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Lived Experiences of Mineworkers Diagnosed with Chronic Conditions: A Qualitative Study

Lorato Gladness Manyeneng[1*]

[1]Nursing Science Department, School of Health Care Sciences, Sefako Makgatho Health Sciences University, South Africa

*Corresponding Author: Lorato Gladness Manyeneng, Emails: lorato.manyeneng@smu.ac.za, loratos@icloud.com

Abstract

Introduction: While literature exists about mineworkers with chronic conditions, the literature is scarce regarding the experiences of mineworkers diagnosed with chronic conditions. Mineworkers with chronic conditions are expected to be physically fit to perform optimally at work. Furthermore, they are expected to enhance their lifestyles to manage and control their chronic conditions effectively. The mining environment can impact their chronic conditions negatively.

Methods: A qualitative descriptive phenomenological design was used; thirteen mineworkers were purposively sampled and interviewed individually face-to-face until data saturation was reached. The researcher followed Giorgi's four steps for data analysis. ATLAS.ti 26 was used to analyze the collected data thematically. Consensus on the themes and subthemes was reached between the researcher and the independent coder.

Results: Using the Health Belief Model as a theoretical framework, the findings demonstrated that The mineworkers diagnosed with chronic conditions had varied experiences after learning of their diagnoses. Four themes and various sub-themes emerged. The themes were related to *debilitating emotions and effects of chronic conditions on the livelihood of the employees, disruption of the social and economic environment for mineworkers, the paradox of medication: alleviation vs hazard,* and *unfavourable organizational climate*.

Conclusion: The experiences of mineworkers indicated fear and uncertainty following the diagnosis. Support should be provided to the mineworkers diagnosed with chronic conditions by the organization, their colleagues, and their families while adjusting to their new lifestyles.

Keywords: Chronic condition, Hypertension, Diabetes mellitus, Phenomenology, Mineworkers

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Introduction

Globally, mining employees living with chronic conditions remain a leading health challenge, making it a critical occupational problem. Chronic conditions such as diabetes mellitus, hypertension, epilepsy and asthma impact the lives of mineworkers. The physically strenuous nature of mining labor, along with hazardous environmental exposures, extended shifts, and lifestyle factors, results in the increased risk of chronic conditions. The mining environment is inherently hazardous and dangerous due to the humidity, dust, excessive heat, long walking distances, and strength-requiring tasks. Uncontrolled chronic conditions can impact the productivity of mineworkers. Statistics South Africa indicated that chronic conditions are one of the top causes of death. In 2023, these chronic conditions remained a leading cause of high mortality worldwide, accounting for approximately 43 million deaths.[1] Given that the mining industry is dangerous, the researcher sought to understand how mineworkers diagnosed with chronic conditions behave in their work environment. In South Africa, where mining is the biggest contributor to the economy, it is not only a source of employment but also a vital social network and support for the community at large. The mining sector should provide comprehensive, uncompromised occupational health services to its employees to ensure minimal interrupted productivity.

Despite available healthcare services offering advanced treatments at the workplace, living with chronic conditions remains a critical challenge among mineworkers. These chronic conditions place a considerable strain on the health systems, incur high organizational costs, and result in lower productivity in the workplace. The prevalence of chronic conditions among mineworkers has resulted in shifting lifestyle patterns. They have various emotional feelings after discovering that they have a chronic condition. The International Diabetes Federation (IDF)[2] has indicated that approximately 252 million individuals live with diabetes undiagnosed.[2] In 2024, about 590 million individuals were living with diabetes, representing about 11.1% of the global adult population, with estimates suggesting an increase to 853 million by 2050.[2] In comparison to the Africa region, about 25 million have diabetes, and in South Africa, about 2.3 million are diagnosed with diabetes, with a prevalence of 7.2%. According to WHO,[3] hypertension impacts about 1.4 billion individuals, compared to 2023, when 1.28 billion adults globally aged 30-79 were affected, with two-

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thirds of the cases arising from low- and middle- income nations.[3] The literature has revealed that mineworkers are more likely to have chronic illnesses; however, we do not know why and how these conditions impact their daily lives. The study aimed to explore and address the lived decision-making of mineworkers.

The mineworkers showed higher rates of obesity, diabetes, and hypertension than the general population, with rates of 11.7% for diabetes and 18.2% for hypertension in the Democratic Republic of Congo.[4] The prevalence of hypertension and obesity among mineworkers was noted in Gabon.[5] In South India, the prevalence of diabetes mellitus, hypertension, and chronic respiratory illnesses was reported among coal mineworkers.[6] Furthermore, in the United States, a significant number of mineworkers developed chronic conditions.[7] In addition, hypertension and induced diabetes are prevalent due to oral glucocorticoids.[8] Mineworkers diagnosed with chronic conditions may find that their illnesses are exacerbated by the mining environment, which is not conducive to effective disease management. Moreover, shift work and night duty can act as contraindications for certain chronic conditions, further complicating their ability to maintain stable health routines. They might not eat a healthy cooked meal due to an inability to cook as they live alone at the hostel. These barriers to managing their conditions can undermine the perceived value of being a healthy employee, leading mineworkers to feel that their health status affects how they are viewed and valued within the organisation. In addition, working shifts and night duty can result in chronic conditions being poorly managed, which may further aggravate certain illnesses, which can contribute negatively to some of the chronic conditions. The lack of support from the organization, colleagues, and families also impacts the management of the chronic conditions; hence, the daily lived experiences of mineworkers diagnosed with chronic conditions were explored to understand their challenges. The mineworkers faced survival challenges, unhealthy working conditions, and pressures compared to their healthy counterparts. Their daily experiences were examined to understand the factors that perpetuate the prevalence of chronic conditions among mineworkers and to explore how the occupational health team can provide appropriate support within the workplace. The prevalence of chronic conditions among mineworkers created an opportunity for the researcher to develop a deeper understanding of this under-studied population. By employing a qualitative research approach, the study was able to capture mineworkers' lived experiences, workplace challenges, and self-management practices in greater depth.

Methods

As mentioned above, a qualitative descriptive phenomenological design was applied to explore and describe the experiences of mineworkers diagnosed with chronic conditions. Accordingly, the researcher adopted a descriptive phenomenological design to describe the mineworkers' world and to make sense of their lived experiences after being diagnosed with chronic conditions. According to Giorgi,[9] the researcher is able to describe participants' lived experiences of the phenomenon based solely on how these experiences are reported by the participants themselves. Giorgi's four-step analysis was the primary method used by the researcher in the study. The first step entailed reading to gain a comprehensive understanding of the materials; the researcher read all the transcribed descriptions of the phenomenon. the second step was to determine the meaning units; the entire descriptions were analyzed and broken into meaning units, as well as ensuring that each paragraph received careful and systematic attention during the analysis. The third step involved transforming participants' natural attitudes into phenomenologically psychologically sensitive expressions; each meaning unit was interrogated to categorize the psychological suggestions. The fourth and last step was the integration of transformed meaning units into a consistent framework; all the transformed meaning units were reviewed holistically for all the participants. After completing the manual coding, the researcher employed ATLAS.ti 26 to facilitate the analysis. When developing the semi-structured interview guide, the HBM played a limited practical role. This was to guarantee that broad areas of health decision-making were explored among the participants. The research was undertaken at a selected underground mine in the Gauteng Province, South Africa. The clinic at the mine offers occupational health and primary health care services to mineworkers. In 1950, the mine was established, and it has approximately 4 500 employees. The recruitment for the mine is done nationally as well as in sub-Saharan Africa. Countries of recruitment include, but are not limited to, Botswana, Namibia, Zambia, Malawi, Democratic Republic of Congo, Tanzania, Zimbabwe, Mozambique, Lesotho and Swaziland. Approximately 1 356 mineworkers were diagnosed with hypertension, diabetes mellitus, asthma and epilepsy, while some had uncontrolled chronic conditions. Mineworkers diagnosed with these four chronic conditions (hypertension, diabetes mellitus, asthma and epilepsy) were estimated to be 1 356 by the Occupational Medical Practitioner (OMP), who is the manager of the clinic.

Sample and Sampling Methods

Mineworkers diagnosed with any of these four chronic conditions (hypertension, diabetes mellitus, asthma and epilepsy) were purposively sampled at the clinic that they attended for their follow-up treatment or the collection of medication. They were selected from the target population and asked questions to ensure they met the inclusion criteria.[10] Woo[11] suggested that the sample size can be 10 or fewer 11 with phenomenology, as our sample comprised 13 participants.[9] Data saturation was reached at participant 9 when no new data emerged from the participants; however, the data collection continued to ensure that theoretical saturation was achieved.[12] The

theoretical saturation is vital as it assists in ensuring that the emerged themes' interrelations are fully understood.[13] The researcher continued to collect data to ensure that the participants' explanations of their daily experiences were sufficient.

The mineworkers must have been diagnosed with any of four chronic conditions for a year, namely, hypertension, diabetes mellitus, epilepsy and asthma, employed either full time or on a contract basis at the mine, and their chronic conditions must have been managed at the mine clinic to meet the inclusion criteria. Mineworkers who were diagnosed with hypertension, diabetes mellitus, asthma, and epilepsy but were very ill and whose conditions were not managed at the mine clinic, as well as those with other chronic conditions, apart from those mentioned above, were excluded.

Pilot Testing of the Data Gathering Instrument

The researcher developed an English interview guide for the interviews. Three mineworkers were used to pretest the interview guide prior to the actual commencement of data collection. An audio recorder was used to capture the interviews, which were subsequently listened to by both the researcher and the supervisor. The pilot testing assisted the researcher in identifying both potential bias and inadequate depth of data, leading to the refinement of probing questions.[14] The interview questions were clearly articulated, and the mineworkers understood them well and responded appropriately. Experts were consulted during the pilot process, which included modifying the interview guide.[15] The researcher and supervisor reviewed and approved the revised guide, and it was subsequently confirmed for use in the primary study.

Before commencement of the data collection process, the Tshwane University of Technology Ethics Committee approved the study, and permission to undertake the research was also obtained from the mining company where the participants were working. The clinic manager, OMP, was contacted to assist with the data collection. The clinic's boardroom was utilized, and all interviews were conducted in a confidential setting. The participants were assigned codes and numbers, and no names were disclosed in any document to ensure secrecy and privacy. Prior to the interview, they were provided with a consent form to sign after giving their verbal agreement to participate in the research. The researcher employed a self-developed English interview guide, with the main trigger question that was directed at participants. *"What are your experiences as a mineworker diagnosed with a chronic condition and treated at the mine clinic?"* Consequently, one-on-one semi-structured interviews were conducted face-to-face, along with audio recordings of the participants at a mutually agreed time and location. The participants' lived experiences were elicited through open-ended interviews,[16] with each session lasting 45 to 60 minutes. Probing techniques were employed during the interviews to enhance clarity, such as. *"How do you take your medication since you were diagnosed with a chronic condition?" How confident are you that you can take your medication without defaulting? "What reminds you to take your chronic medication?"* The researcher transcribed all the interviews verbatim. Saturation occurs when no new information emerges,[17] and was attained with the ninth participant. However, the other participants had already agreed to participate, and they were duly interviewed.

Data Analysis

Analysis was applied following the four-step approach of Giorgi. The ATLAS.ti 26 Software was employed as a management tool to organize and retrieve the coded data, revealing one predominant theme and various sub-themes from participants' narratives. All the interviews were audio-recorded and transcribed verbatim. Audio recordings were listened to repeatedly and the texts were re-read to facilitate the development of high-quality inductive coding of the participants. The author reviewed the interview transcripts independently to develop the themes and sub-themes. The analytical approach started with open coding that entails categorizing events, objects, and activities. To ensure the rigor of the analysis, trustworthiness and reflexivity were employed throughout the study process.

To guarantee the study's trustworthiness, credibility, confirmability, dependability, and transferability were maintained. The researcher established credibility through extensive interactions, conducting interviews and interrogating subjects for 45 to 60 minutes. As an occupational health researcher with experience in occupational health services, I interpreted the daily lives of mineworkers with chronic illnesses using a clinical lens. However, reflexive memoing and debriefing with other specialists in the field helped ensure that it reshaped my coding. Each study phase was delineated, along with the maintenance of an audit trail to ensure confirmability and reliability. Transferability was guaranteed since data collection continued until saturation was achieved with 13 subjects.

Findings

The research findings comprised the lived experiences of mineworkers diagnosed with chronic conditions. After analyzing the data thematically, four themes emerged, each with its own subthemes.

Biographical Information

In Table 1, the biographical details of the participants are depicted, which entails their gender, their roles, and the chronic conditions with which they had been diagnosed at the mine clinic. There were 13 participants who took part in the study, and all were males. The participants' ages ranged from 40 to 58 years old. The participants' job roles were predominantly underground, which was important for gathering more detailed information about their daily lives. Only two participants worked on the surface in the kitchen, while the others worked in the laundry. Some participants had more than one

Table 1. Biographical details of participants

PARTICIPANTS CODE	POSITION AT THE MINE	PARTICIPANT'S AGE	GENDER	CHRONIC CONDITIONS MANAGED AT THE CLINIC
P1	Loc Driver	52 years	Male	Hypertension & Diabetes
P2	Machine Operator	49 years	Male	Hypertension
P3	Electrical foreman	45 years	Male	Hypertension & Diabetes
P4	Driller	56 years	Male	Hypertension
P5	Winch operator	55 years	Male	Hypertension & Diabetes
P6	Timber Man	54 years	Male	Diabetes
P7	Change Room/ Laundry attendant	40 years	Male	Epilepsy
P8	Stop team/ Fuss	51 years	Male	Hypertension
P9	Catch/Scape/ kitchen assistant	58 years	Male	Hypertension
P10	Driller	44 years	Male	Hypertension & Diabetes
P11	Loc Operator	54 years	Male	Hypertension & Diabetes
P12	Loc Driver	57 years	Male	Hypertension
P13	Driller	41 years	Male	Hypertension

Source: Author's construction

Table 2. Themes and sub-themes of lived experiences of mineworkers

Themes	Sub-themes
Debilitating emotions and effects of chronic condition on the livelihoods of the mineworkers	Overwhelming feelings over the discovery of chronic conditions
Disruption of the economic environment for mineworkers	Impact on ability to work and finances
	Lifestyle modification
The paradox of medication Alleviation versus hazard	Untoward effects of medication
	Impact on reproductive and physical health
	Unsupportive work environment
Unfavourable organizational climate	Expectations from the supervisors and organization
	Discomfort around disclosing chronic conditions at work

Source: Author's construction

chronic condition, requiring them to take more types of medication. Furthermore, among the 13 participants, some worked underground, while others worked on the surface at the mining company.

After analyzing the data, four themes and several subthemes emerged, as discussed below.

Theme 1: Debilitating Emotions and Effects of Chronic Condition on the Livelihood of the Mineworkers

The participants in this theme indicated that the chronic conditions posed significant challenges to their health, productivity, and the quality of life in general. Others stated that they were shocked and scared after being diagnosed with chronic conditions. These verbatim quotes come directly from the mineworkers and offer an authentic representation of their experiences.

"I come unfailingly to the clinic daily as I'm scared, I will die…I don't go to work, and it makes my life more difficult." Participant 1, 52 years, male.

"I was shocked and feared collapsing at work, because of low or high blood glucose, but after some months I accepted it…." Participant 7, 40 years, male.

"I just get tired easily …I suspect these cheap medications the mine gives us." Participant 10, 44 years, male.

"I just get tired easily compared to when I was not taking this BP [hypertension] medication." Participant 2, 49 years, male.

"I can't even go home because it embarrasses me that I failed to take my medication.

The little money because of sick leave." Participant 12, 57 years, male.

Sub-Theme 1.1: Overwhelming Feelings Over the Discovery of Chronic Conditions

The participants expressed experiencing overwhelming feelings after discovering their conditions. They reported that they were shocked, hurt, and depressed after being diagnosed with chronic conditions. Another participant blamed himself for the lifestyle he had led, which could have made him prone to developing chronic conditions. Another participant chose not to inform their partners after being diagnosed with the chronic conditions. Their reality was revealed by these direct quotes:

"I was shocked and did not feel okay when they told me, but I accepted it later…." Participant 2, 49 years, male.

"I was shocked, but there was nothing I could do or change." Participant 6, 54 years, male

"I was depressed initially but accepted the information after some months because I was blaming myself. I was, and I'm still shy to tell my wife, and it is sad." Participant 12, 57 years, male.

Theme 2: Disruption of the Economic Environment for Mineworkers

Participants described experiencing disruptions arising from the broader economic environment, which further complicated their efforts to manage their chronic conditions.

Sub-Theme 2.1: Impact on Ability to Work and Finances

The participants indicated that having chronic conditions affected their lives negatively. Other participants indicated that the uncontrolled conditions resulted in their being unable to work the expected number of days per month, and working fewer days resulted in a lower income, which impacted their mental health due to the inability to maintain their families. Other participants reported a generalized weakness due to their chronic conditions, resulting in a lack of strength to function well underground. Furthermore, some mineworkers indicated earning a lower income due to their uncontrolled conditions, resulting in them being off sick for extended periods, on incapacity leave, and unable to work overtime. This served as an impetus to take action, prompting the use of medication to ensure that they were healthy and could earn their full salary. The following narrative was shared in this regard:

"…… for the impact on my work…I haven't been working for some time as the doctor booked me off sick." Participant 12, 57 years, male.

"No, it is not easy with this work." Participant 3, 45 years, male.

"I sometimes feel weak and impatient; diabetes makes you weak, but I still work as I need money to live." Participant 6, 54 years, male.

"There was a time I got sick and couldn't go to work." Participant 3, 45 years, male.

"I earn little money to afford some medications and special diet." Participant 5, 55 years, male.

"Since March 2023, I haven't been working because the doctor declared me unfit to work. I receive too little money to survive and to send money to my family. I no longer have the power/strength to work; I feel weak." Participant 1, 52 years, male.

Sub-Theme 2.2: Lifestyle Modification

While some participants found it difficult to adjust their lifestyles after being diagnosed with a chronic condition, other participants indicated that they strived to adjust their lifestyles. Some reported that they had stopped eating the unhealthy food that aggravated their condition and were adhering to the correct, healthy diet. The type of work they performed required them to be healthy, strong, fit, and able to maintain their stamina to fulfil their daily duties, as another participant noted, stating that he ate good, healthy food. Eating healthily requires greater financial resources, which many mineworkers simply do not have. Another participant, who previously drank alcohol and smoked cigarettes, reported reducing these habits to ensure that their chronic conditions remained controlled. Their quotes are provided below:

"I must not eat too much starch, like too much pap; eat low-fat food; keep salt low; avoid spices; and keep it under control. Participant 5, 55 years, male.

"I am a person who drinks and smokes, but I have limited my drinking… But now I'm strict and careful with myself." Participant 11, 54 years, male.

"I stopped eating fatty meat." Participant 9, 58 years, male.

"I have a challenge buying healthy food because my budget is limited, so I can only afford the basic food I buy each month. Participant 7, 40 years, male.

"I don't drink alcohol and eat healthy food as my work requires me to be fit and strong to work underground." Participant 2, 49 years, male.

Theme 3: the Paradox of Medication: Alleviation Versus Hazard

The participants had various concerns while taking medication for their chronic conditions. These medications had untoward effects, which at times, acted as a barrier to adherence. The participants described their weakness and feeling sick, which served as encouragement to take their medication.

Sub-Theme 3.1: Untoward Effects of Medication.

The participants responded that they had experienced adverse effects from the medication for the chronic conditions. Another participant shared that they experienced headaches and nausea. Their statements were as follows:

"I was trying to take BP medication previously, but the medication for TB is extensive, often requiring mineworkers to take a large number of tablets each day. and made me feel nauseous and I had a ringing in my ears." Participant 12, 57 years, male.

"I first started taking these pills; my body did not react well. I woke up with a swollen face, then I went to the clinic." Participant 7, 40 years, male.

"It was only when I started the chronic condition treatment that I experienced headaches." Participant 5, 55 years, male.

Sub-Theme 3.2: Impact on Reproductive and Physical Health

The participants indicated that the medication for chronic conditions affected their reproductive and physical health. Other participants stated that their erections were weakened, while others no longer experienced erections since they were diagnosed with the chronic conditions. Some participants reported always feeling tired and weak after being diagnosed and receiving treatment for the chronic conditions. Their quotes were as follows:

"The only problem is my manhood, which I think is no longer functioning well like previously….but it has not affected my general work." Participant 9, 58 years, male.

" I knew she was going to know my manhood is affected by BP." Participant 2, 49 years, male.

"Honestly, I no longer have a strong erection; at times I completely don't get an erection, and I hear that it is common with diabetes among men." Participant 5, 55 years, male.

"You see, these medications weaken our erection, including libido……my libido has decreased since I started drinking it…so when I stop taking medication, I feel better." Participant 9, 58 years, male.

"BP medication affects our manhood and libido so… Eh, you see this medication has something in it; every time I take BP medication, I feel tired and not myself." Participant 2, 49 years, male.

"I no longer have power/strength to work; I feel weak. I haven't been working, am not feeling well, I've lost weight, and the doctor has put me on sick leave." Participant 1, 52 years, male.

"You can see I'm weak now…I have to come here daily to drink medication [DOT]…also with the weight I have lost." Participant 12, 57 years, male.

"I had issues with it; the only difficult one was when I started to lose weight. I get tired because of being overweight, but I have to check if other employees do their work, so I walk long distances even though I get tired." Participant 3, 45 years, male, employee.

"My hearing was affected, and I started feeling weak." Participant 7, 40 years, male.

Theme 4: Unfavourable Organisational Climate

The participants in this theme suggested that the climate of the organisation is unfavorable. They stated that being diagnosed with a chronic condition posed a problem, particularly if their coworkers were aware of the condition. They indicated that their colleagues gossiped and laughed at individuals diagnosed with chronic conditions. The other participant added that the organisation was more focused on production than on their health. The extracts are as follows:

"I would rather keep my illness to myself; people can ridicule or mock you because you have chronic conditions." Participant 3, 45 years, male.

"I didn't want people to know about my private life and to avoid being harassed and laughed at by my co-workers." Participant 5, 55 years, male.

"My reason is that you tell someone and then you find out that they gossip about you." Participant 10, 44 years, male.

"These people want production……they even tell our supervisors that people who don't want to work must be replaced with people who are ready to work." Participant 8, 51 years, male.

Sub-Theme 4.1: Unsupportive Work Environment

The participants indicated that the work environment was not supportive of them, given the fact that they had chronic conditions. They contended that their supervisors and colleagues were more focused on production. Others indicated that their colleagues laughed at their diets during lunch break due to their chronic conditions. The extracts from their responses are as follows:

"Our supervisors are useless ….they take instructions from management ….so it doesn't help." Participant 9, 58 years, male.

"No, it is not easy with this work." Participant 3, 45 years, male.

"They sometimes laugh at people's diets because of their chronic conditions." Participant 5, 55 years, male.

"My previous supervisor had a problem with that." Participant 8, 51 years, male.

"If you tell them to give you time to visit the clinic…they will say you delay production. They are difficult; to ask just for a day off is a problem. Mine is a difficult place to work at…their main aim is production." Participant 10, 44 years, male.

Sub-Theme 4.2: Expectations from the Supervisors and Organisation

The participants stated that the organisation and their supervisors expected them to perform optimally as the main focus is production and profits. They indicated that their health meant nothing to the organisation, while other participants complained that they were victimised if they complained about the workload. Their responses were as follows:

"Because their focus is production and money only. Our health means nothing to them. They pretend to care." Participant 2, 49 years, male.

"Management won't change anything; they only want production. Our health is last on their priority list." Participant 3, 45 years, male.

"Ah nothing, the mine wants production; they will victimise you if you complain about anything. Colleagues/the team complain when you ask to go and collect because they say that you affect their production when you are gone for 1 to 2 hours." Participant 5, 55 years, male.

"Team leaders push employees [us] because they must deliver good results daily." Participant 9, 58 years, male.

"Nothing, mine will never listen to our complaints; they want the work to be done." Participant 7, 40 years, male.

Sub-Theme 4.3: Discomfort Around Disclosing Chronic Condition at Work

The other participants indicated that they had not disclosed their chronic conditions to their colleagues and supervisor. They stated that they felt uncomfortable as they were referred to as unhealthy by their colleagues and supervisors, as they had been diagnosed and were living with chronic conditions. Their quotes are as follows:

"They said we are not healthy; we are diagnosed and living with chronic conditions." Participant 1, 52 years, male.

"I never told my colleagues about my chronic conditions." Participant 2, 49 years, male.

"They don't, and I don't want them to know about my private life." Participant 9, 58 years, male.

"I never disclosed my chronic conditions to anyone at

work. Not even my supervisor, I never told him; these people can cause you to lose your job." Participant 3, 45 years, male.
"I did not tell my colleagues. No, I don't have a reason. There are some things that people don't need to know about you." Participant 8, 51 years, male.

Discussions

For mineworkers, being diagnosed with chronic conditions brings fear and uncertainty about their jobs as well as their income. This study aimed to explore and describe the lived experiences of mineworkers diagnosed with a chronic condition. Chronic conditions are defined as any mental or physical conditions that can persist for more than a year and require continuous treatment. According to the United States National Centre for Health Statistics, chronic diseases compromise the social and physical functionality, the quality of life, including the economic stability of healthcare coordination.[18 19] WHO defines chronic conditions as "illnesses which have one or more of the features: need distinct training of the patient for rehabilitation, are caused by non-reversible pathological alteration, they are permanent, leave residual disability or may be expected to require a long period of supervision, monitoring or attention.[20]

Being diagnosed with chronic conditions as a mineworker can trigger intense emotional distress, especially given the physically strenuous and high-pressure nature of their job. Managing a chronic condition, such as diabetes can have a profound emotional impact on a person. [21] Danilov et al. pointed out that approximately 40.8% of employees diagnosed with arterial hypertension had personal anxiety, 23.1% had situational anxiety, while 32.4% had sub-depression.[22] In addition, Loke and Ching reported that approximately 28.8% of individuals diagnosed with hypertension experienced psychological distress, 21.3% suffered from anxiety, 13.9% exhibited signs and symptoms of stress, and about 16.2% were in a depressive mood.[23] The American Diabetes Association (ADA) confirms that individuals fear being told they have a chronic illness.[24] These debilitating emotions can be so overpowering that they lead to mental paralysis, a condition in which dread, worry, and despair impede one's ability to act. The above literature confirms the results of the study that various negative emotions are experienced by individuals after being diagnosed with chronic conditions.

While it can be overwhelming to be diagnosed with a chronic condition, especially for adults who are employed in strenuous and physically demanding jobs, such as mineworkers, the American Diabetes Association [24] indicated that some individuals are left angry, sad, shocked, and blame themselves after being diagnosed with diabetes mellitus. In turn, Akman and Olgun cited sadness, fear, shock, and unacceptance experienced by individuals who discovered that they had chronic conditions, such as diabetes.[25] Because individuals struggle to adjust their lifestyle post-diagnosis with diabetes, they are encouraged to talk with a healthcare professional. [24] This reflects that being diagnosed with chronic disease can impact both workers' emotions and their daily lives.

The mineworkers indicated that the chronic conditions affected their daily lives, including their ability to work in general or to work on all workdays, which affected their salaries and ability to care for their families, resulting in stress. In this regard, Cleal et al. suggest that the earnings of employees diagnosed with diabetes are affected compared to those without diabetes.[26] In support, Chakraborty et al. argue that employees with diabetes and hypertension are more likely to experience lower rates of employment, reduced income, and increased rates of sickness absence and incapacity leave.[27] It is important to note that diabetes and hypertension affect the household income of employees.[28] Most chronic conditions, such as hypertension and diabetes, are associated with significant complications including blindness, kidney disease, heart disease, nerve damage, stroke, amputations resulting in incapacity, disability, and premature death.[29] The above literature supports the findings of the study. The conditions can require them to modify their lifestyles after being diagnosed.

Accordingly, lifestyle modifications are required for mineworkers with chronic conditions to be healthy and fit to work optimally. There are various activities they can perform, such as structured and tailored exercises done in the comfort of their homes, which can help them stay fit. Charchar et al. indicate that doing aerobics can help the individual maintain a healthy body weight.[30] In fact, exercises can assist in balanced weight loss, and miners can benefit significantly.[31] In addition, another modification can be changing to a healthy diet. Bruno et al. suggest that lower alcohol consumption, increased potassium-rich foods, and reduced salt intake can lower blood pressure.[32] A healthy lifestyle includes physical activity. Galaviz et al. state that physical activity and losing weight can benefit individuals to prevent the diagnosis of diabetes mellitus.[33] For employees to be healthy and fit, they need to incorporate exercise as their lifestyle modification. McCarthy and Damiran[34] reported that mineworkers have an obesity rate of 64.1%, hypertension at 12.9%, alcohol use at 22.1%, and cigarette smoking at 38.8%. In comparison, the general population shows hypertension at 27.5%, obesity at 56.8%, alcohol use at 15.5%, and smoking at 24.8%, respectively. This is the case because of some workers' reluctance to modify their lifestyles after being diagnosed with chronic conditions. It is a fact that the unchanged lifestyle behavior can lead to more than one co-morbidity.

The mineworkers indicated that they had at least one comorbid illness and took an average of three prescription medications to manage their conditions. Some mineworkers admitted to defaulting on collecting their medication until this issue is picked up during their annual medical surveillance. In some cases, mineworkers chose not to collect their medicines, which impacted their health. They indicated that they experienced some serious

side effects, which could impact their work performance and their safety. Mineworkers indicated side effects such as dizziness, headache, and muscle weakness. The side effects vary, and Yeoman et al. indicated that the side effects of medications commonly used to manage hypertension can impair alertness.[35] Once mineworkers experienced this adverse reaction, it could affect their ability to work a full month or even to work overtime. The literature alludes to the side effects, which act as a barrier to complying with their medication. With regard to their medication, the HBM affords an opportunity to explore why the perceived barriers are not outweighed by the perceived benefits of working without taking sick leave. Despite these barriers, many adult mineworkers continue to live and work with chronic conditions. Our findings suggest that the perceived severity of the medication adverse effects not only affects the physical health of mineworkers but is a threat to their colleagues and to their employment.

The practice and expression of male sexuality are affected by ageing, and chronic illnesses often conflict with the ideals that society associates with traditional masculinity.[36] Their chronic conditions require them to take medications that are known to exacerbate erectile dysfunction and diminish libido.[37] Furthermore, Alhamam et al. note that certain medications prescribed for comorbidities and chronic conditions for individuals of reproductive age may affect fertility adversely.[38] The participants reported changes in their reproductive health since they started taking the medication for chronic conditions. In support, authors reported that the use of ACE inhibitors and beta-blockers is associated with an increased risk of male infertility in the year after starting antihypertensive medication.[38, 39] In addition, the side effects of anti-epileptic medications on reproductive health among males may lead to subfertility.[40] Metformin has various effects on male reproductive health, benefiting arteriogenic erectile dysfunction while raising contentious questions about testosterone production and spermatogenesis.[41] Even though some participants reported erectile dysfunction, having a job in mining accompanied by contact with toxic metals was significantly linked to mild to moderate erectile dysfunction.[42] The findings revealed various effects, showing that the self-efficacy of mineworkers to seek treatment is undermined by their sense of manhood. Furthermore, some chronic conditions' medication can impact the reproductive and physical health of males. While they face the changes brought about by taking medication and adjusting their lifestyles, they need the support of their employers.

Organisations are perceived as creating an unfavourable climate for mineworkers who are diagnosed with and are living with chronic conditions. High workloads, limited job control, unfavourable environments, and the requirement to work in humid, extreme, or fluctuating temperatures all contribute to these challenges. In addition, mineworkers often prioritise work-related demands over the needs associated with managing chronic conditions, such as diabetes.[43] The mineworkers play a critical role in ensuring that production is achieved under physically demanding mining environments. For those with chronic conditions, such as diabetes mellitus and hypertension, the pressure of the type of work adds to stress brought about by the lack of support. The mineworkers' work shifts, including night duty, add to the burden of their chronic conditions. Rigid work schedules, night duty, and shift work were viewed as fundamentally limiting employees' autonomy and self-management possibilities for chronic conditions.[43] In effect, mineworkers diagnosed with chronic conditions face more survival and occupational pressures compared to the non-mining workers,[6] resulting in an unsupportive environment. The mining environment in nature focuses mainly on production, which is an expectation among mineworkers from supervisors. At times, even when they feel sick, they have to work to please their supervisors and colleagues. In the mining sector, the management of health and safety risks is complicated by the breadth of regulatory processes covering the business and has to incorporate both the management of processes and personal safety issues.[44] Chronic conditions are prevalent among mineworkers; younger people and working populations across all racial groups are experiencing an increase in the prevalence of diabetes mellitus, cardiovascular diseases and other cardiometabolic health conditions. Globally, approximately 1.4 billion adults had hypertension, while 830 million had diabetes mellitus.[3] Employees find it difficult to disclose their chronic conditions to their managers because they fear discrimination. Gignac et al. mention that approximately 42% of employees chose not to disclose their health conditions to their immediate supervisors.[45] The decisions regarding disclosure frequently placed greater emphasis on personal goals, the impact of health on work, individual preferences, and the culture of the workplace, rather than concentrating on the effects on health and the availability of support.[45]

In contrast, both authors argued that some reasons include the stigma associated with particular illnesses, the fear of being judged by others who may hold different standards, and concerns about inadequate support despite the individual's legally protected status.[46, 47] The high levels of discrimination against individuals with chronic conditions, such as hypertension, enhance cardiovascular vulnerability due to persistent stress responses with chronic exposure. In addition, the bias or unfair treatment also impacts mental well-being and may lead to deteriorating health outcomes of employees. In another study, approximately 52% disclosed their chronic conditions to their colleagues, 45% disclosed them to the occupational health team, and 28% disclosed them to their supervisors.[48] Disclosing is crucial as the employees would be supported through the management of their conditions, including visiting the healthcare team. However, employees would be reluctant to disclose those conditions if they feel there is stigma and no support from colleagues, supervisors, and the organisation. The health

policies of the organisation should be enhanced to support the mineworkers diagnosed with chronic illnesses. The enhanced policies will, in addition, allow the supervisors, shift leaders, and managers to support and have open communication regarding the chronic illnesses of the mineworkers.

Study limitations

The generalisation of these research findings is not applicable to mineworkers working in the mining sector, as the study was conducted in one province in South Africa. In addition, the study reflects the lived experiences of mineworkers diagnosed with chronic conditions. Two other groups of participants were excluded from the primary study.

Conclusion

The study was warranted by its objective to explore and elucidate the lived experiences of mineworkers afflicted with chronic conditions. The research results indicated that the participants' lived experiences included depressive symptoms, emotional exhaustion, and fear of complications, which exacerbate the distress experienced. In addition, their salaries were affected due to the lengthy illness, resulting in incapacity leave. Furthermore, the organisational climate was not favourable, resulting in them not disclosing their chronic conditions. All these factors contributed to heightened anxiety and stress, which in turn, made it increasingly difficult for mineworkers to manage their chronic conditions themselves and maintain stability in their daily lives. Additional research on female mineworkers afflicted with chronic conditions is necessary. Emphasis may be placed on the influence of psychological stress on the exacerbation of chronic conditions. Mineworkers reported introducing steps to adopt new lifestyles following a diagnosis of the chronic condition. These approaches would entail organisational support, ongoing health education and proficient healthcare professionals at the clinic.

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Authors' Contribution

Conceptualization: Lorato G Manyeneng
Data Curation: Lorato G Manyeneng
Formal Analysis: Lorato G Manyeneng
Investigation: Lorato G Manyeneng
Methodology: Lorato G Manyeneng
Supervision: Mogale L Pilusa, Yolanda Havenga
Writing-Original Draft: Lorato G Manyeneng
Writing-Review & Editing: Lorato G Manyeneng

Competing Interests

No declarations to be made.

Disclaimer

The perspectives and assertions articulated in this article belong to the author.

Ethical Approval

The Ethics Committee of the Tshwane University of Technology sanctioned the study, and ethical clearance [FCRE 2022/11/006 (SCI) (FCPS 02)] was acquired.

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