ranged from secondary education to a university degree.

3.9.2 Transcribing data

Transcription is a tedious process in data analysis. It involves converting the spoken word (audio-recorded interviews) into the written word to facilitate analysis (Sutton & Austin, 2015:226). Audio recordings from the interviews were transcribed verbatim into writing, regardless of how intelligible the transcript was when read back. Upon completion of the transcriptions, the researcher simultaneously read the transcribed data while listening to the recording. This enabled the researcher to confirm and ensure that exactly what the participant had said in the recording was transcribed correctly within the context of the participant. The researcher then anonymised the transcript so that the respondent couldn't be identified from anything said.

3.9.3 Ordering and organising data

Data for a qualitative study is mostly collected through recorded interviews. Prior to the analysis of qualitative data, the interview is often transcribed to paper word for word, or the analysis is conducted by repeated playing and listening to tapes from the interview. During the analysis, the researcher defines themes, possible sub-themes, and associated ideas in terms of quotations from the interviewees, partly based on the interview guide used to interview the participants. The themes thus identified were further established through the analysis. Following the initial analysis, the qualitative data were analysed in depth and categorised.

3.9.4 Coding

According to Jooste (2018:344), coding is an easy sort of bookkeeping duty where the data collected is documented as numbers on a well-controlled record sheet. Coding is the process of identifying a passage in a text or in other data items and searching for and identifying ideas and finding relationships between them. It is the first step and involves segregating the data to see what they yield before putting the data back together in a meaningful way (Creswell, 2015:156). Coding is a way of classifying data appropriate to a particular research question to identify all the salient issues or responses to an interview where the respondent has said something relevant to the research question, rather than considering the answers the respondent gave chronologically. Elliott (2018:2855), as cited Saldaña, (2014:4) explained that a code in qualitative inquiry is most often a word or short phrase that symbolically assigns a summative, salient, essence-capturing and/or evocative attribute for a portion of language-based or visual data.

Coding in a qualitative study could be done using software packages such as ATLAS T.i and NVivo, or it could be done manually. In this study, coding was done manually. The data collected were listened to repeatedly and summarised in point form. The relevant words, phrases and quotations in the transcripts were identified, separated and assigned codes. These words or phrases were coded using different colours for easy identification (refer to Appendix G).

3.9.5 Reflexivity

According to Kalu (2019:97), reflexivity is a continual process of reflecting on how the researcher could be an influence on a study by unmasking hidden conflicts and assumptions/ideas/beliefs with a goal of emancipating thinking and action of self, others, reality and context.

It is a continuous process of self-reflection by researchers on their values and of recognising, examining, and understanding how their "social background, location and assumptions affect their research practice". Reflexivity as a process is introspection on the role of subjectivity in the research process. Reflexivity involves self-awareness and the process of examining both oneself as a researcher, and the research relationship (Palaganas *et al*., 2017:427). The researcher's self-awareness of his or her social, cultural, and political position(s) vis-à-vis research relationships and practices is a vital element of the research process and enhances trustworthiness.

In this study, reflexivity was demonstrated through the participation of the researcher among the study participants. The researcher, who works as an occupational health nurse practitioner in this company, actively participated in many workshops organised by the mine clinic. Some of these were: workplace malaria control programmes, workplace HIV/AIDS programmes, and hearing conservation programmes, among others. Through these programmes, participants became more familiar with the researcher. The researcher had adequate time to familiarise himself with participants as he regularly visited the community where the participants live. He was comfortable interacting with this community. However, reflexivity emphasises the importance of self-awareness, political/cultural consciousness of one's perspective. It stresses self-reflection on one's biases during investigation (Korstjens & Moser, 2018:123). The researcher as a professional nurse was constantly aware of the ethical issues and biases that might occur in this study. As such, the researcher was able to bracket himself outside of the research during the entire duration of study (refer to Section 3.2.2).

3.10 RIGOUR IN QUALITATIVE RESEARCH

Rigour refers to various strategies used in qualitative research to protect against biases and enhance the reliability of the study findings (Noble & Smith, 2015:34). Rigour is

essential for trustworthiness. It is essential for the researcher to take the necessary precautions to ensure that the research findings are valid and reliable (Brink *et al*., 2018:109). Rigour in qualitative research refers to steps taken by the researcher to establish the trustworthiness of the study results. It demonstrates how well the study was conducted and the manner in which the limitations and unforeseen circumstances were managed. Qualitative rigour is mostly established through data saturation (Squires & Dorsen, 2018:16). According to Brink et al. (2018:110), trustworthiness is concerned with ensuring the consistency, stability, and replicability of respondents' accounts, as well as the researcher's ability to collect and record information accurately. The following elements of research rigour were applied to the study to ensure that the findings of the study would be trustworthy.

3.10.1 Credibility

According to Moon et al. (2016:17), credibility denotes the extent to which a study represents the real meanings of the study participants. This element of rigour establishes whether or not the research findings are a true reflection of the information obtained from participants. It is also an enquiry to determine whether the findings are an accurate interpretation of the participants' views (Anney, 2014:276). To ensure the credibility of research, several activities such as prolonged field engagement, persistent observation, spending sufficient time in the research setting, and developing relationships will give credibility to a study (Nowell et al., 2017:3). The researcher works among these mineworkers and engages with them at different levels within their community. The researcher, therefore, had sufficient time to observe this community and to engage with them during other health awareness programmes as well as on a one-to-one basis when they visited the onsite clinic.

In this study, once ethical approval had been granted, the pilot interview was conducted with one mineworker to check whether the questions in the interview guide were appropriately formulated or whether they needed some adaptation. It also gave the researcher an opportunity to test the Olympus digital voice recorder for clarity. The researcher engaged the mineworkers after working hours and visited the catchment community where they live to talk to them in order to further enhance and build good interpersonal relationships with them. The interviews were conducted and recorded in the presence of the moderator. Member checking was also carried out to confirm with

the participants whether the responses gathered were a true reflection of their opinions. This helped to ensure that the data collected were trustworthy.

3.10.2 Transferability

This refers to the degree to which the results of qualitative research can be transferred to other contexts or settings, with other participants (Moser & Korstjens, 2018:121). The researcher can ensure transferability of a research study by facilitating a thick description of the phenomena under study. According to Maree (2016:124), thick description means that the researcher will provide the reader with a full and purposeful account of the context, participants, and research design, so that the reader can make his/her own decisions about transferability. In this study, the data collected was authenticated by two specialists to ensure that the findings are transferable. The researcher's responsibility was also to offer the participants enough knowledge on the topic so that they would be able to apply the information to their own experiences in real life (Schwandt, 2015:309). The results of this research would be able to help mineworkers make informed decisions about their social and sexual life (Jooste, 2018:353). In this research, the mineworkers participated in the interviews. This meant that knowledge would be transferred in all directions in the workplace, as well as in the catchment area in the community where they live.

3.10.3 Dependability

According to Anney (2014:278), dependability refers to the consistency of the research findings in the event that the study is replicated within a similar context. Dependability is a criterion used to establish the trustworthiness of a study. Therefore, a study is regarded as trustworthy when the findings of the study are considered dependable. To ensure that a study is dependable, the researcher must ensure the research process is logical, traceable and documented (Nowell *et al*., 2017:3). The dependability of the study was enhanced by relating to the theoretical, methodological and analytical processes of this study. In this study, the interview questions were sufficiently dependable to collect data that could address the objectives of the study. The supervisor and the researcher coded the interviews independently to achieve a consensus, thus ensuring dependability. The moderator ensured that participants were comfortable and relaxed during interviews. The moderator established rapport with the

participants. The moderator further ensured that researcher was unbiased and non-judgemental, so that participants could express themselves freely. The moderator also took field notes during the interviews, which also enhanced the dependability of the results. The researcher ensured dependability in this research by being consistent when the data were collected. The same questions and probing were done with all participants. The researcher employed techniques commonly used to collect and analyse data in qualitative research. As stated earlier, the data will be kept at the nursing department in a locked safe for audit purposes for five years, with only the supervisor having access to the key. This also ensures dependability.

3.10.4 Confirmability

Confirmability is described by Lincoln and Guba (1985), cited in Maree (2016:125) and Nowell et al. (2017:3), as the degree of impartiality to which the findings of the study could be confirmed by the participants and other researchers and not by the researcher's bias, motivation and interest.

Confirmability is measured by the research findings in relation to the data collected. This ensures the objectivity and neutrality of data collected. Confirmability is concerned with whether the researcher's interpretations and findings are clearly derived from the data collected. It describes how the interpretations and conclusions have been reached (Moon *et al*., 2016:17). To ensure confirmability, adequate time was allocated to data collection to ensure that utmost precision was achieved. Written field notes and audio recordings were done to serve as a reference and support the data collected through the semi-structured interviews. In this study, confirmability was achieved by associating the objectives with the interview questions (as stipulated in the interview schedule; refer to Appendix C) and proper record keeping. The findings of this research could be confirmed by the audio recordings, transcripts, and by the participants through member checking. The researcher and the supervisors were the only persons with access to this data.

3.11 ETHICAL CONSIDERATIONS

Ethics refers to a set of principles to be considered when conducting research. It guides the planning, implementation and evaluation of any research project (McKenna & Gray, 2018:147). Ethics is a set of principles which embodies or exemplifies what is good or

right or allows us to identify what is bad or wrong (Rasinger, 2013:18; Akaranga & Makau, 2016:1). The Nuremberg Code (Grove et al., 2013:160; Brink et al., 2018:28) provides a set of research criteria aimed at protecting the rights of human participants. Ethics provides rules and guidelines for the researcher on behavioural expectations and expected conduct towards participants, co-researchers, research assistants, fieldworkers, institution and sponsors attached to a study (Akaranga & Makau, 2016:1-2). It mandates all researchers using human subjects to obtain voluntary consent, to provide justification for the purpose of the research for the good of society, to ensure adequate protection from harm of participants, and to acknowledge their right to withdraw from the research of their own will (Grove *et al*., 2013:160, Brink *et al*., 2018:28). Together with the Nuremberg Code, the following ethical principles were applied and upheld by the researcher throughout the study.

3.11.1 Beneficence

Beneficence is the moral obligation of doing good to others and to maintain a balance between benefits and harm (Louhiala, 2015:7). Beneficence means maximising good outcomes for participants. The researcher explained to the participants that there would be no direct benefit of the study to them, but that the information gathered, and the outcome of the study, would contribute to the improvement of their sexual health and the health education programmes on HIV/AIDS prevention both in the workplace and in the communities in which the mineworkers live (refer to Appendices A and C). Participants were informed that the data collected would be kept safe and be destroyed five years after the study.

3.11.2 Non-maleficence

Non-maleficence is an ethical principle that states participants have the right to protection from harm or discomfort of any form, be it physical, psychological, emotional, socioeconomic or legal. The researcher carefully phrased the interview guide (refer to Appendix C) and encouraged participants to ask questions for clarification (Hlongwa, 2016:62). The interview schedule was carefully phrased by the researcher in order to prevent any psychological distress for participants. Participants were encouraged to ask for clarification if needed. The researcher ensured that the scheduled appointment times for participants for the semi-structured interviews did not in any way interfere with

their working hours. The occupational health medical doctor was always ready to attend to any participant who might become distressed or react negatively to any of the questions during the interview process. Such participants would be referred to this medical doctor on site for counselling (refer to Appendix H—Support Letter).

3.11.3 Justice

Justice literally means fairness and equality to all (Butts & Rich, 2013:45). It is an ethical principle which states that all study participants should be treated equally and fairly without any prejudice. The principle of justice includes participants' right to fair treatment and privacy. Study participants have the right to fair selection and treatment (Brink, *et al*., 2018:30). In this study, all participants and their information were handled privately and confidentially. No participant suffered or was penalised if he/she refused to participate in the study. The researcher ensured that the selection of participants was based on the research requirements, and agreements undertaken with the participants were followed (refer to Appendix C). Prospective participants were all treated equally without any discrimination.

3.11.4 Right to privacy and confidentiality

Confidentiality is a pledge made by the researcher to participants that no information will be made accessible to any third party not involved in the study. Confidentiality means data collected from a participant will not be repeated or disclosed without the permission of that person (Holloway & Galvin, 2017:59). The participants were informed and assured that all data collected through audio interviews in the study would not be disclosed to any other person without their permission. Only the researcher and supervisors directly involved with the study would have access to the data. The researcher would not link the responses of the questions to the participants, thus no names of participants were required during the data-collection process. All information would be wiped off the digital recorder once all the transcriptions had been finalised. Until then, transcriptions would be kept separate in a safe place. All transcriptions would be kept for five years in a locked safe in the nursing department at the university where the researcher was registered for his master's degree. The participants were informed that verbatim quotations would be included in the data but there would be no link between the data and participants' names. Participants' names

were substituted with numbers, according to the order in which they were interviewed ***P_1, P_2, P_3*** … to illustrate ***Participant 1, Participant 2, Participant 3*** and would be destroyed after completion of the study. The consent forms would also be kept safe for five years in a locked safe in the nursing department at CPUT (refer to Appendix C). Findings were reported in such a way that nothing specific could be linked to any participant. Participants' names were not recorded in any documents of the study.

3.11.5 Informed consent

All study participants were given a thorough and relevant explanation of the nature, purpose, type of information required, and use of information (Holloway & Galvin, 2017:57). Participants were given adequate information about the study (refer to Appendix A) and the opportunity to decide whether to participate voluntarily. No coercion or force was applied. Participants signed written informed consent for both interviewing and recording of the interviews (Appendix B) prior to the commencement of the data-collection process (interview). They were reassured that they had the right to withdraw from the study at any time, without any penalty or negative consequences.

3.12 SUMMARY

The research methodology employed in this research was discussed in this chapter. The research approach and design were discussed. Likewise, the population, sampling and recruitment strategies were explained. The data-collection tool and procedures used to analyse the qualitative data were discussed. Finally, the ethical considerations applied in this study were described. Research rigour, which ensures the trustworthiness of the study findings in qualitative research, was also described in detail. The next chapter deals with the analysis and discussion of the results of this study.

CHAPTER 4
RESULTS

4.1 INTRODUCTION

This chapter presents the results from the face-to-face semi-structured interviews in this study. This chapter presents the knowledge, experiences, and views (opinions) of the participants based on the questions in the interview schedule used to conduct the semi-structured interviews. These are presented according to themes and further broken down into sub-themes. This research was conducted in a mining community of Ghana. Seventeen semi-structured interviews were conducted to elicit responses from mineworkers on their knowledge and experiences of the prevention of HIV/AIDS. The purpose of this study was to explore and describe the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana.

The following were the objectives of the study:

- To explore the knowledge of mineworkers on HIV/AIDS prevention
- To describe the experiences among mineworkers in the prevention of HIV/AIDS

4.2 BIOGRAPHICAL DATA

Participants' biographical background data were collected at the beginning of the interviews. Each participant gave his or her biographical data regarding age, gender, marital status, hometown (origin), educational background and number of years of experience in the mining sector. There were 17 participants, consisting of 14 males and 3 females. Eight of these participants were married, while the remaining 9 were single. Their ages ranged between 24 and 49 years. Their educational background ranged from senior high school (A-level) to tertiary education. The sample consisted of mineworkers from different religious and socio-cultural backgrounds.

Table 1: Sampling and characteristics of the participants

Participants	Age (years)	Gender	Marital status	Hometown of participant
P1	46	Male	Married	Kumasi
P2	41	Male	Married	Takoradi
P3	48	Male	Married	Obuasi
P4	42	Male	Married	Accra
P5	30	Male	Single	Kumasi
P6	26	Male	Single	Cape Coast
P7	27	Female	Single	Offinso-Nangmo
P8	47	Male	Married	Accra
P9	33	Male	Single	Tarkwa
P10	28	Female	Single	Ayarko
P11	32	Male	Single	Kumasi
P12	34	Male	Married	Akwatia
P13	32	Male	Married	Assin-Fosu
P14	29	Male	Single	Kumasi
P15	27	Female	Single	Takoradi
P16	35	Male	Married	Accra
P17	29	Male	Single	Kumasi

4.3 THEMES

Seventeen interviews were conducted and audio-recorded with a digital hand recorder (starting from P1, P2, P3, P4 … P17). The data collected were transcribed by the researcher himself. Thematic content analysis was employed to analyse the data. Coding was done by the researcher, with assistance from the supervisor, and data were categorised and arranged into themes and subthemes. This was achieved through familiarisation by the researcher with the data, by repeatedly revisiting, re-reading and re-analysing the transcripts. The following themes and subthemes were developed from the data analysis according to the original objectives and research questions for the study.

Table 2: Themes and sub-themes

Themes	Sub-themes
1. Knowledge of mineworkers on HIV/AIDS.	• Description of HIV/AIDS • Mode of transmission • Source of information on HIV/AIDS
2. Misconceptions and ignorance of HIV/AIDS	• Deep kissing • Sharing of sharp objects and razor blades • Cure for HIV/AIDs
3. Risk factors	• Multiple sex partners • Migrant labour • Unprotected sexual intercourse
4. HIV/AIDS testing	• Importance of knowing one's HIV status • Fear of testing • Stigmatisation
5. Experiences of mineworkers regarding HIV/AIDS prevention	• Abstinence • Being faithful • Condom usage

4.4 THEME 1: KNOWLEDGE OF MINEWORKERS ON HIV/AIDS

Knowledge is a crucial factor in engaging in preventive behaviour in the fight against HIV/AIDS. Many behaviour theorists suggest that a person should be well-informed about a disease and its preventive measures in order to engage in prevention behaviours (Pharr et al., 2017:2). Data were collected to explore the knowledge levels of mineworkers on HIV/AIDS. The following subthemes emerged from the interviews. They are presented with some of the transcripts from the participants to substantiate the participants' responses.

4.4.1 Description of HIV/AIDS

Some of the participants interviewed had background information about HIV/AIDS and described it as follows:

> … umh HIV is a virus which attacks your immune system and … AIDS is the disease after HIV as in HIV comes and then AIDS follows (P6).

> HIV is umh Human Immunodeficiency Virus and then errrm AIDS is Acquired Immune Deficiency Syndrome; it is the virus that develops to become the AIDS if it's not seen early; that is what I know. (P16).

Other participants admitted they had inadequate knowledge of HIV/AIDS:

> Uhm, actually … I don't know much about HIV but what I know is [it's] a disease that transfers from one person to another, umh especially if you didn't take care of yourself on barbering shop, having sex and anything that go with blood, others source of cuts. That's what I know about HIV (P8).

> Well, with HIV I would say HIV meaning you have a deficiency in the immune system yeah and what gives that deficiency is the AIDS so meaning AIDS they say that's the Acquired Immune Deficiency Syndrome. So, you have the AIDS before you know you have the HIV. Yes, that is the little I know about AIDS and HIV (P13).

4.4.2 Modes of transmission of HIV/AIDS

The participants explained their opinions on the mode of transmission of HIV/AIDS during the interviews. Most of the participants stated and maintained the assertion that HIV/AIDS can be transmitted through sharing of sharp objects, such as razor blades or metallic objects with an infected person. Some of these opinions were expressed as follows:

> Through unprotected sex and other ways like using infected blades and other sharp objects coming into contact with your blood (P7).

> … ooh, through so many – means first of all, like sexual intercourse: like having unprotected sex and the second will be sharing of razor blades or any metallic objects with an infected person and then, ooh I think that is all (P6).

> Well, there is only one thing that I know and is the only common way of getting or contacting the disease and that is through intercourse that's sexual intercourse unprotected sex yeah. Or maybe using a sharp object being used by maybe an infected person which is most likely not the way of contacting the disease because it's one out of maybe hundred or so, so mostly the only common way of the disease is maybe having an affair with an infected person (P13).

> Through sex, urrh, a pregnant mother can transfer it to the child, and then when a person who has the disease is cut by a sharp object and it cuts you too, it can be transferred (P16).

> It can be transmitted through sex, unprotected sex, let me be specific, unprotected sex and then the use of blades how do even say, infected blades, when you go the barber

> shop, or even those guys we call Zamireman people: those who use blades to cut the nails, the nail cutters, those guys too, I think you can get the infection through them. Ermmm … through deep kissing with the cut in the person's throat or mouth I think (P15).

4.4.3 Sources of information about HIV/AIDS

Participants revealed their sources of information about HIV/AIDS and how it could be prevented. Below are elaborations from the participants on how they acquired HIV/AIDS information.

> From the media, from the I mean worksite, from umh, it is all over, all over the country. The worksite, which is places I have worked before where I work [now], they have been preaching about HIV/AIDS prevention, voluntary counselling and testing, and all those other things and the country to know on our Radio, on our TV stations and billboards, it's all over (P3).

> I read some online, and also HIV discussions on TV (P5).

> From friends, radio, from the former experiences that I had from school and website as well (P7).

> From school, church and friends (P10).

> From the Internet, through training from the workplace, training uhm, also from thus from the workplace, thus where I mostly get my information from the workplace (P12).

> I at times read a lot on the Internet, and also from the AIDS programme they have been doing here and the posters they post around (P15).

4.5 THEME 2: MISCONCEPTIONS / IGNORANCE ABOUT HIV/AIDS

According to Kunguma et al. (2018:1), there is misinformation on HIV and/or AIDS militating against the effective awareness and acceptance of the individual and societal behavioural change. One such misconception is that well-informed individuals, such as students enrolled at a university, are expected to have knowledge of the transmission risks, and therefore reduce their risk of becoming infected with the virus.

4.5.1 Deep kissing

Some participants were not well informed about HIV/AIDS. These participants hold the perception that HIV/AIDS can be transmitted through deep kissing, as stated below:

Having deep kiss with someone who has a bleeding gum, or you know, or err eer who has bitten their tongue or something anything that exposes one's blood out can let one have that disease (P3).

You can also get it through kissing so far as the blood someone's blood enters your body automatically you are going to get the HIV virus (P4).

I may say if you have contact with someone who has HIV, you may get it from erhm, kissing. The kissing, what I know is erm, if you have a cut like you have a mouth cut, then the person too has a mouth cut, then the moment you kiss the person the fluid coming from your mouth will go into the person, you may get the virus from erhm kissing (P9).

Ermmm … through deep kissing with the cut in the person's throat or mouth I think (P15).

4.5.2 Sharing of sharp objects

Sharing of sharp metallic objects was a popular misconception of most participants on the transmission of HIV/AIDS.

Sharing of razor blades or any metallic objects with an infected person (P6).

No, erm if like erm, a cut, somebody has a cut and uses a blade, whereby it is not sterilised, or a knife whatever; when you use it, maybe you saw a blade somewhere, and you just pick it [up] and shave your eerhh, nail[s], cut your nail[s] whatever, except the person has it, you too you can get it (P9).

The use of blades how do I even say, infected blades, when you go the barber shop, or even those guys we call Zamireman people those who use blades to cut the nails, the nail cutters, those guys too, I think you can get the infection through them. Ermmm … through deep kissing with the cut in the person's throat or mouth I think (P15).

When a person who has the disease is cut by a sharp object and it cut you too, it (HIV) can be transferred (P16).

The one who is having HIV and use a sharpened material like errr blade and co and have cut and you also use the same thing, you will also get the AIDS (P17).

4.5.3 Cure for HIV/AIDS

A participant maintains the notion that HIV can be cured. This is what he said:

> Oh yes, that's what I heard, because I think HIV, we have HIV, it has drugs that can even cure it. That's what I heard but HIV, when it gets to AIDS, you can't cure it, because you already have AIDS already. HIV you can cure it but AIDS, I don't think you can do something about it. You can only take drugs to 'ahh' help yourself or something that's AIDS but you can't cure it. That's but you can't cure HIV (P8).

4.6 THEME 3: RISK FACTORS

Participants expressed their thoughts on how they might be at risk of acquiring HIV/AIDS.

4.6.1 Multiple sex partners

The majority of the participants agreed that they are at risk of HIV/AIDS as they have multiple sex partners in addition to their legal or usual partners, as revealed below:

> Now I have one [besides my wife]. Yes, mostly admire, I like people from the community, I don't like importing women here. It is a bit cheaper than importing somebody from the city and any other place. Yes, in terms of cost, like transporting the person here, sending her mobile money to come, eer transporting her here, feeding her and others, camping her in your room is costly so … (P2).

> I have two [sex partners] and my wife thus and by God's grace, we are all tested. They, they I was able to convince all tested is like we have gotten tested and by God's grace we are all I mean negative and I pray that, no one goes awkward to bring in any other new something to the so-called family, you know (P3).

> Only one [besides my wife], Yes, she comes from the community. Ooooh It is part of errr, I feel not necessary because of sex that I go in for that person but sometimes you won't get, just to help to wash, to and you sometimes need food not necessary that you always go to the chop bar to go and buy, if that person is under you she can help you let me cook this for you, ooh you give me money and let me do this for you, not necessary sex but someone who may help you in one or two things (P4).

> At times too let me try another lady from another tribe or another country. Currently, my girlfriend is a Nigerian. I went in because I wanted to know how they also perform (P7).

> Ooh I have a girlfriend, I have a girlfriend, I have one, but one one way or the other I also have, I am not being faithful so like I also have another in addition to it (P12).

4.6.2 Migrant labour

Participants interviewed were migrant mineworkers, as they come from other parts of the country to come and live and work without their families. Working away from home in the mines without families is also regarded as migrant labour. During the interviews, participants explained that they live far away from their families. Hence, they resort to having different sex partners while they are away from their regular wives and partners:

> You come you work you see through the hard days' work I mean you get tired and you just feel like I mean flashing down there, tension and the stress in the system you know where is your wife to be found she is not around this area sometimes, these are the kind of things that gets someone into and especially me into I mean going in for these sex partners or whatever (P4).

> Because the risk, erh, I may say since am here in the mines, am not here with my wife, I may come across a girl, whereby you have to go and sleep with her without using a condom (P9).

> Uhm, looking at our job for instance, maybe you don't have your girlfriend … is in Accra you are in Kumasi working and you see is not always that she can just travel from Accra to Kumasi, so you try to get someone around just to have fun with (P12).

4.6.3 Unprotected sexual intercourse

Some participants were of the opinion that unprotected sexual intercourse could put them at risk of acquiring HIV/AIDS. They expressed their opinions as follows:

> It can, it can be acquired through unprotected sex (P5).

> I can't also trust [the] numerous partners I have been having sexual intercourse with (P7).

> By sleeping with the person, having sex with the person without using a condom (P10).

> Well, there is only one thing that I know and [it] is the only common way of getting or contacting the disease and that is through intercourse; that's sexual intercourse unprotected sex yeah (P13).

> It can be transmitted through sex, unprotected sex, let me be specific, unprotected sex (P15).

> Yeah. Of course. Because of the unprotected sex, since errrm we are not married yet, so it is likely we can get infected (P17).

4.7 THEME 4: HIV/AIDS TESTING

HIV/AIDS testing is the ultimate step to long life and is encouraged, as treatment for HIV/AIDS is highly effective and dependent on HIV/AIDS testing. Early diagnosis can improve one's likelihood of living a longer and productive life. Moreover, knowledge about one's HIV status can minimise the risk of transmission of HIV to others (Tshweneagae et al., 2015:1-2).

4.7.1 Importance of knowing one's HIV status

Some participants elaborated on the importance of knowing their HIV status, as stated below:

> For the counselling is very good you need to uhm, for instance, if someone has acquired the disease there are a whole lot of viral drugs which you can, the person can be put on to like to reduce the immune deficiency syndrome. So is good to counsel people so that they will be aware of what is around the kind of disease which is around. And with the testing too, if you are able to know your status it also helps because if you test and you are positive umh there will be a counselling, there is life after umh testing positive, so is good to know your status (P12).

> Yeah like we built up some years ago so before we start anything, I have spoken with her already like is good to know your status and then before you aside HIV/AIDS we need to even test for any other things and we started with these general tests that brought about our testing stuff yeah like we wanted to get married we decided to go check-up and we brought this one, so it became like something routine, once a while she is away, she is in Ghana but she is far away, so when she comes and then I am also around we go do the test and before start anything we can just move on (P15).

> It is necessary to know your condition … Your status. For not to spread, maybe the person knows that he is having that disease, through education or counselling, maybe he can stop not to spread the disease across. Because people don't know, they do go from one place to another and at the same time, the disease is spreading (P17).

4.7.2 Fear of HIV testing

Some participants reiterated the fear they encounter when it comes to HIV testing. Most of them stated that it is mostly fear that deters them from undertaking HIV testing, to know their HIV status. These were their comments:

> No, I don't want to get HIV closer to me, the issue is that [laughing …] I don't want to get closer to HIV, I don't want to mention the name, let alone going for the test. The

> fear of HIV alone, I don't even want to [laughing …] even try testing. Yes, I have a lot of information on HIV that I do share with people but personally, I don't want to go into testing for HIV and thinking about HIV. "HIV is not my portion in Jesus' name.**"** [Laughing] (P2).
>
> Yeah, I have to fear. Because if you didn't put that thing at the back of your mind, you eerr will go astray, you won't be serious in life. Because you have to put it at the back of your mind that you can get it (P4).
>
> Yes, you will be nervous. Yes, because we all know that it's a deadly disease and when you are infected there is no cure for it, so definitely it deters people. People prefer being in the unknown than being aware of it (P11).

4.7.3 Stigmatisation

HIV stigma manifests in behaviour such as verbal abuse, gossip, labelling and distancing oneself from people living with HIV, once the individual's HIV status is known. HIV stigma results from fear of infection, coupled with poor information about transmission, fear of poverty, as well as the association of sexuality with immorality and sin (Hallonsten, 2017:1201). Some participants believe that the fear of being stigmatised by society when you test positive, scares people from establishing their HIV status. These were their opinions:

> Errr, I think I think when people get tested and they see that they are positive because of stigmatisation and other things he will try to he will try avoid those things like if maybe he has the like disease the viral disease he will not be thinking of that but immediately you test for it and you have the disease you have the mentality that oooh soon I will just be dying so that makes it difficult for people to get tested in my opinion (P12).
>
> The fear being that maybe in the course of the doing it they might be informed that they have contacted the disease and we know that's why some people fail to do it. Sometimes you will receive the news alright that you have the disease but afterwards the thinking the emotional this thing that it will bring to you makes it even very difficult so sometimes we want to save ourselves from that stigmatisation and other things; that is why people don't want to go in for the test but it is good that each and every one will go in for the test (P13).

4.8 THEME 5: EXPERIENCES OF MINEWORKERS OF HIV/AIDS PREVENTION

HIV/AIDS prevention includes strategic approaches proved to be effective in halting the epidemic (Smith et al., 2016: e289). These interventions are implemented to avoid transmission of the HIV virus from an infected person to an uninfected one. These

interventions are aimed at reducing the incidence of HIV/ADS and also managing the affected population to live positively. Most preventive measures are geared towards behaviour modification to achieve safer sexual behaviours.

4.8.1 Abstinence in HIV/AIDS prevention

Participants voiced their experiences regarding abstinence in HIV/AIDS prevention. The experiences vary from one another, as illustrated below:

> Errr … [laughs]. For the abstinence, it only happens when I'm not dating. When there is a breakup, that is where I experience abstinence. Yeah, for the abstinence, errm, a man like me, it will be hard for me to abstain anyway. That's why I'm saying the age, where I am now, I can't abstain. Difficult … but a man was born to be with a lady and at my age, I am not sure abstinence will help (P1).

> Oh, abstinence is not easy but that is actually the best way. But once you are human and you've reached the adulthood stage is very difficult for you to abstain unless you've not done it before, but if truly you've done it before it is not easy for you to abstain. They would say it is easy just to psychic yourself believe you me it is not easy. You are in a midst of company; P.P. peer pressure is there, everybody is doing it you can't say you will not do it you will definitely try once and the once you've tried you can't call it abstinence … so abstinence is not easy normally I don't want to preach abstinence I just want to preach condom usage (P7).

> Sex is sweet. I can't just abstain from sex. No! (P8).

> Umh, it is not all that easy to abstain from sex for a month to two months, but it is not easy. The desire, sometimes we are all human beings and the drive will sometimes be there to have an affair so when the you start experiencing the drive for it then you go for it (P12).

> It depends on the … for me, it is easy in the sense that, I have conditioned my mind, I am not going to waste money outside … and I have also, I have a principle that there is no one better than my wife, yeah, and so even if I am away, I have travelled to errmmm … to take a long time, I mean, I will have to abstain, and I have this religious belief that sex, is … is not just the fun of it, but once you have sex with someone, it is an exchange of spirits and you don't know really the kind of spirit in the one you're going in to have sex with. The spirit can come in to destroy your life. So, because of some of these beliefs, I try not to go behind my wife and I have made her aware … understand that so whether I am around or I am not around, I believe she also does exactly the same thing (P14).

4.8.2 Being faithful in AIDS/HIV prevention

Participants shared their experiences regarding being faithful to their sex partners in marriage and/or in other relationships. Some of the participants acknowledged the fact that faithfulness to one another is essential in the prevention of HIV/AIDS:

> Okay, eemmmm, okay personally, I always have it at the back of my mind that she is the only one I am glued to. So, with that behind my brains or my mind, I will always ensure that, I don't give other ladies too much attention, yeah, and I always know my limit with other ladies too. So that it does not develop into any relationship or anything of that sort (P5).

> It is … it is easy when one, the two of you understand, there is understanding especially when you're married, when there is peace and harmony at home, that is one thing. When communication is good, it is another thing. For example, if you have a very good communication between yourself and your partner, and there is something going on with her, you can easily tell her (P14).

> Okay, errrm okay it depends on the understanding the two of you have and the trust you have for each other it makes it easy then even though you are faithful to her sometimes you see other ladies, errm, sometime you see other ladies who are even maybe more far beautiful or pretty than your lady but it takes the trust you guys have for each other and you could also consider how far you guys have come and you let go like that (P5).

Other participants shared their views and reasons for unfaithfulness in their sexual relationships. Some participants noted the distance and nature of the job as key factors influencing their unfaithfulness to their partners:

> Oh, a lot of times. It is like I don't know how mine way of thinking is, I am always faithful to my wife, but you know, I don't drink, I don't smoke, I don't do drugs. It is like I don't do any other thing. So, my way of having my pleasure eerm whatever, I don't know, is unto my sexual I mean activities. So sometimes I don't see that being unfaithfulness to my wife. You see I don't see that as being unfaithful to my wife. Is like It is just you know one of those things. You come you work you see through the hard days' work I mean you get tired and you just feel like I mean flashing down there, tension and the stress in the system you know where is your wife to be found she is not around this area sometimes, these are the kind of things that gets someone into and especially me into I mean going in for these sex partners or whatever (P3).

> Yes, naturally you have to be faithful to your partner but currently I don't think that is what is happening. But I have a partner aside my wife and I don't know about her too. So, faithfulness? I wouldn't classify myself to be a faithful guy for now … when your partner shows disrespect. At times you feel like punishing her or paying her back. But competition is good, so you bring another person to compete with her. And two, there

is an old saying you can't drink one water for a long time. So, at times you have to just mix things up. So, you just explore to change diet and see or maybe your wife is slim, and you feel like testing the fat ones too and if she is fat you like.... At times ooh let me try another lady from another tribe or another country. Currently my girlfriend is a Nigerian. I went in because I wanted to know how they also perform (P7).

Ooh I have a girlfriend, I have a girlfriend, I have one, but one way or the other I also have, I am not being faithful so like I also have another in addition to it (P12).

4.8.3 Condom use

Some participants voiced their stand that condom use is good in preventing HIV/AIDS.

I think condom is ok, erhm, condom is ok because you use it when you don't know much about the person. You even enjoy it because you are not afraid because am with condom, you more enjoy than trying to use it raw (P8).

Using a condom has helped me very much. Because so far as I am a man in which I am not yet married, definitely, I need to use a condom. In which maybe I have get married, when I get married, it's true that I can't or, I should not use condom. So far as right now, I haven't get married, I need to use the condom whereby I can protect myself. It helps us a lot, based on sex, any infection which you can't use your eye to see it, yeah from syphilis, gono [short form of gonorrhoea] and HIV, a lot (P10).

The majority of these participants also explained in the interview their experiences with condom use and their reasons for not using condoms:

For condom, it is hard to use condom anyway. Errmm… you know, you understand, you're a man, I am a man, so you know condom and you doing it raw, condom is very bad. But anyway, we prevent by dating only one girl so that it can avoid such incident (P1).

No, me I do not like condom [chuckled] I don't seek any … There is no pleasure in it, me I don't like condom, I just don't like it. I have tried using condom but eeeer it is not something I admire (P2).

Yeah, that is what I was saying, because I don't like and I don't normally like using it, I have also I mean how do I say it adapted or find my own way of getting myself in check or making sure I am doing the right things so that I don't get infected, and that is by doing the I mean voluntary counselling testing with my sex partners. That is one of my eerrm how do I say, prioritise ways of I mean these things, you know because most at times when is like I am attracted to a girl and I want to is like have a relationship with, I normally try convincing them and taking them through so that they agree and then we all go and to do counselling testing, then afterwards ... (P3).

Condoms naturally is the best but is not the same as going natural. But once you have the aim of protecting yourself then, that is the best, I think you just have to do it after all you will get the same feelings. **I'm not a condom fan**. But by now they have new condoms which are adopted. The adopted ones are cool than the old ones, the raw ones, punter condoms and other stuffs (P7).

Ooh mostly umh using condom sometimes you don't feel like having sex with someone uhm without using condom, so it is like it reduces your, your sensitivity that is how I will put it (P12).

Hmmm, well frankly the usage of condom, has not been well with me, just I don't enjoy it. Hmmm [chuckled …]. I just don't enjoy it I don't know why, but it is not like the the natural one, the natural body-to-body one. The condom you just do it for doing sake, and you just have nothing but the end of it all, it all good for your own sake (P15).

Me n'usey condom bi daa! **(in twi)** Meaning "I have never used condom before." No! I never use condom in any sexual relationships (P16).

4.9 SUMMARY

This chapter described the results obtained through the face-to-face semi-structured interviews at the data-collection stage of the study. The biographical data of the participants were summarised. The themes and subthemes that emerged from the transcribed data were presented. The next chapter discusses and reports on the results of the study.

CHAPTER 5
DISCUSSION OF RESULTS

5.1 INTRODUCTION

This chapter discusses the results of the semi-structured interview responses from the participants in this study. The aim of this study was to explore and describe the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana.

5.2 THEMES

Seventeen interviews were conducted and recorded in English, since all the participants understood English and could express themselves in the English language. Face-to-face interviews was conducted at a time convenient to the participants. Data were collected until saturation was reached. The themes and sub-themes identified from the interview data are discussed below.

5.3 THEME 1: KNOWLEDGE OF MINEWORKERS ON HIV/AIDS PREVENTION

During the interviews, the researcher wanted to establish the level of knowledge of the participants regarding HIV/AIDS prevention. This plays an essential role in controlling the transmission of HIV/AIDS through capacity building, providing information, reducing vulnerability, empowerment, improving life skills, and reducing stigma and discrimination, which are substantial grounds for HIV infection (Bhatta et al., 2013:158). In the context of this study, mineworkers' knowledge of HIV/AIDS prevention is the foundation that could be used to prevent further spread of HIV/AIDS among them and the communities in which they live. The following subthemes emerged:

5.3.1 Description of HIV/AIDS

Some of the study participants gave a precise description of what HIV and AIDS stand for. They further explained what caused the infection and differentiated between HIV and AIDS. Other participants acknowledged and demonstrated that they had little or

inadequate knowledge of HIV/AIDS. According to Vidanapathirana & Peiris (2015:9-10), adequate knowledge and experience of HIV are expected to bridge the gap between unsafe sexual behaviours and the safer sexual practices of mankind, hence empowering the individual to take charge of his/her personal health. This was further illustrated by Oladipo et al. (2014:529) from their research: until people are knowledgeable about HIV/AIDS and its devastating consequences, all efforts to curb its rapid spread will be ineffective. According to Jones *et al*. (2016:566-567), in describing the Health Belief Model (HBM), knowledge is essential for the prevention of HIV/AIDS with regard to barriers and cues to action in positive behaviour. This implies mineworkers' personal beliefs concerning the extent of harm (severity) that can occur by indulging in risky sexual behaviours or not conforming to healthy behaviour. When they know that they are susceptible to HIV/AIDS, it does not necessarily encourage them to take the necessary preventive actions unless they realise that contracting HIV/AIDS would have serious physical and social implications (Tarkang & Zotor 2015:4). In this study, participants admitted they lacked sufficient knowledge on the topic of HIV/AIDS. This poses a barrier for many of the participants as they lack essential knowledge of how to protect themselves from infection.

Knowledge about HIV/AIDS is among the most important tools for fighting the epidemic, especially among high-risk groups, such as mineworkers, sex workers, immigrants, young people, and prison inmates. Many may not have the level of knowledge that will empower them to protect themselves effectively and adequately against HIV/AIDS infection. Participants claimed they could be infected by sharing the same blade while cutting hair at a barbershop or using the same blades. This was a clear indication that some of them lacked knowledge regarding the spread or the transmission of HIV.

In this study, findings suggest that mineworkers' potential negative consequences result from taking particular health risks. These include multiple sex partners, non-condom use, and a lack of knowledge that might make them prone to HIV/AIDS (Villar *et al*., 2017:3). According to the theoretical framework applied to this study, the HBM, these participants are susceptible to risk and need to be corrected (Nareswara *et al*., 2016:596). Conclusively, De Neve et al. (2015: e470) describe formal education as a social vaccine that can be used to curb the spread of HIV infection. In accordance with the HBM, the researcher believes that adequate knowledge of mineworkers in respect

of HIV/AIDS will enable them to recognise how susceptible they are to contracting HIV/AIDS, hence they will employ measures to protect themselves from being infected with the virus. Therefore, the inadequate knowledge of mineworkers is a clear indication that mineworkers have a limited or no perception of risk and that their risk severity is high.

5.3.2 Mode of transmission

The majority of the participants explained in the interviews that HIV/AIDS is transmitted via sharing of razor blades and other metallic objects. Some adhered to their claim that HIV/AIDS could be transmitted via the sharing of electric razors at the barber shop. However, there were participants who were able to list the major routes of transmission, such as unprotected sexual intercourse and the perinatal and parenteral route. According to UNICEF (2009), as cited by Mondal et al. (2015:14), knowledge of how HIV can or cannot be transmitted is extremely important in the prevention of HIV/AIDS. Correct knowledge about HIV transmission increases safer sexual behaviour and is considered an important step towards behavioural change. This concurs with the assumption made in the theoretical framework that knowledge is a critical prerequisite for preventing HIV transmission and behavioural change (De Vasconcelos *et al*., 2018:2). Therefore, it is important to understand that the lack of or inaccurate knowledge can pose a barrier to the prevention of HIV transmission (Tarkang & Zotor, 2015:3). Risk susceptibility in the HBM describes mineworkers' beliefs about the likelihood of contracting HIV/AIDS and an individual's personal perception of the risk of contracting HIV/AIDS as high or severe. A person's perception that HIV/AIDS is personally harmful will contribute to his taking the necessary actions to prevent HIV/AIDS (Bishop et al., 2015:3021). Even though many people might have heard of HIV, their knowledge is limited with regard to how HIV is transmitted and how they can protect themselves (Mondal *et al*., 2015:14-15). Knowledge about HIV/AIDS will increase and empower mineworkers to prevent and protect themselves. If diagnosed early, complications, as well as the burden of HIV/AIDS, could be reduced. Perceived barriers are the factors that prevent mineworkers from taking care to protect themselves from HIV/AIDS. These could be personal, interpersonal, community or societal which may include: inadequate knowledge, misconceptions, migration and fear of being stigmatised (Jeihooni *et al*. (2018:7286). Despite the workplace HIV/AIDS programme and education through PSI meetings on HIV/AIDs, some mineworkers fail

to recognise or understand essential knowledge with regard to the prevention of HIV/AIDs. This relates to the modifying factors in the HBM of knowledge and support on HIV/AIDS. Therefore, strategic interventions, such as a comprehensive HIV/AIDS prevention programme, are required to increase mineworkers' knowledge. These will ultimately increase their perception of risk of contracting HIV/AIDS which will compel them to adopt preventive measures.

5.3.3 Sources of Information about HIV/AIDS

Various sources of information were mentioned by the participants as the avenues through which they were educated on HIV/AIDS. Some of these sources were: the media, the Internet, radio, friends, workplace, PSI training, television (TV) discussions, church and billboards. According to Wen *et al*. (2015:14), there is an association between HIV/AIDS knowledge and the number of available information sources. By increasing the number of sources available to an individual, one could always make more people curious to read about or interested in acquiring knowledge regarding HIV/AIDS. The sources of HIV/AIDs information mentioned by the participants in this study coincided with those of Vember (2013:115) in a similar study conducted among students in a higher education institution. It was found that the sources of information about sexuality were: television, radio, newspapers, periodicals, and discussions with neighbours and friends. However, it is not known whether access to information on HIV/AIDS, as measured by the number of information sources available to individuals, correlates with knowledge about HIV/AIDS (Bekalu & Eggermont, 2014:739).

5.4 THEME 2: MISCONCEPTIONS AND IGNORANCE OF HIV/AIDS

During the interviews, the researcher wanted to explore whether mineworkers have misconceptions and were ignorant about HIV/AIDS, as part of the objective to establish the knowledge levels of mineworkers in HIV/AIDS prevention. Kawale *et al*. (2017:376) note in their study that individuals possess adequate knowledge of HIV/AIDS transmission, faithfulness to a partner, condom use, pregnancy and breastfeeding. However, there are still some misconceptions that linger concerning mosquito bites and sharing food with PLWHA. Some of the mineworkers erroneously still think that these avenues can also transmit HIV/AIDS infection. Kawale et al. (2017:376) indicate in their conclusion that there is a gap in knowledge and attitudes of individuals with

regard to HIV/AIDS. The following subthemes emerged regarding misconceptions and myths.

5.4.1 Deep kissing

Some participants were ignorant and erroneously believed that HIV/AIDS could be transmitted via deep kissing. During the interview, some mineworkers explained that HIV infection is transmitted through deep kissing, which suggests ignorance of the mode of transmission of HIV/AIDS. According to Avert (2019), no cases of HIV/AIDS transmission by deep (French) kissing, or any kind of kissing, were reported. However, it is reported that there is such a small amount of HIV in the saliva of a person living with HIV that the infection cannot be passed on from kissing (Barré-Sinoussi *et al*., 2018:6).

5.4.2 Sharing sharp objects and razor blades

The majority of the participants revealed during the interviews that HIV infection could be transmitted via the sharing of sharp objects such as razor blades, metallic objects and using an electric razor that has been used on other clients in the barbershop and who might be infected with HIV. Some noted that their main source of risk for HIV infection is through the use of electric razors in the barber shops. With regard to the HBM, inadequate knowledge of the mode of transmission is regarded as a barrier to HIV/AIDS, as mineworkers may have low perceptions about their susceptibility and the severity of HIV/AIDS, and therefore may not protect themselves (Bishop *et al*., 2015:3021). It implies empowering mineworkers with adequate knowledge regarding the modes of transmission of the HIV virus. Only then might it convince them to implement healthy behaviours (self-efficacy) (Choudhary *et al*., 2015:58).

Contracting HIV after needle stick injury and the use of sharp objects is rare (NAM, 2017, as cited in Evans & Dukes, 2018:47). It is extremely rare that HIV is transmitted by sharing razors or toothbrushes if infected blood from one person were deposited on the toothbrush or razor and the blood entered the bloodstream of another person. HIV is transmitted from one person to another when there are the right quality and quantity of the virus present in infected blood or semen, and, to a lesser extent, through vaginal secretions and breast milk that enter the uninfected person’s bloodstream. The

conditions for HIV transmission are quality, quantity and route of transmission (Evans & Dukes, 2018:50). If there is low quality or insufficient quantity of the virus, as well as minor routes of transmission of HIV which is impermeable to the infected blood, the virus entering will not thrive and will not infect another person. In accordance with perceived susceptibility in HBM, mineworkers' misconceptions about HIV/AIDS transmission via sharing of sharp objects and razors possibly account for their low perception of risk of contracting HIV/AIDS. Therefore, it is necessary to adopt strategies to increase the perception of risk of contracting HIV/AIDS among these mineworkers. These strategies include the implementation of comprehensive HIV/AIDS education programmes in the workplace. The researcher suggests that these programmes should be focused on increasing the mineworkers' knowledge of HIV/AIDS transmission and also on dispelling their misconceptions, thereby increasing their perception of risk of HIV/AIDS infection.

5.4.3 Cure for HIV/AIDS

A participant revealed during the interview that "HIV, it has drugs that can even cure it. that's what I heard but HIV, when it gets to AIDS, you can't cure it". The fight against HIV/AIDS is associated with many misconceptions and misinformed opinions (Mondal *et al*. 2015:18). According to Panda (2017:578), misconceptions with regard to HIV/AIDS are mostly accompanied by ignorant or inaccurate information that is often believed and passed on without the authenticity of the source. Contrarily to the claim made by this participant, the WHO notes that there is no cure for HIV infection and there is no vaccine against HIV infection. However, effective antiretroviral (ARV) drugs can control the virus and help prevent transmission so that people with HIV, and those at substantial risk, can enjoy healthy, long and productive lives (Haberer *et al*., 2013:3).

This response could mean that mineworkers are still not well informed and have inadequate knowledge regarding HIV/AIDS treatment and chronicity. These misconceptions are not corrected among mineworkers. This may result in risky sexual behaviours such as unprotected sex, multiple sex partners, and non-use of condoms as they believe that HIV can be cured. This is in line with the HBM. An individual's perception that a health problem is personally relevant will contribute to vital action to prevent health challenges. The mineworkers' pro-active perception of the potential risk of contracting HIV/AIDS would be to acknowledge that they lack adequate knowledge

of HIV/AIDS, its mode of transmission and its complications. Cues to action are when mineworkers feel they want to take the necessary action after believing in their own capacity to do so. The required action will benefit them in knowing how to deal with the expected barriers and by empowering them to acquire the necessary knowledge (Tarkang & Zotor, 2015:4).

5.5 THEME 3: RISK FACTORS FOR HIV/AIDS

A risk factor is any attribute, characteristic, exposure or behaviour of an individual that increases the likelihood of developing a disease (WHO, 2019). In the context of HIV/AIDS, these risk factors may include any unsafe sexual behaviours and the characteristics of an individual that put them at risk of HIV/AIDS infection. The following subthemes related to risk factors are described.

5.5.1 Multiple sex partners

Some of the participants admitted that they have multiple sex partners. This included at least one or more, in addition to their legal wife or usual sex partner. Most of them were concurrent partnerships. According to Carter, Kraft, Koppenhaver, Galavotti, Roels, Kilmarx and Fidzani (2007) as cited by Ntombela (2016:53), multiple-partner sexual relationships refer to a practice that involves the sexual engagement of an individual with more than one sex partner; such relationships occur one after the other, or simultaneously. Such relationships are also known as concurrent sexual partnerships and they are classified as one of the major transmissions of HIV. This act of polygamous sexual partnership puts the individual and his wife/wives or sex partners at a higher risk for HIV/AIDS if adequate protection is not used (Ntombela, 2016:53). According to Cox *et al*. (2014:1), multiple sexual partnerships have long been recognised as an important factor contributing to the global HIV epidemic, especially in regions such as sub-Saharan Africa, where sexual intercourse is the main mode of HIV transmission. This revelation also corresponds with the findings of this study as well as with research by the World Bank that mineworkers are considered an at-risk population because of the migratory nature of their lives. Most mineworkers spend a long time away from home in their work (especially expatriates and immigrants from other countries) which exposes them to indulge into extra-marital acts or predisposes them to multiple sex partners (Tiruneh, Wasie & Gonzalez, 2015: 2). This finding is

also true for this study. This implies that mineworkers still have a personal belief concerning the extent of harm (severity) that can occur by indulging in risky sexual behaviours or not complying with healthy sexual behaviours. When they know they are susceptible to HIV/AIDS, it does not necessarily encourage them to take the necessary preventive actions unless they realise that contracting HIV/AIDS will have serious physical and social implications (Tarkang & Zotor 2015:4).

Findings from a study conducted by Vember (2013:76) revealed that many students on university campuses are in the prime of their lives. Sexual activity forms part of student experimentation and this often results in a high prevalence of HIV/AIDS and STIs. The high rate of HIV/AIDS and STIs can be associated with the students' new-found freedom at university and being away from home with no supervision. University campuses, therefore, are ideally situated to offer peer education to inform and educate students regarding high-risk sexual behaviours. The current study concurs with that of Vember, as mineworkers' new-found freedom in the mining community, because of migration without their families and regular partners, lends itself to high-risk sexual behaviour.

According to Affedzie (2017), emphasis on HIV/AIDS susceptibility campaigns in Ghana has declined in recent times. The annual HIV/AIDS infection rate has also declined, and therefore people's feelings of susceptibility to contracting the HIV virus are decreasing. This results in their being less likely to implement preventive actions. HIV/AIDs prevention campaigns should be revamped to create awareness of the current spread of HIV to make people feel more susceptible, so that they will adopt safer sexual behaviours. According to the HBM (Adams et al., 2014:512), mineworkers' perceptions of their susceptibility to HIV/AIDS will increase if they are well informed about their risk (multiple sex partners). Hence there is the need to empower them through various educational campaigns to increase their awareness of their susceptibility to HIV/AIDS. With insight they might begin to practise safer sex and indulge in healthier sexual behaviours.

5.5.2 Migrant labour

One of the eligibility criteria for this study were mineworkers who came from other parts of the country to live and work without their families. Working away from home in the

mines, without family, is also regarded as migrant labour. During the interviews, participants explained that they live far away from their families; hence, they resort to having different sex partners while they are away from their wives and regular sex partners in order to satisfy their sexual needs (Suphanchaimat *et al.* (2014:20). The common route of transmission of HIV among migrant workers varies by country or region of origin. However, migrants from SSA were reported to acquire the infection through heterosexual and mother-to-child-transmission (MTCT) (Kharsany & Karim, (2016:37).

Baltazar *et al*. (2015: S59) describe mineworkers as a population at risk for HIV owing to their high-risk behaviours associated with migratory work patterns. The high prevalence of HIV/AIDS among mineworkers and mining communities may be linked to migrant labour. HIV/AIDS has been identified as a critical driver that poses a threat to economic growth and development in the mining sector (Cham, 2015:1).

5.5.3 Unprotected sexual intercourse

Some participants admitted during the interviews that their risk of contracting HIV/AIDS is due to unprotected sexual intercourse. The practice of unprotected sexual intercourse is the main route of transmission, accounting for 70–80 percent of HIV infections in sub-Saharan Africa. This practice of unprotected sexual intercourse constitutes the highest risk for HIV transmission. This could be among heterosexual, homosexual and bisexual partnerships (i.e., any unprotected anal or vaginal intercourse, unprotected insertive anal or vaginal intercourse, and unprotected receptive anal intercourse) (Hallal *et al*., 2015:172). In this study, unprotected sexual intercourse was the main mode of transmission among participants. A study conducted among black young men who have sex with men in the United States by Braden and Westergaard (2015:63) revealed that having older partners could result in unprotected sex as well as a higher likelihood of unrecognised HIV infection, particularly among young black men who have sex with men.

5.6 THEME 4: HIV/AIDS TESTING

The mineworkers were interviewed to establish their knowledge and experiences regarding HIV testing. The subthemes that emerged from this theme in the interviews are discussed below.

5.6.1 Importance of knowing one's HIV status

Some of the participants demonstrated that they were well informed about the importance of knowing their HIV status. They explained that knowing their HIV status would enable them to commence the ARV treatment required for viral suppression. Others explained that knowledge of their HIV status would enable them to take precautions in order not to spread the infection. This notion of knowing one's status is supported by the UNAIDS (UNAIDS, 2018:5). Knowledge of HIV status helps people to make informed decisions on HIV prevention strategies. It helps to facilitate early diagnosis of HIV-positive individuals which helps reduce the risk of further transmission. HIV testing affords early access to care and treatment, while individuals who test HIV negative are educated and encouraged to maintain their negative status (Mohlabane *et al*., 2016:87). Late diagnosis of HIV/AIDS will result in increasing transmission of the epidemic and mineworkers will miss opportunities for early treatment – a critical public health concern.

In a study conducted in Tanzania among the Maasai people by Freitas & Nayak (2014:35), it was found that misconceptions regarding HIV, continued high-risk sexual behaviours, language barriers, limited education, and being long distant away from health services constitute significant barriers to health education messages that result in limited HIV-related knowledge. These barriers frustrate Tanzania's national efforts to reduce HIV transmission among the Maasai people.

In relation to the HBM, the perceived benefit of HIV testing will motivate mineworkers to undertake HIV testing for early diagnosis. This will prompt them to further protect themselves when they test negative, and also to commence ARVS early enough if they test positive, to prevent complications.

5.6.2 Fear of testing

A section of the participants voiced that the fear of HIV/AIDS discouraged them from HIV testing to ascertain their HIV status. They revealed their fear of HIV testing, as knowing it is a deadly disease made them nervous. For this reason, participants prefer not knowing what their HIV status is, as mentioned in the interview: **"*People prefer being in the unknown than being aware of it.*"** Another reason was because there is no cure for the disease. According to Mohlabane et al. (2016:92), in their study conducted among patients in health facilities in South Africa, the major barriers to HIV testing are more personal than structural. Some of the personal barriers included fear of an HIV-positive result, being scared of what people might say, as well as shyness or embarrassment. The fear of divulging personal information to health workers was of grave concern to them. This is similar to what was found in this study. Fear equated to a barrier, as indicated in the HBM. Hence the participants in this study were sceptical about HIV testing and knowing their status. They were also scared of stigmatisation, as discussed under the following theme.

5.6.3 Stigmatisation

Stigmatisation refers to the process by which an individual or group of individuals is labelled as socially undesirable and vilified because of their HIV status, which society regards as despicable and socially unacceptable (Turan, Budhwani et al., 2017:284). HIV/AIDS stigma is a social process resulting in isolation, rejection, blame or denigration. Stigma is a damaging social phenomenon that occurs when PLWHA are treated unequally and unfairly owing to their HIV status. Stigmatisation has negative effects on health outcomes, including non-optimal medication adherence, lower visit adherence, higher depression, and overall lower quality of life of PLWHA (Mo & Ng, 2017:944).

The negative consequences associated with HIV/AIDS stigma may compel PLWHA to delay or refuse treatment or hide their disease from others. The fear of stigma causes denial, secrecy, depression and shame. The disclosure of HIV status leaves the person with feelings of shame and self-suspicion. HIV/AIDS stigmatisation has a critical impact on the lives of PLWHA and can be a barrier to voluntary counselling and testing (Saki *et al*., 2015:2).

It was clear in this study that stigmatisation was still rife in the communities where these mineworkers live and come from. They voiced their fear of rejection by family and friends or by society at large because of their positive status. Hence, these mineworkers were fearful of going for an HIV test. The Joint United Nations Programme on HIV/AIDS (UNAIDS), describes HIV-related stigma as a process of devaluing or undermining people either living with or associated with HIV and AIDS-related infections (Dong et al., 2018:2). Through HIV testing, one can be diagnosed early to prevent transmission to sex partners and children. ARV treatment can be commenced early, which could improve the quality of life and long-term prognosis of PLWHA (Thapa, et al., 2018:2). However, findings from a 2018 study revealed that the fear of stigma when testing positive has also been shown to be the main barrier to HIV testing. It deterred men and young people from HIV testing in a large qualitative study in South Africa (Kuehne *et al*., 2018:3). Stigmatisation affects HIV prevention, as persons frequently devise coping mechanisms such as secrecy, denial, deception, and depression, leading to social withdrawal to avoid rejection (Kontomanolis *et al*., 2017:111). Furthermore, stigmatisation is an obstacle to voluntary testing and counselling (VCT) uptake (Chimoyi *et al*., 2015:8). Stigma becomes a barrier to testing, thereby increasing the risk of transmission as people are reluctant seek treatment. It influences the willingness of people living with HIV to access health services and adhere to treatment (Turan, Hatcher *et al*. (2017:863).

In the HBM, fear of stigma increases mineworkers' perceptions of the severity of the disease. However, it deters many of them from undergoing HIV/AIDS testing and makes people hide their infection status. This accelerates the spread of infection and delays diagnosis and commencement of ARVs. Since the inception of ARV treatment, HIV/AIDS infection has become a chronic condition rather than a death sentence. Many people now are less concerned about the severity of HIV/AIDS. Therefore, many people have become lax in their efforts to adopt preventive measures (Affedzie, 2017).

This was evident in this study, as mineworkers' perceptions of HIV/AIDS as being less severe led them to indulge in unsafe sexual practices, such as multiple sex partners, non-use of condoms and unfaithfulness to their partners, which put them at high risk.

5.7 THEME: 5 EXPERIENCES OF MINEWORKERS REGARDING THE PREVENTION OF HIV/AIDS

The following subthemes emerged while exploring the experiences of mineworkers regarding the prevention of HIV/AIDS.

5.7.1 Abstinence

Sexual abstinence involves delaying sexual activity until marriage and avoidance of casual sexual partnerships. HIV/AIDS prevention, through sexual abstinence, is a cornerstone of HIV-prevention campaigns targeting the youth, to encourage safer sex practices. The goals of abstinence are primarily aimed at reducing the transmission of HIV among adolescents and youth in order to delay the first sexual experience (Uzoigwe & Franco,2017: e30).

The participants revealed their experiences concerning sexual abstinence in HIV/AIDS prevention. There were varied experiences and reasons for abstaining from sexual activity. Although participants were aware that abstinence was the best way to prevent HIV/AIDS, they found it challenging as they still indulged in multiple sex partners. This is also due to the fact that they live far away from home, and from their wives and families. Multiple sex partners constitute a high risk for HIV/AIDS transmission. Some of the participants acknowledged that sexual abstinence is one of the main preventive measures in the fight against HIV/AIDS. In this study, mineworkers admitted that abstinence was difficult to embrace as they are human, and as adults have the need to engage in sexual activity.

Sexual abstainers may be categorised into primary, secondary or recent, depending on the experiences and duration of exposure to sex. Primary abstainers are individuals who are sexually inexperienced and have decided not to indulge in sex at all until they are legally married (Long-Middleton *et al*., 2013:344; Mokwena & Morabe, 2016:82). This term is frequently used interchangeably with ‘virginity’. Secondary abstainers are individuals who might have had some sexual experience in the past; however, they have decided to abstain during the past 12 months or more. Lastly, the recent abstainers are also individuals who have been sexually active in the past year; nonetheless, have chosen to abstain in the past three months. It may be abstinence

as a result of lack of opportunity to engage in sexual intercourse, rather than a conscious effort to abstain. This argument for recent abstainers was found to be true in this study, as these mineworkers live far from home (Kabiru & Ezeh:2007), as cited by Mokwena and Morabe (2016:82).

Several researchers, international organisations, civil society organisations and faith-based organisations (FBOs) recommend sexual abstinence to be the most effective intervention to arrest the spread of HIV/AIDS among the youth (Olowu, 2015:77). This recommendation regarding sexual abstinence could be effective for mineworkers, many of whom are still young. However, in this study youthful mineworkers had knowledge of abstinence as a preventative method but did not practise it. Mineworkers' inability to abstain from multiple sexual relationships constitutes a barrier to HIV/AIDS prevention. Barriers, as mentioned in the HBM (Bishop *et al*., 2015:3021), refer to mineworkers who might take the necessary action to prevent their being infected, but only realise that they have the capacity to deal with these barriers once they are empowered with enough knowledge to change their behaviour and attitudes. This concurs with another study on high-risk behaviours by Jones *et al*. (2016:568).

Research findings from Mokwena and Morabe (2016:82) coincided with the findings of this study in respect of abstinence. The findings included peer pressure, myths and incorrect perceptions of sex, the influence of drugs and alcohol, and the influence of television. Depending on the methodology, or how it is delivered, a section of the population believes that school-based sex education is a barrier to sexual abstinence. It is recommended that programmes to promote sexual abstinence should be strengthened and such programmes need to be community based. Ssenyonga and Potts (2014:344) indicate that being faithful and partner reduction is the preferred mode of HIV prevention for sexually active adults. They argue that partner reduction has been a significant factor in Uganda's HIV success story. This success story was due to abstinence and delayed sexual debut advocated for the younger generation as their preferred HIV prevention strategies. This is in accordance with the assumptions of the HBM, that without mineworkers' perception of HIV/AIDS as a threat, there would not be any resultant preventive actions against HIV/AIDS (such as abstinence). Thus, the perceived risk of contracting HIV/AIDS is presumed to aid abstinence from sexual intercourse in the prevention of HIV/AIDS. The higher the mineworkers' perceived risk of contracting HIV/AIDS, the higher their likelihood of sexual abstinence. It can be

deduced from the above mentioned that the low perception of risk of contracting HIV/AIDS among the mineworkers might have resulted in indiscriminate and multiple sexual partnerships, as mineworkers perceive themselves as not being at risk of contracting HIV/AIDS.

5.7.2 Being faithful

Faithfulness is an act of remaining consistently loyal and trustworthy to one's partner, regardless of extenuating circumstances. It may be demonstrated by two consenting individuals in a sexual relationship (*Cambridge Dictionary,* 2019b). These individuals may mutually agree not to engage in sexual relationships outside of the marriage in an attempt to prevent HIV/AIDS infection. In order for faithfulness to be effective for HIV prevention, it must be practised by both partners who know that their own and their partners' sero-status is HIV-negative. When mutually faithful partners are HIV sero-discordant, condoms are recommended to maintain individuals' HIV status in order to prevent transmission of HIV to the uninfected partner (Lo *et al*., 2016:856).

Some participants expressed a strong commitment to faithfulness in their marriages or relationships in order to ensure peace and harmony. One cannot really ascertain whether they practise what they say. Some participants also voiced their negative experiences of faithfulness. Some felt being faithful to one partner was boring. Another participant referred to his partner's disrespect towards him, hence he resorted to another partner as a means of punishment for the disrespectful wife/girlfriend, as indicated as follows: "At times you feel like punishing her or pay[ing] her back." A participant said that he did not drink alcohol or smoke, therefore sex was a means of entertainment, coupled with the fact he was away from home. He does not see it as unfaithfulness, as demonstrated in the following quotation: "So, my way of having my pleasure eerm whatever, I don't know, is unto my sexual I mean activities.'' In relation to the HBM, mineworkers have a low perception of susceptibility to HIV/AIDS due to their lack of or inadequate knowledge of the severity of HIV/AIDS. Therefore, they do not see the importance of being faithful to their sex partners. Perceived susceptibility is a major contributor to understanding preventive health behaviour (Renu *et al*., 2015:22692-22693). In another study, Vember (2013:118), found that despite the fact that peer educators at a higher education institution attended multiple workshops on abstinence and faithfulness to one partner, they still engaged in multiple partners and

were still unfaithful, hence they put themselves at risk of contracting HIV/AIDS. Despite the HIV/AIDS awareness campaign through the workplace's HIV/AIDS programmes, these mineworkers still indulge in high-risk behaviours such as unfaithfulness and multiple sex partners. The researcher believes that mineworkers who consider themselves at high risk and extremely susceptible, will readily practise mutual faithfulness in their sexual relationships to prevent HIV/AIDS, once they are equipped with enough knowledge and understanding of the disease.

5.7.3 Condom use

Some mineworkers were well informed about the benefits of condom use. They revealed that condoms could be used to prevent HIV/AIDS and STIs and could serve as a method of contraception to prevent unwanted (unplanned) pregnancies. These findings concurred with the study of the WHO that when a condom is used consistently and accurately, it is highly effective in preventing HIV/AIDS and STIs that are transmitted through bodily fluids, such as gonorrhoea and chlamydia (Farrington *et al*., 2017:2852-2853; WHO, 2019). Condom use is a well-known family planning strategy used during sexual intercourse to reduce the probability of pregnancy and the spread of HIV/AIDS and STIs (Cumber & Tsoka-Gwegweni, 2016:2).

Other participants voiced their experiences and reasons for non-use of condoms. Some of these reasons were that there was no pleasure in the use of condoms and condoms reduced sensitivity, while others said that it was just not enjoyable: "I just don't enjoy it. I don't know why, but it is not like the natural one, the natural body-to-body one." Despite all the health education and awareness campaigns on condom use, a participant noted that he had never used a condom, as he stated in Twi, a Ghanaian language: "*Me n'usey condom bi daa!* (in Twi). ("I have never used condom before." No! I never used condom in any of my sexual relationships.") Coupled with the fact that this participant has multiple partners, is regarded as a migrant worker, and did not use condoms, places him at high risk and as severely susceptible to contracting HIV/AIDS and STIs.

The findings from this study correlate with a study by Cham (2015:47) that found a low level of condom use in Sierra Leone. Low self-efficacy for condom use by local mineworkers is consistent with the 2008 HIV surveillance reports by NAS (2008), which

showed that approximately 82% of miners in Sierra Leone indicated that they had never used condoms during sexual intercourse.

Kanda and Mash (2018:1) note in their findings from research conducted among sexually active adolescents in Botswana that the use of condoms is low, despite awareness of HIV/AIDS and the importance of safe sex. Similarly, only 40% of male and 31% of female adolescents used a condom consistently according to the 2002 South African First National Youth Risk Behaviour Survey. In Burkina Faso, Ghana, Malawi, and Uganda, the story was not different, as only between 24% and 51% of adolescents had used condoms in their previous sexual encounters.

Findings from the current study revealed that mineworkers with inadequate knowledge of the risk and severity of HIV/AIDS are those who have negative attitudes towards condom use in their sexual relationships. Despite the distribution of condoms to mineworkers on a monthly basis in the workplace, together with regular workplace HIV/AIDS campaigns aimed at increasing knowledge of HIV, consistent use of condoms, and number of people testing for HIV, and reducing the number of people with multiple partners, mineworkers are still reluctant to use condoms.

According to Kanda and Mash (2018:2), negative attitudes towards condom use in sub-Saharan Africa are frequently linked to socio-cultural factors. This was discovered in research conducted in the North-West province of South Africa. According to the outcomes of the North-West study (2018), the reasons for non-use of condoms by participants were lack of trust or faithfulness and the desire to have a child. Other reasons included long-term relationships, and to please the partner, as well as a lack of knowledge of the benefits of using a condom. Decreased pleasure; power and gender issues; less fear of contracting HIV/AIDS as it can now be controlled with medication; the influence of tradition; alcohol and drug abuse; peer pressure; and the refusal of the partner; were further contributing factors. Mineworkers' exposure to events such as health education or access to condoms might encourage them to adopt safer sexual behaviours (Tarkang & Zotor, 2015:4). This implies mineworkers' belief in the efficacy of abstinence, faithfulness, and condom use to reduce their risk of acquiring HIV/AIDS (Jones *et al*., 2016:2). Barriers to the use of condoms identified by other studies include being in a permanent and stable relationship, fear of a partner,

and the use of other contraceptives. Others include unavailability of condoms at times, and also partner refusal (Titus, .(2017:9

Ochillo et al. (2017:754) found in their study that FBOs frequently stress abstinence and faithfulness as the only strategies for HIV prevention, while other stakeholders mainly focus on condom promotion. FBOs claims that sexuality cannot be separated from the fundamental values of love, marriage and child-bearing, as the promotion of condom use by other stakeholders encourages sex outside of marriage and promiscuity. This however, is a strong condemnation of condom use that possibly reduces knowledge, skills and the willingness of members to use condoms during risky sexual behaviour. This consequently may increase the risk of HIV/AIDS transmission as PLWHA cannot reveal their sero-status to their partners or use condoms to prevent further spread of the infection. Mineworkers' ability to abstain from multiple sex partners and use condoms accurately and consistently, based on how well informed they are, will display self-efficacy on their part (Tarkang & Zotor, 2015:4).

According to the HBM, mineworkers who perceive themselves to be at risk of contracting HIV/AIDS, require self-confidence in their ability to use condoms accurately and consistently during sexual intercourse to prevent HIV/AIDS (Tarkang & Pencille, 2018:5). The researcher believes a possible reason for the low-risk perception could be that the mineworkers see their sex partners as safe, since they are resident in villages around the mining communities, with limited movement and exposure to urban lifestyles and risky sexual practices. From the results of the data analysis, it was observed that mineworkers' inadequate knowledge tends to contribute to the low use of condoms, despite their access to and the availability of condoms at work. The low or inconsistent condom use among mineworkers in this study suggests their perceived barriers to using condoms, which overshadow the perceived benefits of condom use and perceived self-efficacy for condom use. Hence, strategies to increase mineworkers' perception of risk of contracting HIV/AIDS and to overcome barriers to condom use should be implemented in HIV/AIDS prevention programmes for mineworkers. These programmes should be focused on increasing mineworkers' self-efficacy so that they can use condoms accurately and consistently and learn strategies on how to overcome barriers in negotiating condom use.

5.8 SUMMARY

This chapter discussed the results of the study, comparing the them with the reviewed literature as well as with the theoretical framework according to the objectives of the study. Chapter 6 discusses conclusions, recommendations, and limitations of the study, as well as possible future research and benefits emanating from the study.

CHAPTER 6
CONCLUSIONS, RECOMMENDATIONS AND SUMMARY

6.1 INTRODUCTION

The aim of this study was to explore the knowledge and experiences of mineworkers on the prevention of Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome (HIV/AIDS) in a mining community in Ghana. The objectives of the study were to explore the knowledge of mineworkers about HIV/AIDS prevention and to describe the experiences of mineworkers in the prevention of HIV/AIDS. Chapter 1 gave an overview of the study. Chapter 2 presented a comprehensive review of literature relevant to the study. Chapter 3 discussed the research design and methodology. Findings from the data analysis were presented in Chapter 4 and these results were discussed in Chapter 5. In this final chapter, conclusions, limitations and recommendations are discussed.

6.2 CONCLUSIONS

6.2.1 Objective one

The first objective was “To explore the knowledge of mineworkers on the prevention of HIV/AIDS”. From the findings of the study, the following conclusions were derived from the mineworkers who were the participants:

- The participants have little or inadequate knowledge of HIV/AIDS and its mode of transmission, despite the numerous awareness and educational programmes on HIV/AIDS conducted on a regular basis at the workplace.

- The participants still hold misconceptions about the mode of transmission of and cure for HIV infection which makes them fail to recognise the severity and chronicity of HIV/AIDS. Some of these misconceptions are: HIV can be cured but AIDS has no cure; sharing of sharp objects and blades in the barbershop; and deep kissing can lead to transmission of HIV/AIDS.

- Participants named their sources of information on HIV/AIDS and its prevention as follows: radio, television discussions, workplace, friends, church, the Internet

and social media. It was observed that most of these mineworkers had received their knowledge of HIV/AIDS either in their current or previous workplaces.

- Participants have little knowledge of the risks that multiple sex partners pose to them in the transmission of HIV/AIDS, as participants had at least one or more sex partners in addition to their legally married partner or usual sex partners.

- Migrant labour (migration) was observed to be a frequently occurring excuse for their concurrent multiple sexual partnerships, as they leave their homes, families and sex partners to move to a new location within the mining community.

- Participants engage in unprotected sexual intercourse with trusted sex partners but use a condom with new sex partners whom they do not trust.

- Participants have hardly any knowledge of the benefits of knowing one's HIV status through HIV testing.

- Fear of testing positive and of being stigmatised by families, loved ones and colleagues at work discourages mineworkers from HIV testing to ascertain their status. Therefore, they prefer not knowing their status, as it will cause them too much emotional and psychological stress.

The Health Belief Model (HBM) was used to demonstrate health-promoting behaviours in the value-expectancy concept. The desire to avoid illness or to get well (value), and the belief that a specific health action is available to a person, will prevent illness (expectation). Individual perceptions of susceptibility and severity will motivate mineworkers to anticipate the need to adopt preventive measures to protect themselves against HIV/AIDS. Expectancy was further outlined in terms of the individual's estimate of personal susceptibility to and severity of an illness, and of the likelihood of being able to reduce that threat through personal action. Inadequate knowledge and misconceptions are perceived barriers that result in mineworkers having a low perception of the risks associated with acquiring HIV/AIDS, as well as a low perception of the benefits (perceived benefits), thus they need to protect themselves by adopting safer sexual behaviours. According to the HBM, people

change their behaviour when they understand that a disease is serious, otherwise they might not turn to healthy behaviours (Jeihooni, Hidarnia, Kaveh, Hajizadeh & Askari, 2016: 7285).

It was deduced from the HBM that the higher an individual's perceived susceptibility to HIV/AIDS, the higher the probability of the individual's prospect of adopting safer sex behaviours. This confirmed the assumption that knowledge of HIV/AIDS is essential for the prevention of HIV/AIDS, in respect of barriers and cues to action in positive behaviour. The HBM suggests that mineworkers would take the necessary action to protect themselves from infection with HIV or STIs if they feel that a negative action can be avoided. However, it is necessary to help these mineworkers to realise that they have the potential to avoid these high-risk behaviours. This can only be achieved when the mineworkers are empowered with adequate and in-depth knowledge of HIV/AIDS and its transmission and when those misconceptions that led them to such behaviours are clarified. Then only will they be able to take preventative action (Tarkang & Zotor, 2015).

6.2.2 Objective two

The second objective was: "Describe the experiences among mineworkers in the prevention of HIV/AIDS". The following findings emerged:

- Participants acknowledged that sexual abstinence is critical in the prevention of HIV/AIDS. However, they find it difficult to adhere to and uphold the approach of sexual abstinence in HIV/AIDS prevention.

- The participants said they cannot abstain because they are away from their families, and being adults, they have to yield to their sexual drive.

- Participants expressed fear of being stigmatised and discriminated if they test positive to HIV, hence they prefer to stay unknowing their HIV/AIDS status.

- Some mineworkers underscored the fact that faithfulness in a sexual relationship is good. However, it is extremely difficult for them to adhere to it, as their wives are not with them. Therefore, migration has become a barrier to

faithfulness in sexual relationships and predisposes these mineworkers to multiple sex partners and consequently a high risk for HIV/AIDS infection.

- Participants had many excuses for unfaithfulness. Some of these reasons or excuses were not tangible enough if they indeed have adequate knowledge of their perceived susceptibility to and severity of risk for HIV/AIDS. Some of these reasons are: extramarital sex to relieve boredom; to create competition among themselves to show how many partners they have; as a taste for a variety of women; and to punish a disrespectful partner.

- According to the HBM (Tarkang & Zotor, 2015:4), the practice of faithfulness in their sexual relationships will be a perceived benefit to them, as it would also prevent them from infection with the HIV virus.

- Low condom use was observed to be a common phenomenon among the participants despite the frequent supply of condoms to mineworkers at the workplace. There was a revelation by a participant during the interview that he had never used a condom previously in any of his multiple-partner sexual relationships.

- Participants had knowledge of where they could acquire condoms should the workplace not have supplies.

- Despite the plethora of education and information on HIV/AIDS in the workplace, on radio and television, from faith-based organisations, in the mass media, via social media and the Internet, and from friends, as revealed by the participants themselves, there were still participants with inadequate knowledge of the benefits of using condoms, or those who just simply refused to use condoms.

- There are still many misconceptions about condoms among mineworkers which may account for the low uptake of condom use. Some of these misconceptions include: condoms are used on new and untrusted sex partners; condoms

reduce pleasure (sensitivity); they cause early ejaculation; and personal reasons (*I am not a fan of condoms, I just do not enjoy it).*

- Although some participants had shown adequate knowledge of the benefits of condom use, a gap still existed between knowledge and use, as revealed by some of the well-informed mineworkers.

- It was obvious from the analysis that there is also a gap between accessibility and the use of condoms among mineworkers. Despite the availability of condoms, miners still engage in unprotected sexual intercourse.

The basis of the HBM theory is that actions are based on mineworkers' perceptions and the likelihood of their behaviours. The HBM emphasises that the motivation for mineworkers to take action to promote or prevent HIV/AIDS is founded on how strongly they believe that they are susceptible to HIV/AIDS and whether contracting the disease would have serious effects on their lives. Furthermore, the suggested health intervention is of value and the effectiveness of the treatment will be worth the cost. Barriers which people must overcome to institute and maintain specific behaviours, and the influence of another person close by who may have been susceptible to the same disease, signal the need for action to change perceptions and behaviours (Tarkang & Pencille, 2018:2).

In this study, perceived susceptibility was evident in the lack of knowledge that these mineworkers displayed and their perceptions of the extent to which they were at risk of HIV/AIDS. The perceived severity of HIV/AIDS complications was explored. The sum of these two factors constitutes that the mineworkers perceived the threat of the disease. The perceived benefits and barriers that refer to the individual's perception of the benefits of changing risky behaviours in order to prevent HIV/AIDS were highlighted in this study. These were abstinence, being mutually faithful to sex partners, and the accurate and consistent use of a condom. This study also highlighted the potential barriers to preventive behaviours in respect of safer sexual practices. It is thus essential to embark on intensive awareness and educational campaigns on HIV/AIDS to increase the knowledge of these mineworkers and at the same time increase their perceptions of the risks as well as the perceived benefits of achieving a positive behavioural outcome (Jeihooni, *et al*, 2016: 7286).

According to the results of this study, mineworkers had misconceptions as a result of inadequate knowledge with regard to potential health risks. The mineworkers' experiences are suggestive of ignorance because of the lack of inadequate and/or incorrect knowledge and information. The HBM cues to action require motivation to adhere to the preventive measures of abstinence, mutual faithfulness, and condom use, as miners are educated via numerous health education activities and programmes.

6.3 LIMITATIONS

The findings of this study were limited to the knowledge and experiences of mineworkers who voluntarily consented to participate in the research and who were interviewed at one mine in the Ashanti region. In this region there are two further accessible mines, despite being approximately 1–2 hours' drive away from the location of the current study. It was a challenge to persuade miners to participate in the study, as all appointments were booked in the evenings at the end of their working day. Participants were always in a hurry to board the bus back to the community where they live. Because of changes in the shift pattern, it was also difficult to meet all those who had opted voluntarily to participate. HIV/AIDS is a sensitive issue to mineworkers, and many declined because of their fear of being judged immoral. Some declined for personal reasons, while others were not prepared to disclose sensitive details of their sexual experiences.

6.4 BENEFITS OF THE STUDY

6.4.1 Benefits to the company

The researcher works as an occupational health nurse practitioner in the company. Hence, the findings from this study will assist in the effective review and implementation of the company's workplace HIV/AIDS policy. Bearing in mind these findings, it will enable the medical team to embark on intensive health education and promotion programmes. These programmes can influence the attitudes and behaviours of mineworkers towards HIV/AIDS and STIs positively. The researcher hopes to assist the medical team to become an HIV/AIDS and STI-friendly facility. This

will be done by encouraging staff to treat HIV/AIDS issues confidentially and in a non-judgemental manner. The outcomes of this study will also ensure that condoms are made accessible to all workers to encourage appropriate use.

6.4.2 Benefits to the mineworkers

The mineworkers will gain more knowledge of HIV/AIDS prevention through various HIV/AIDS awareness campaigns and educational programmes. These awareness campaigns could coincide with all sporting activities, particularly on holidays at the mine. These campaigns and health promotion programmes should also include HIV-testing drives or 'know your status drives'. Mineworkers could be trained as peer educators, able to strengthen and empower their families and colleagues with knowledge of HIV/AIDS and STIs. These peer educators could address HIV-related concerns in their respective departments.

6.5 RECOMMENDATIONS OF THE STUDY

The participants in this study, who were mineworkers, are a group known to be a high-risk population because of the migratory nature of their work. They work away from home, their families and their loved ones. There are few entertainment and recreational facilities in the rural mining community. There is a low level of knowledge of the prevention of HIV/AIDS among these mineworkers. They also practise unsafe sex and have a high risk of contracting HIV/AIDS. Therefore, from the findings of this study, it was recommended that:

- Management, as important stakeholders, should continuously participate, support and show interest in the workplace HIV/AIDS programme to sustain the implementation of all awareness and health promotion programmes. Management should provide funding to support and sustain all these educational workplace programmes.

- Management should develop (if not available) and reinforce workplace HIV/AIDS programme that will create a non-discriminatory environment and protect the right of PLWHAs at work.

- There should be a continuous intensive HIV/AIDS education and awareness programme focused on the knowledge requirements of the mineworkers to refute their misconceptions and improve their knowledge. This will empower them to see themselves as a high-risk group for HIV/AIDS infection and will underscore the benefits of their changing their sexual behaviour, thus preventing infection.

- Even though they are adults, sex education should be discussed at PSI meetings on a regular basis to enable the workers to acquire skills on sex negotiation, condom use, abstinence, faithfulness, alcohol and substance abuse, sexuality, and sexual relationships across all departments.

- The importance of safer sex practices should be discussed during educational awareness programmes with an emphasis on condom use and its benefits to eliminate barriers and misconceptions, and to encourage all workers to use condoms and to practise safer sex. Each medical practitioner in this mining clinic should also emphasise this with every individual consultation in the clinic.

- More condom vending machines should be mounted at focal points visible to all mineworkers so that they can dispense these for themselves. These dispensers should always be stocked, instead of the current practice in the company of monthly distribution. This will facilitate accessibility to condoms. Peer educators could be trained to fill these dispensers to ensure they are always well stocked.

- The company, in collaboration with the Ghana AIDS Commission, should launch vibrant HIV/AIDS education campaigns in the rural mining communities at least once a quarter initially, but that could later be increased. This will provide a platform for all stakeholders to establish and provide support units to address HIV/AIDS-related concerns. Stakeholders mobilised to participate in such campaigns should be community opinion leaders, the youth, FBOs, and NGOs. The focus should be on the effects, mode of transmission, preventive measures, and myths and misconceptions. All these efforts should finally lead to behaviour change in these mineworkers. Continuous evaluation of these programmes and campaigns will be important in order to determine their success.

6.6 AREAS FOR FURTHER RESEARCH

Recommendations for further research on a large scale should include other mining companies and communities in Ghana to analyse the situation of HIV/AIDS with regard to the knowledge and experiences of mineworkers on the prevention of HIV/AIDS. This would be laudable and the mining industry in Ghana would benefit. Further studies need to be conducted to assess the effectiveness of companies' workplace HIV/AIDS programmes in eliminating high-risk behaviours among mineworkers. Similar research could be conducted in the community to assess the knowledge of the youth and adolescents in respect of HIV/AIDS and its prevention. The findings from such a study could enable the District Health Directorate and the public health unit to plan health education programmes on HIV/AIDS according to the knowledge gaps that exist.

6.7 CONCLUSION

The aim of the study was to explore and describe the knowledge and experiences of mineworkers with regard to the prevention of HIV/AIDS in a mining community in Ghana. The objectives that this study set out to accomplish have been achieved. This study revealed that despite health education campaigns by the Ghana AIDS Commission, Ghana Health Service, and the workplace HIV/AIDS programme, mineworkers still have inadequate knowledge, resulting in myths and misconceptions about HIV/AIDS. Preventive strategies such as sexual abstinence and faithfulness were overlooked by mineworkers as a result of migrant labour.

Multiple sexual partnerships were a common phenomenon as miners claimed it was a means of relieving boredom and stress. Despite the risks of multiple sexual partnerships and the availability (accessibility) of condoms, their experiences clearly showed a lack of condom use or inaccurate or inconsistent use, indicating deficient knowledge. There is thus the need to educate and empower mineworkers continually with knowledge to improve behaviours in order to prevent HIV/AIDS and STIs.

The researcher is of the opinion that a well-established occupational health services programme in the workplace that includes HIV services such as education and awareness creation, VCT, coordination and supply of ARVs, and positive living among

People Living with HIV/AIDS (PLWHA) can be adopted to keep employees healthy and productive.

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APPENDICES

APPENDIX A: INFORMATION SHEET

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PARTICIPANT'S INFORMATION SHEET

Project Title: **Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana**

Dear Participant

Introduction:

My name is David Nkumincha Yabila and I am a registered master's student in the Nursing Sciences department at the Cape Peninsula University of Technology, South Africa. I invite you to participate in a research project that I wish to undertake with the aim to explore the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana.

Kindly spend a few minutes to read the information presented, which will explain the details of this research. Should you have any questions about this project that you do not fully understand, please feel free to contact me personally. It is very important that you are fully satisfied and clearly understand what this research entails and how you could be involved.

Furthermore, your participation is entirely voluntary, and you are free to decline to participate. If you say no, this will not affect you negatively in any way. You are also

free to withdraw from the study at any point, even if you had initially agreed to take part.

Purpose of the study

HIV/AIDS is a public health challenge worldwide, from which Ghana is not exempt. HIV/AIDS has a dire socio-economic impact on many developing countries in sub-Saharan Africa (SSA), including Ghana. Several efforts and interventions have been made by local, national and international organisations in an attempt to control and prevent further spread among human beings. One of these interventions is education and awareness on HIV/AIDS prevention to enable the public to gain adequate knowledge about the disease, change their attitudes and influence their behaviour positively towards HIV/AIDS prevention. The purpose of the study is to explore the knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana.

What will your responsibilities be?

You will be asked to participate in a semi-structured interview which will take no longer than 30–45 minutes of your time.

Description of study procedures

As part of the research, I shall conduct personal interviews in a quiet private room at the Asanko Clinic. I shall set appointments with each participant as agreed on at a specific date and time, decided by you, to conduct the interviews. You will be asked for at least 30–45 minutes of your time to participate in this research project. Each interview will be tape-recorded with your permission. The reason for recording is to allow the researcher to analyse the interviewee's responses to gain insight, to listen to the interview more than once, and share the data obtained with only the supervisor. I shall also take notes so that at the end of the interview, I can reflect on the interview to identify gaps that might need to be explored in a follow-up interview. Please see the attached interview schedule (Appendix C).

Risks or discomfort

Should you decide to participate in the study, you will not suffer harm or discomfort of any form whether physical, psychological, emotional, socioeconomic or legal.

However, should you react negatively, as you might find some of the questions sensitive during the interview, you will be referred to the Occupational Medical Doctor on site for counselling. The data collected will be kept safe by the researcher in a locked safe at the university's nursing department, where only the researcher and supervisor will have access to it. It will be kept for five years after the study.

Benefits to the participant or others

The outcome of the study may contribute to the development and implementation of effective health education programmes on HIV/AIDS at the workplace, as well as at district level, where it will be used to address issues of the knowledge gap and resistant attitudes to change, despite the increase in education and sexual behavioural practices.

Privacy and confidentiality

Participants' information will remain strictly confidential. Interviews will be conducted in a private room where only the researcher and a chosen moderator (Health and safety officer) will be present to serve as a moderator to moderate and ensure that the ethics are adhere to. The researcher will not record your name anywhere during or after the interview session (participants will be numbered as **P_1**, **P_2**, **P_3 …P17)** on the informed consent form, and the audio recording will not be linked to your name. Only the researcher and supervisors will have access to the information. Your information will be kept in a locked office for five years after the report has been published.

Conditions of participation

Please understand that participating in this study is voluntary and you are not being forced to participate. The decision to participate is entirely yours. However, I should appreciate it if you share your views with me. If you decide not to participate in the study, you will not be affected in any way at work. You will not lose any benefits which you are entitled to, by not taking part. If you agree to participate and later decide to change your mind or decide to withdraw at any stage of the interview or study, you will be allowed to do so.

Expenses

You will not pay or be paid for anything by participating in this research.

Contact details

This research is being conducted by David Nkumincha Yabila, Occupational Health Nurse Practitioner now working at Asanko Gold Mine Clinic. If you do have any questions or need clarification about the research itself, please do not hesitate to contact:

Researcher: David Nkumincha Yabila

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NSƐM MA ANUANOM A WONBƐDI DWUMADIE YI

Dwumadie no so din: Nimde a mines adwumayɛfoɔ wɔ fa HIV/AIDS ho banbɔ wɔ mines brono bi so wɔ Ghana.

Anuanom pa,

Nnianim Asɛm: Me din de David Nkumincha Yabila na me yɛ osuani wɔ Nursing sukuu a ɛwɔ Cape Peninsula University of Technology, South Africa. Me de ahobraseɛ to me nsa frɛ wo wɔ nhwehwɛmu adesua bi a mepɛsɛ meyɛ. Nhwehwɛ mu a mepɛ sɛ meyɛ no fa kwan a adwumayɛfoɔ a wɔn wɔ mines mu fa so de bɔ wɔn ho ban firi HIV/AIDS yadeɛ mu wɔ mines brono bi so wɔ Ghana.

Ɛmom, mame sima na kenkan nkyerɛkyerɛmu ade yi a ɛfa ma adesuayi ho. Sɛ wo wɔ asem bisa bi anaasɛ wonrente bibiara ase a, bisa me na mema wo mmuayɛ. Ɛho hia paa sɛ, wo bɛ te bibiara ase na wo de wo pɛ bɛ pene so sɛ wo pɛ sɛ wo ka m'adesuayi ho.

Afei nso, nhyɛsoɔ biara nda wo so sɛ wo bɛ ka m'adesuayi ho. Wompɛsɛ wo bɛ ka ho a, ɛnha wo wɔ kwan bɔne biara so. ɛduru mpenpensoɔ bi na sɛ wo pɛ sɛ wo firi mu nso a, wo wɔ ho kwan sɛ wo bɛ ma m'aso ate na w'afirimu.

Botayɛ a ɛtae nhwehwɛmu yi akyi

HIV/AIDS ɛyɛ haw keseɛ wɔ wiase nyinaa mu, a Ghana nso ka ho bi. HIV/AIDS wɔ nsosuanesoɔ bebree wɔ aman kumaa a ɛwɔ abibiman mu a Ghana ka ho bi. Yɛ de nhyehyɛyɛ bebree atoto kwan mu sɛ yɛ bɛ tumi ahyɛ yadeɛ yi so wɔ wiase yi mu. Nhyehyɛyɛ yi bi ne nkyerɛkyerɛ a yerekyerɛ obibiara fa kwan a yɛbɛtumi de atwe yɛn ho afiri yadeɛ yi ho. Yei boa ma yɛ sesa yɛn suban ne akwan a yɛfa so tena, a yɛnya yadeɛ no bi.

M'adesua yi trimupɔ ne sɛ, mɛ hwehwɛ akwan a mines adwumayɛ foɔ de bɔ wɔn ho ban firi HIV/AIDS wɔ mines brono bi wɔ Ghana.

Ɛdeɛn ne w'asɛdeɛ?

Mɛpɛ sɛ wo bɛ yi nsem bisa bi ano. Ɛbɛfa wonmere bɛyɛ sima aduasa kɔpim sima aduanan-num pɛ.

Adesua no akwan mu nkyerɛkyerɛmu

Mɛ ma w'ayi nsem bisa bi ano wɔ kokoam wɔ Asanko ayaresabia hɔ. Mene wo bɛ yɛ nhyehyɛyɛ fa bere a wopɛ sɛ wo ne me hyia di nkombɔ no. Mɛbisa bere bɛyɛ sima aduasa kɔpim aduanan-num ɛfiri wo hɔ. Sɛ wo ma me kwan a, mɛtimtim w'anoyie no wɔ afidie so. Deɛ nti a meretimtim w'anoyie no ne sɛ, ɛbɛboa ɔsuani no ama woatumi ate neɛ woreka no ase yie. Wɔ bɛtumi nso de ama ne payin ɛtie bi. Afei nso, ɛbɛboa ama ɔsuani no ahu neɛ wɔ bɛ hia ɛfiri wo ho wɔ hyiada foro. Mesrɛ wo sɛ hwɛ "Appendix C" na wobɛ hunu nsembisa no wɔ hɔ.

Nsunsuansoɔ anaa Ɔhaw

Wopene so sɛ wo bɛ ka m'adesua ne ho a, wonfa ɔhaw bɔne biara mu. Nanso sɛ ɛyɛ wo sɛ merebisa nsɛm a wompɛ sɛ wo ne me bɛkyɛ a, mɛtumi ama w'akɛ dokota a wɔwɔ y'ayaresabea no mu ama w'atu wo fo. Mɛbɔ w'anoyie no ho ban wɔ Nursing sukuupɔn no mu na ɔsuani no ne ne kyerɛkyerɛni no pɛ na wɔbɛ tumi de wɔn nsa aka. Yɛ bɛbɔ ho ban akɔsi mfie num.

Mfasodie a wo anaa amanfoɔ benya

Na deɛ ebefi mu aba wɔ hwehwɛmu yi ne sɛ, ɛbɛ ma mpontuo aba HIV/AIDS adesua mu, ɛwɔ yɛn asopiti, yɛn adwuma mu ɛne yɛn brɔno so. Yei ɛbɛboa ma yɛ hunu kwan a ɛda yɛ nimdeɛ fa HIV/AIDS ho, na asesa yɛn suban dadaa ɛmmoa yen nyinaa.

Kokoam nsɛm

Sɛ wo bɛ ka m'adesua yi ho a, yɛ bɛ hyia wɔ kokoamu na wo nsem renkɔ abɔnten. Merentwerɛ wo din wɔ bɛbiara na ɛmom, me twerɛ ''**P_1**, **P_2**, **P_3….** '' ɔsuani no ne ɔkyerɛkyerɛni no pɛ na wɔn bɛ tumi ɛnya neɛ worebɛka biara. Yɛ bɛ bɔ w'ano yie no ho ban kɔsi mfie num kɔpim sɛ yɛ bɛ tintim w'anoyie no wɔ nhoma mu.

Dwumadie no ho nhyehyɛyɛ

Mesrɛ wo, te aseɛ sɛ, wo de wopɛ na ɛreboa n'ɛmom, ɛnyɛ nhyɛ. Hunu sɛ, ɛbɛyɛ me dɛ paa sɛ wo ne me bɛ kyɛ w'adwene. Wo yɛ w'adwene sɛ wonyɛ biom a, ɛrenha wo wɔ kwan biara mu. Wo pɛ sɛ wo firimu bere biara nso a, wo wɔ ho kwan sɛ wo bɛ yɛ saa ara.

Sika tua

Worentua hwee na yɛn tua wo ka nso wɔ hwehwɛmu yi mu.

Tɛlɛfon nɔma ne m'address nsem.

David Nkumincha Yabila na ɔreyɛ saa hwehwɛmu yi. ɔyɛ nurse ni wɔ Asanko Mine ayaresabea. Sɛ wo wɔ nsem bisa bi anaa sɛ anoyie bi a, wo bɛ nya me wɔ;

David NkuminchaYabila

Occupational Health Nurse Practitioner

Asanko Gold Mine Clinic

APPENDIX B: CONSENT FORM

Department of Nursing Sciences
Bellville Campus
PO Box 1906
Bellville, 7535
Website:www.cput.ac.za
E-mail: dyabila@yahoo.com
Tel: +233 245007390/205028054

Dear Sir/Madam

CONSENT FORM

Project Title: Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana

I declare that I have read this information and consent form and that it is written in a language with which I am fluent and that I understand. I have had the opportunity to ask questions about the study and all my questions were sufficiently answered.

I understand my participation in this study is voluntary and I have not been forced to take part. I may choose to withdraw from the study at any time and will not be penalised or prejudiced in any way. I understand that my identity will not be disclosed and that I may withdraw from the study at any time without giving a reason and this will not negatively affect me in any way.

I may be asked to leave the study prior to its completion, if the researcher feels it is in my best interests, or if I do not follow the study plan as agreed to. I hereby consent that the interview be voice recorded and my information may be:

☐ used and kept for future research studies

☐ used and discarded

Signed at (place): _____On (date): _____2019

Signature of participant: _____Signature of witness: _____

CONSENT FORM IN TWI TRANSLATION

Department of Nursing Sciences
Bellville Campus
PO Box 1906
Bellville, 7535
Website:www.cput.ac.za
E-mail: dyabila@yahoo.com
Tel: +233 245007390/205028054

Owura ne Awuraba pa,

MPENEE SO NSEM A Y'ATIMTIM

M'ƐBISADE HO KRATA

Dwumadie no so din: Nimde a mines adwumayɛfoɔ wɔ fa HIV/AIDS ho banbɔ wɔ mines brono bi so wɔ Ghana.

Me si so dua sɛ, m'akenkan neɛ m'atwerɛ nyinaa, na ɛyɛ kasa a me tumi kenkan na me te aseɛ yie. Me ya akwanya ɛbisa nsɛmfua a ɛfa me hwehwɛmu ade yi ho na me ya ano yie.

Me te aseɛ sɛ, me a na mepɛ sɛ me ka hwehwɛmu ade yi ho na ɛmom, ɛnyɛ nhyɛ. Mɛtumi agyae wɔ mpenpensoɔ biara na obiara renyɛ me hwee. Me te aseɛ nso sɛ, me ho asɛm mpue wɔ nhwehwemu ade yi mu wɔ bebiara na ɛnhia sɛ me kyerɛkyerɛmu sɛ me pɛ sɛ me gyae a.

Yɛ bɛ tumi ama m'agyae wɔ nfinfin sɛ neɛ ɔreyɛ dwumadie no hunu sɛ ɛno na ɛbɛboa me a, anaa se, sɛ manyɛ m'asɛdeɛ yie. Afei, me ma ho kwan se, wo bɛ tumi ɛtimtim m'anoyie nyinaa wɔ afidie so. M'anoyie no bɛtumi;

☐ Aba mfasoɔ na y'abɔho ban ama daakye adesua

☐ Aba mfasoɔ na y'ato ago akyire.

Signed at (place): _____ On (date): _____2018

Signature of participant: _____Signature of witness: _____

APPENDIX C: SEMI-STRUCTURED INTERVIEW SCHEDULE

- Describe in your own words what HIV/AIDS is.
- Where did you get the information on HIV/AIDS?
- Do you think you are at risk of getting the disease and why? (Probing …)
- How will you prevent getting the disease?
- How will you protect yourself?
- What precautions do you take?
- Experience of mineworkers on abstinence in the prevention of HIV?
- Can you please explain the importance of abstinence in HIV prevention?
- Do you practise abstinence? If no, why? What are some of the difficulties in sexual abstinence?
- Experiences of mineworkers on faithfulness in the prevention of HIV?
- Can you please tell me the benefit of faithfulness in HIV prevention?
- Do you practise faithfulness in your sexual relationship? If not, why?
- What are some of the challenges you encounter in practising faithfulness in your relationship?
- Experience on condom use in the prevention of HIV infection?
- What are some of the benefits of using a condom?
- How often do you use a condom in your relationship? If never, why?
- What are some of the challenges you face with condom use?
- Can you describe to me some of the benefits of or reasons why we need to do Voluntary and Counselling Testing (VCT) services?
- Have you tested yourself to know your HIV status? If not, why?
- What are some of the reasons that you think many people do not want to do the HIV test to know their status?

APPENDIX D: PERMISSION LETTER

Department of Nursing Sciences
Bellville campus
PO Box 1906
Bellville,7535
Website:www.cput.ac.za
Email: dyabila@yahoo.com
Tel: +233 245007390/205028054
May 2018.

The Manager
Organisational Capability
Asanko Gold Ghana Limited
PO Box CT 6153
Accra

Dear Sir,

REQUEST FOR PERMISSION TO CONDUCT RESEARCH INVESTIGATION

I am writing to seek permission to conduct a research study at Asanko Gold Mine Clinic. The study is entitled: **"Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana***".*

I am a registered master's student at the Cape Peninsula University of Technology in South Africa. This research is a course requirement for acquiring a master's degree in Nursing. The study will be done under the supervision and guidance of Dr Hilda Vember, Senior Lecturer, and Dr Marietjie Theron, Lecturer in the Nursing Department of the Cape Peninsula University of Technology.

The purpose of the study is to explore knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana**.**

Data collection will be obtained by:

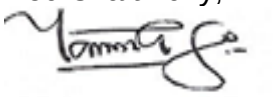
- semi-structured interviews which will be held at Asanko Gold Mine Clinic, Obotan Site, under the moderation of a safety officer.

Participants invited will be mineworkers living in the community. Personal interviews will be held in a private room as arranged and will take around 30–45 minutes for each interview.

The researcher will adhere to the rights of participants to privacy and confidentiality. In this study, no names of participants or the company will be attached to the data obtained and interview transcripts will be numbered. The participants will not be linked in any way to the research findings. The research will not harm the participants or company in any way. It is entirely for academic purposes. Before interviews are conducted, participants will be informed that they can withdraw from the study at any time they wish. In this study, the researcher will make use of semi-structured interviews and field notes to develop a comprehensive understanding of the phenomenon. The researcher and participants will agree upon a convenient time to conduct the interviews. The interviews will take around 30–45 minutes in a private room at Asanko Gold Mine clinic in the research setting. While conducting the interviews, the researcher will tape-record the views shared by the participants with their permission. The transcribed data of the interviews, together with the field notes, will be transcribed for analysis. Open coding will be used to organise data collected in the semi-structured interviews and an independent coder (experienced researcher and supervisor) will assist in this regard.

I am also attaching the proposal and information sheet to participants as well as the informed consent sheets for your information.

Yours faithfully,



David Nkumincha Yabila

APPENDIX E: PERMISSION APPROVAL LETTER

ASANKO GOLD GHANA

24th September, 2018

David Nkumincha Yabila
Department of Nursing
C/o Cape Peninsula University of Technology
Bellville Campus

Dear David,

RE: REQUEST FOR PERMISSION TO CONDUCT RESEARCH INVESTIGATION AT ASANKO GOLD MINE CLINIC

Following your request for permission to conduct a research study at the Asanko Gold Mine Clinic for the purposes of your Master's Degree in Nursing Programme, we are pleased to inform you that you have been granted approval to carry out your research.

However you are to report your findings to the Unit Manager – Medical Services for further review prior to submission and final publication.

Thank you and all the best in your research work.

Yours faithfully,

Mohammed Mohaideen
Manager, Organisational Capability

Asanko Gold Ghana Limited
No. 4 Sir Arku Korsah Road, Airport Residential Area, Accra, Ghana
T: +233 302 761 454
www.asanko.com

APPENDIX F: ETHICAL CLEARANCE BY CPUT

Cape Peninsula
University of Technology

HEALTH AND WELLNESS SCIENCES RESEARCH ETHICS COMMITTEE (HW-REC)
Registration Number NHREC: REC- 230408-014

P.O. Box 1906 • Bellville 7535 South Africa
Symphony Road Bellville 7535
Tel: +27 21 959 6917
Email: sethn@cput.ac.za

31 October 2018
REC Approval Reference No:
CPUT/HW-REC 2018/H22

Dear Mr Yabila David Nkumincha - 213201380

Re: APPLICATION TO THE HW-REC FOR ETHICS CLEARANCE

Approval was granted by the Health and Wellness Sciences-REC to Mr Nkumincha for ethical clearance on 18 September 2018. This approval is for research activities related to student research in the Department of Nursing Sciences.

TITLE: **Experience of mineworkers on the prevention of HIV/AIDS in a mining community in Ghana**

Supervisor: Dr Vember and Dr Theron

Comment:

Approval will not extend beyond 1 November 2019. An extension should be applied for 6 weeks before this expiry date should data collection and use/analysis of data, information and/or samples for this study continue beyond this date.

The investigator(s) should understand the ethical conditions under which they are authorized to carry out this study and they should be compliant to these conditions. It is required that the investigator(s) complete an **annual progress report** that should be submitted to the HWS-REC in December of that particular year, for the HWS-REC to be kept informed of the progress and of any problems you may have encountered.

Kind Regards

APPENDIX G: INTERVIEW TRANSCRIPTION

Colour key to subthemes of responses

RESPONSE	SUBTHEME
	Participants knowledge of HIV/AIDS
	Source of information on HIV/AIDS
	Risk of HIV infection and reasons
	Multiple sex partners
	HIV testing
	Fear of HIV testing
	Abstinence
	Be faithful
	Condom use

Interviewer: What do you understand by HIV/AIDS? Describe it in your own words for me?

P3: I understand it's a viral disease that aaah when one acquires it, it eeer creates I mean problem for the person's immune system to function well that makes other diseases and illnesses attack the person and eventually killing them.

Interviewer: Where did you get this information?

P3: From the media, from the I mean worksite, from ummmh, it is all over, all over the country.

Interviewer: If I understand you, did you say the worksite or website?

P3: The worksite, which is places I have worked before where I work, they have been preaching about HIV/AIDS prevention, voluntary counselling and testing, and all those other things. and the country to know on our radio, on our TV stations and billboards, it's all over.

Interviewer: Do you think you are at risk of getting HIV/AIDS?

P3: Yeah, we are all at risk. Because you know, it is viral and it's blood-related something, You know as human, our everyday activities. Sometimes, we have contact with other peoples' I mean blood and this can also let one have or get this disease.

Interviewer: In what way do you have contact with other people's blood as a plant operator?

P3: Okay … As you know, sometimes, there may be an accident and then people may be injured. As a um a first aider on site, one may try to help out and through that, maybe

there can be blood contact if the right apparatuses are not used or are not available as you know. And then sometimes too I mean in the, I mean um at home in town, accidents, I mean injuries … things do happen that and one may need another person's help. Being a brother's keeper is our way of life and through that one too, one may get I mean come into contact with an injured person's blood whatever.

Interviewer: Is that the only means that puts you at risk or there are other means that one can get HIV/AIDS?

P3: Yes, I'm talking about my way of getting into contact, but if other means in terms of getting the disease, I mean sharing of needles, I mean sharp cutting edges, materials, blades, having sex, having deep kiss with someone who has a bleeding gum, or you know, or um um who has bitten their tongue or something, anything that exposes one's blood out can let one have that disease.

Interviewer: How do you prevent HIV or yourself from getting the disease?

P3: Errmm, from what we have been told, is I mean, is like it is abstaining from sexual I mean outside- marriage sexual activities. But as you know, we also know about the condom use which is about the prevention I mean measure that also helps and then, also to avoid using other sharp-edged materials with people.

Interviewer: So, um how do you protect yourself from getting, how do you protect yourself?

P3: Personally, errm….., it is like condom-wise is one of the ways I have been trying or using to protect myself from the disease and also, is like I don't normally try coming into contact with people that I am not very close to or not related to. So, these are the means that I know that is like I use to preventing myself from getting such a disease.

Interviewer: So, those are the precautions you take?

P3: Yes.

Interviewer: How do you use the condom?

P3: Is like I use it as we have been taught, like the normal way which is by rolling it up on, you know …

Interviewer: I want to know how often you use it?

P3: ***Yeah is like that is one of the preventions that I know. But you know, I am not normally into condom use, I don't normally use the condom. Is like when I use it, I don't usually have the sensation, so, I don't frequently or most at time use it. But I have my own way of doing my own things you know, the thing is ...***

Interviewer: If I understand you well, you said you don't normally like condom use?

P3: Yeah.

Interviewer: But why?

P3: ***Because I don't have, is like, how do I put it? when I use condom, I don't normally 'come early' or sometimes I don't even 'come' at all. Because the sensation is not there for me when I am using the condom, so it is like, it keeps long and it puts me back. It normally doesn't get me to I mean release, so I don't like using it***.

Interviewer: When do you normally get a supply of your condoms?

P3: Okay, most of time, at the worksite and then, it has been like once or twice that I bought some at pharmaceutical area in town but most of time is at the worksite. It is not something that I use normally use, so is like I am not usually in need of it but most at times I often get it through the worksite when we get it it is free of charge so is like we always like okay let me take it home. So, you take it and send it home; sometimes, our friends come and take it off or they come asking for it and so we give it to them.

Interviewer: Do you have some particular sex pattern that you use a condom with, or you don't like using it with anybody at all?

P3: Yeah, that is what I was saying, because I don't like [it] and I don't normally like using it; I have also I mean how do I say it adapted or find my own way of getting myself in check or making sure I am doing the right things so that I don't get infected, and that is by doing the I mean voluntary counselling testing with my sex partners. That is one of my um how do I say, prioritise ways of I mean these things, you know because most at times when is like I am attracted to a girl and I want to is like have a relationship with, I normally try convincing them and taking them through so that they agree and then we all go and to do counselling testing, then afterwards …

Interviewer: How many sex partners do you have?

P3: Currently I have uuuahh three (3).

Interviewer: In addition to your wife that makes it four (4).

P3: No, *I have two (2) and my wife thus 3*

P3:and by God's grace, we are all tested they, they I was able to convince all tested is like we have gotten tested and by God's Grace we are all I mean negative and I pray that, no one goes awkward to bring in any other new something to the so-called family, you know.

Interviewer: Okay, do you have a sexual partner in the community in which you live?

P3: Yeah, one.

Interviewer: Okay, why do you prefer somebody from the community?

P3: Okay, she is not from the community, but she lives in the community.

Interviewer: Have you tried abstaining from sex?

P3: ooh yeah. A lot of times, you know. My longest was about 14 months.

Interviewer: How easy was it?

P3: It was not easy. But that time, I was into this body-building programme. My trainer advised me to stay away from sex for a certain period of time to give way to my training so that, he will see how fast or rapid um the how do you call it the training will be or the effectiveness of the training can be. It is like the training took over the sexual drive. So that was what really happened at that time. Apart from then, on my my own, I have been trying it on and off. Sometimes 3 months. sometimes, hmmm at least 4 months. But it is really hard you know. It is really hard

Interviewer: Have you tried being faithful to only your wife?

P3: Oh, a lot of times. It is like I don't know how my way of thinking is, I am always faithful to my wife, but you know, I don't drink, I don't smoke, I don't do drugs. It is like I don't do any other thing. So my way of having my pleasure eerm whatever, I don't know, is unto my sexual I mean activities. So Sometimes I don't see that being unfaithfulness to my wife. You see I don't see that as being unfaithful to my wife. Is like It is just you know one of those things. You come you work you see through the hard days' work I mean you get tired and you just feel like I mean flashing down there, tension and the stress in the system you know where is your wife to be found she is not around this area sometimes, these are the kind of things that gets someone into and especially me into I mean going in for these sex partners or whatever.

Interviewer: Do you fear that the way you have multiple sex partners and you don't also use a condom, do you fear getting HIV/AIDS?

P3: Yeah, I really have that fear and I am always afraid of that taking that risk. That is why I always try as much as possible to get my partners to convince them to do the test before my any sexual activity. Eeer if I could remember, ever since I started eerm erm womanizing or having sex partners apart from my wife, and getting the knowledge of HIV I have only had two partners whom I wasn't able to convince to have the test but I also wasn't able to stay away and I mean I don't know whether it was the sexual drive or the test eer, plessure thirst couldn't let me wait till they agree to my I mean conditions and I went ahead and have I mean unprotected sexual activities with and ever since that time, is like is been worrying me. But by God's grace since the last one that happened, I have had about 3 other I mean HIV tests in between for almost about 3 years now so by God's grace I am still negative and I pray and I always hope it wouldn't happen again. Because even with the current ones I feel like I mean in-

between time about 6–7 months later time we just have to go back and have it again just to be in check because of the way you know the virus works in there, our system. It may get hidden and within time, it pops out. So, I am just praying I mean in due time, by God's grace, when we have the test, everything will come out negative then life will be as good as it is now.

Interviewer: So, in knowing your status, do you have a specific time that you do the test? how often do you do the test? Time frame.

P3: Okay, normally, I used to be doing it 6 months, 6 months so is like twice every year, but it came to a time that because of, I mean I don't know whether job-related issues or stress or whatever, I used to forget. So, whenever um is like in the mining industry they use organise this voluntary counselling and testing programmes, so whenever these programmes come up I use the opportunity to get myself tested.

Interviewer: Thank you very much for your contribution. I will transcribe the data, write all we have discussed and bring it to you to confirm whether they are your opinions. The data will be analysed afterwards.

P3: You are welcome.

APPENDIX: H LETTER OF SUPPORT FOR COUNSELLING

GOLD GHANA

+233 (0)544 343 341,
Kwasi.safo@asanko.com.
January 22, 2019.

Dear Sir,

Employee counselling services

I hereby acknowledge your request for support from the occupational health counselling services unit, Asanko Gold Mine Clinic.

I hereby agree to provide counselling services to mineworkers who may be emotionally disturbed during the research project: **Title: Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community in Ghana**.

For any further request contact the Unit Manager- Medical Services Unit on 0544 343 341

Yours faithfully,

DR KWASI SAFO
UNIT MANAGER
MEDICAL SERVICES UNIT

Dr Kwasi Safo

Asanko Gold Ghana Limited
No. 4 Sir Arku Korsah Road, Airport Residential Area, Accra, Ghana
T: +233 302 761 454

APPENDIX I: EDITING CERTIFICATE

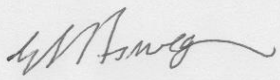
DECLARATION OF EDITING

ES VAN ASWEGEN
BA (Bibl), BA (Hons), MA, DLitt, FSAILIS

11 Rosebank Place
Oranjezicht
Cape Town
8001

021 461 2650
082 883 5763
lizvanas@mweb.co.za

The Master of Nursing thesis by **David Nkumincha Yabila**, titled 'Knowledge and experiences of mineworkers on the prevention of HIV/AIDS in a mining community of Ghana', has been edited, the references have been checked for correctness and conformance with the CPUT Harvard bibliographic citation style guide, and in-text citations have been checked for correlation with the references. The candidate has been advised to make the recommended changes.



Dr ES van Aswegen
10 July 2019