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EXPERIENCES OF PEOPLE DIAGNOSED WITH MALARIA AT A SELECTED VILLAGE OF VHEMBE DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA

By

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A dissertation submitted in fulfilment of the requirement for the degree:

Masters in Nursing Science

At the

UNIVERSITY OF VENDA

FACULTY OF HEALTH SCIENCE

DEPARTMENT OF ADVANCED NURSING SCIENCE

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MAY 2025

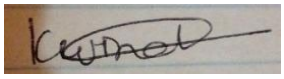
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DECLARATION

I Kwinda Wavhudi hereby declare that the research Titled: ***Experiences of people diagnosed with Malaria at a selected village of Vhembe District, Limpopo Province, South Africa*** submitted by me, has not been submitted previously for a degree at this or any other university, that it is my own work in design and in execution, and that all reference materials contained therein has been duly acknowledged.

Signature: Date: 01 May 2025



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DEDICATION

This dissertation is dedicated to my supervisor, Dr T.R. Luhalima, who encouraged me to follow through and complete my study, co-supervisor, Mrs A.D. Mudzweda, who motivated me to never give up, my mother, Mrs L.J. Kwinda, friend, Mrs R. Netshisumbewa and siblings, Vusani, Uakona, who gave me a reason to continue and pursue my study.

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ACKNOWLEDGEMENTS

- I give thanks to the Lord and my Saviour, who sustained me till this far.
- University of Venda, which allowed me to be admitted as a student in nursing and as a postgraduate to study a master's in nursing.
- The University of Venda higher degree committee granted me the approval to undertake the study.
- The university ethics committee granted me ethical clearance.
- Limpopo Department of Health for permitting me to conduct the study.
- Participants who agreed to be part of the study, thank you so much for allowing me to communicate with you, even though I was learning your language, you did not feel discouraged. You spared your time and allowed me to ask personal questions, which were mostly not comfortable, but you gave me the information I needed even when you knew that there was no remuneration. You helped me to finalise my research with your data. Thank you.

I would like to give my sincere gratitude to the following people who contributed greatly from the beginning to the completion and finalisation of my dissertation through their full dedication and remarkable support.

- ❖ Dr T.R. Luhalima, my supervisor, I thank you for supporting me from the beginning. I honestly did not know where to start, but you supported me and gave me hope. You showed me how things are done and always said, "If you go on at this pace, you will finish in record time". Those words always encouraged me to push hard. I was never afraid to update you on my progress because you made me feel free to enquire about anything.
- ❖ Mrs A.D. Mudzweda, my co-supervisor, for encouraging me not to give up. I appreciate your support, and your assistance was invaluable. I feel blessed to have had such an amazing person beside me. May you continue to help upcoming postgraduates in the way you supported me. Thank you so much from the bottom of my heart.
- ❖ My mother, who supported me till completion.

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ABSTRACT

Background: There have been extreme cases of Malaria worldwide, nationally as well as regionally, in the Vhembe District. Malaria is a serious health issue despite current efforts and several advancements to control vectors and bite prevention to minimise its burden. **Purpose**: The purpose of the study was to determine the experiences of people diagnosed with Malaria at Mhinga Village in the Vhembe District. **Methodology**: A qualitative approach method was used with exploratory, descriptive and contextual designs to get an in-depth understanding of the phenomenon. The setting was at the participants' homes at Mhinga Village, Collins Chabane Municipality, Vhembe District in Limpopo province. A pre-test was conducted with two individuals who were not part of the main study. Non-probability purposive sampling was used to select about 26 participants. However, the final number of participants was determined by data saturation. The data collection tool used was semi-structured individual interviews. Trustworthiness and authenticity were ensured by following the criteria of credibility, dependability, conformability and transferability. Data was analysed through descriptive and interpretive codes to categorise data. The research was conducted ethically following principles of respect, beneficence, justice, confidentiality, and informed consent. **Results:** The findings described and expressed the experiences of people diagnosed with malaria at Mhinga village, Vhembe District. The findings have resulted in five themes: experiences with signs and symptoms, circumstances prompting immediate consultation, experiences with reaching the healthcare facility, experiences with treatment given in the clinic and hospital, post discharge experience from Mhinga clinic and the hospital **Conclusion:** The study concluded that the participants still experienced symptoms of malaria before and after obtaining treatment from the clinic and hospital. **Contribution:** The study adds knowledge about malaria prevention to the participants, reducing its spread and relieving the Department of Health from enormous admissions. **Recommendations**: The recommendations determined by the study findings are related to implementing measures for eliminating the spread of Malaria.

Keywords: Diagnosed, experiences, malaria, people, village

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LIST OF ACRONYMS AND ABBREVIATIONS

HBM:	Health Belief Model
IRS:	Indoor Residual Spraying
WHO:	World Health Organisation

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PREFACE

This dissertation consists of three components, some presented as articles. Section A includes an overview of the study, the methodology, and the ethical considerations. In Section B, two manuscripts are presented along with the journal authors' guidelines. Section C covers the study's conclusions, limitations, and recommendations. The dissertation is structured as described above.

Section A: Dissertation Overview

This section provides a detailed summary of the background, problem statement, purpose and objectives of the study, research design and methodology, and ethical considerations. The section provides a comprehensive outline of the research methods used to collect data. The dissertation does not include a separate literature review, as a substantial amount of the literature has already been covered in a scoping review manuscript.

Section B: Paper/Article/Manuscript

This section has 2 manuscripts as detailed below.

1. The manuscript is titled "**Experiences of People Diagnosed with Malaria at a Selected Village of Vhembe District, Limpopo Province, South Africa**" and submitted to **Journal of Curationis** (Under review)

2. The manuscript is titled "**Post-discharge experiences of People who were Diagnosed with Malaria at a Selected Village of Vhembe District, Limpopo Province, South Africa**" and has to be submitted to **The South African Journal of Child Health *(Under Review)***

Section C: Conclusion, Recommendations, and Limitations

This dissertation concludes with a final section that presents recommendations and discusses limitations identified throughout the study.

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SECTION A: DISSERTATION OVERVIEW

CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Varo, Chaccour, and Bassat (2020: 395) stated that malaria is an illness caused by an Anopheles female mosquito bite that can cause mortality to humans, especially children below the age of five years. Malaria has affected many tropical and subtropical countries even after adequate proactive measures and treatment (Zerdo, Bastiaens, Anthierens, Massebo, Masne, Biresaw & Geertruyden, 2023). Varo et al. (2020) indicated that people diagnosed with malaria experience fever and high temperatures and that it is difficult to differentiate as symptoms are non-specific. There have been preventative and proactive measures introduced to reduce malaria risks, such as indoor residual spraying and insecticidal nets. Coetzer and Adeola (2020) observed that climate change has a significant effect on people experiencing the spread of malaria.

1.2 BACKGROUND OF THE STUDY

Guo, Chen, Holleczek, Schottker, Hoffmeister and Brenner (2021) noted that some less malaria-prone countries such as Germany have been affected by malaria, where people were diagnosed with Falciparum Malaria in 2021. In the United Kingdom, malaria was diagnosed in people who had traveled to endemic regions and were given treatment according to the severity (Daily, Minuti & Khan, 2022). In Canada, 251 people were diagnosed and experienced malaria symptoms from people travelling to endemic areas (Marasinghe, Cheaveau, Meatherall, Kuhn, Vaughan, Zimmer & pillai, 2020). In the United Kingdom, 10,000 pregnant women were diagnosed with malaria and died even after treatment was administered (Des Isles, Chitrakar, Patel & Finney, 2021). Nadia and Lu (2022) reviewed the difficulties and lessons learned from China's past attempts at mass medication administration for malaria control and elimination. The review discovered that some Chinese individuals were still being diagnosed with and affected by malaria.

In Tanzania, Persson and Lindgren (2020) documented cases where patients went through unnecessary delays in receiving the appropriate medical care due to misdiagnosis of malaria and therapy that varied with each stage of the disease. Persson and Lindgren (2020) noted that patients were administered intravenous fluids and antipyretics after experiencing fainting,

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unconsciousness, confusion, and fever. In 2021, there were about 247 million cases of malaria reported around the world (World Health Organisation, 2022). Four pregnant women in India tested positive for co-infection with Malaria and COVID-19 and were taken to Nair Hospital in Mumbai. One woman experienced intrauterine mortality, while the other three underwent emergency caesarean sections and successfully delivered healthy newborns. Thereafter, the women were given treatment which included antibiotics (Mahajan, Kesarwani, Shinde, Nayak, Modi, Mahale & Gajbhiye, 2020).

In Africa, the number of malaria cases rose from 218 million to 232 million in 2022, with a corresponding increase in mortality from 544,000 to 599,000 (WHO, 2022). People in Africa have been diagnosed with Malaria including some coming to Africa from other countries (Daily & Minuti, 2022). Malaria is life threatening, and people are still being diagnosed even after preventive measures have been developed (Adeyemo, Aborode, Bello, Obianuju, Hasan, Kehinde, Hossain, Bardhan, Imisioluwa, Akintola & 2022). Infectious diseases and fatalities caused by mosquito bites have persisted in Africa due to the widespread prevalence of female mosquitoes (Adeyemo et al., 2022). Furthermore, researchers have observed that despite medical advancements, millions of lives continue to be lost, and economies have suffered significant losses. Sehlabana, Maposa and Boateng (2020) reported that malaria infected millions in Africa resulting in significantly high death rates, predominantly in tropical regions characterised by consistently elevated daytime and nighttime temperatures.

Varo et al. (2020) reported that in sub-Saharan Africa, children were predominantly diagnosed with malaria and died despite receiving appropriate treatment. Adeyemo et al. (2022) indicated that low-income countries in sub-Saharan Africa have suffered significant economic losses and are unable to fund malaria intervention initiatives. Savi (2022) reported that diseases and fatalities have occurred in sub-Saharan Africa, with an estimated 2,000 children dying daily from the disease. In addition, it was noted that efforts to eradicate malaria have been ineffectual, and the disease continues to pose a significant health challenge. Lee, Mancuso, Koehlmoos, Stewart, Bennett and Olsen (2022) found that malaria has been experienced and diagnosed mostly in pregnant women, neonates, and children under the age of five. Cohee, Opondo, Clarke, Halliday, Cano and Shipper (2020 suggested that additional efforts are necessary to control and eliminate malaria. Jones, Matta, Pinder ,Dalessandro, Krudsen and Lindsay (2022) investigated the possibility of utilising home screening as a tool for malaria prevention and collected participant feedback on ways to make homes freer of mosquitoes.

The malaria burden has been high in South Africa and has caused infections and deaths especially in areas where temperatures are high during the day and night (Sehlabana et al.,

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2020). Moreover, malaria was diagnosed in people travelling to and from South Africa. The diagnosis was often delayed and complicated because malaria symptoms are common. South Africa intends to eradicate malaria by 2025 and avoid cross-border transmission (Maharaj et al., 2023). It was also noted that the introduction of the malaria parasite had occurred due to international travel, as infected individuals can transmit the disease to mosquitoes that bite them. Maharaj et al. (2023) also recommended that appropriate control measures and strategies to minimise transmission from neighbouring countries should be developed. Munzhedzi, Rogawski ,McQuade, Guler ,Shifflett, Krivacsy, Dillingham and Bessong (2021) asserted that individuals were aware of malaria preventive strategies but were incapable of implementing them due to the insufficient provision of bed nets in South Africa. According to Maharaj et al. (2023), South Africa has attempted to lower the number of malaria infections by implementing effective border parasite control measures to stop the disease from spreading from neighbouring countries when people visit.

In the Limpopo Province of South Africa, malaria has remained endemic despite the annual implementation of a comprehensive and effective indoor residual spraying (IRS) program targeting malaria vectors (Munzhedzi et al, 2021:1). Moreover, it has been noted that individuals were predominantly diagnosed with Malaria in Limpopo from September to May (Munzhedzi et al, 2021). Sehlabana et al. (2020) stated that Limpopo has been identified as the hottest province in the country, and the elevated temperatures have accelerated the proliferation of the parasite, resulting in fatalities among those diagnosed, particularly when treatment is delayed.

Makhanthisa, Braack ,Bornman and Iutermann (2022) claimed that the Vhembe District has been suffering from malaria even following the yearly IRS performance. In addition, it was further noted that Vhembe District in Limpopo has had the highest occurrence of malaria compared to other districts (Lamola, Musekiwa, De Voux, Reddy, Morifi, & Mutevedzi, 2024)Poor communities have had a particularly high malaria rate, and about half of the people in Vhembe District have been poor for some time (Makhanthisa et al., 2022). Coetzer and Adeola (2020) indicated that local villages have been encountering elevated fatality rates among individuals diagnosed with malaria. Gwarinda, Tessema,Raman ,Greenhouse and Birkholtz (2021) stated that Vhembe District is classified as a malaria transmission zone, contributing about 60% of the nation's disease load. Tshiovhe, Mabadzhe and Tshivhase (2022) noted that most families in Vhembe District have lived near streams, lakes and dumping sites, which has increased malaria risks for them to be infected and diagnosed. Furthermore, it was stated that malaria infections have negatively affected the South African Department of Health financially because treatment has been expensive and children who were diagnosed with malaria often died. The proposed study has focused on the experiences of people

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diagnosed with Malaria at Mhinga Village because there has been limited investigation about the experiences of people diagnosed with Malaria at Vhembe District of the Limpopo Province.

1.3 PROBLEM STATEMENT

When one is diagnosed with malaria, treatment is provided in a hospital with prescription drugs to kill the parasite, depending on the type of parasite, severity of symptoms and age. However, Mhinga community has people diagnosed with malaria, and death occurred with 105 cases from January to June 2023, according to the Vhembe District epidemiology office. This was more than in other villages, which indicated that malaria at Mhinga is a problem because many people were still being infected, and a significant number died. Vhembe District hospital statistics indicated that most people still experienced and were being diagnosed with malaria, even after several preventative measures such as indoor residual spraying, medical advancements, and awareness programs have been implemented. Mhinga Village is a flat area, and when it rains, water becomes stagnant for a long time. This becomes a breeding ground for female mosquitoes to lay eggs and multiply. This has been a problem as people are still being diagnosed and experiencing malaria at Mhinga Village even after prevention measures have been implemented. This has put a financial burden on the villagers and hospital systems. Some community members have lost loved ones and experienced psychological problems as a result. Some children have lost their parents to the disease, which may lead to more money for grants and a possible increase in the crime rate. The Sustainable Development Goals are actions to transform the world for people to prosper and enjoy peace. This research study is found to solve number three of the seventeen sustainable development goals and the agenda 2063, which aims for good health and well-nourished citizens, as well as promoting health, which is number eight of the national development plan 2030. Therefore, the proposed study sought to determine the experiences of people diagnosed with malaria at Mhinga Village of Vhembe District, Limpopo Province.

1.4 RATIONALE OF THE STUDY

Gwarinda et al. (2021) researched the genetic variety of parasites, indicating ongoing residual malaria transmission in the Vhembe District, a hotspot in the Limpopo Province of South Africa. They found that the Vhembe District remained a parasite transmission hotspot. Munzhedzi et al. (2021) studied the malaria-related beliefs, practices, and levels of knowledge in the Ha-Lambani community in the Limpopo province of South Africa. The findings revealed

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that the knowledge of malaria prevention was limited, and there was inadequate distribution of bed nets. Patrick, Bendiane, Kruger, Harris, Riddin, Trehard, Jager, Bornman, and Gaudart (2023) researched the relationship between malaria risks and home living conditions as well as individual behaviours in Limpopo and found that housing conditions such as overcrowding pressures and poor living environments were contributing factors of malaria exposure. Malaria has been causing deaths, but there has been a gap in the literature on the experiences of people diagnosed with malaria in the villages of Vhembe District. If people's experiences with malaria are not known, this may lead to increased rates of morbidity and mortality and make it difficult to implement preventative measures. The proposed study objective was to explore and describe the experiences of people diagnosed with malaria in Mhinga Village of Vhembe District.

1.5 STUDY PURPOSE AND OBJECTIVES

1.5.1 PURPOSE

The purpose clearly states the aim of the study, it is derived from the problem and aims to answer the research question (Hassan, 2024). The purpose of the study was to determine the experiences of people diagnosed with malaria in a selected Village of Vhembe District, Limpopo Province, South Africa.

1.5.2 OBJECTIVES

Research objectives describe what the research is trying to achieve and explain why it is being pursued (Hassan, 2024). The objectives of this study were:

- To explore the experiences of people diagnosed with malaria at a selected village of Vhembe District, Limpopo Province, South Africa.
- To describe the experiences of people diagnosed with malaria at a selected Village of Vhembe District, Limpopo Province, South Africa.

1.6 SIGNIFICANCE OF THE STUDY

The significance of the study pertains to the importance of the study, its addition to novel knowledge, and the benefits it provides to others (Hassan, 2024). The study was necessary because this may help community members share their lived experiences to shed light on the seriousness of malaria as an issue in the community, given that malaria is one of the top causes of death, and this may provide them with vital knowledge about precautions and prevention strategies against the spread of malaria.

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This study was of importance as people became more knowledgeable about malaria prevention methods which may reduce the spread of malaria. Unique contributions include relief of the Limpopo Province Department of Health from possible reduction of admissions. Moreover, morbidity, mortality rate, and costs for treating malaria may decrease. National guidelines concerning malaria, such as mosquito avoidance and use of antimalarial agents, have been presented and may be effective in preventing malaria; therefore, policymakers might also encourage the community to continue implementing preventative measures to reduce malaria cases.

1.7 DEFINITION OF TERMS

Experiences

Something personally encountered, undergone, or lived through (Webster, 2021). In this study, experiences referred to malaria symptoms people have had and how it affected their lives in 2019-2024.

Diagnosis

The process of finding the type of sickness and differentiating it from other diseases (Webster, 2021). In this study, diagnosis referred to the illness identified to be malaria from the presenting signs and symptoms at Mhinga Village, Vhembe district, Limpopo Province.

People

A group of people who share a culture, tradition, or sense of family. They usually speak the same language, follow the same rules, and believe the same things. They are often publicly organised (Webster, 2021). In this study, people referred to both adults (male and female) living in Mhinga Village who had been diagnosed with malaria.

Malaria

Malaria is a life-threatening disease spread to humans by female anopheles' mosquitoes. It is mostly found in tropical countries and is preventable and curable. Symptoms can be mild or life-threatening (WHO, 2023). In this study, malaria is a disease that has been caused by a plasmodium parasite transmitted by the bite of an infected female anopheles' mosquito.

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1.8 OUTLINE OF THE CHAPTERS

The study is presented in four chapters that show different steps of qualitative research:

Chapter 1: Overview of the study, which reflects the introduction, background, problem statement, significance of the study, study purpose and objectives, research question, and definition of terms.

Chapter 2: Literature review, which discusses data related to the experiences of people diagnosed with malaria at Mhinga village, Vhembe district.

Chapter 3: Research methodology, which covers the research methodology, describing the qualitative research approach, study setting, study population, sampling, measures to ensure trustworthiness, plan for data collection and management, ethical considerations and plans for dissemination of results.

Chapter 4: Presentation of results, which presents the data analysis and discussion of findings from participants in an article format.

Chapter 5: Discussion, limitations and recommendations, which provide the summary of the study, contributions of the study, limitations of the study, recommendations and conclusion.

1.9 Summary of the chapter

This chapter outlined the background of the study, problem statement, significance of the study, study purpose, and objectives. Experiences of people diagnosed with malaria at Mhinga village in Vhembe District of Limpopo Province were explored using a qualitative study. The significance of the study was highlighted.

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SECTION B

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

According to Lim, Kumar, and Ali (2022), a literature review is a body of summaries derived from well-read sources on a specified topic. It provides a review of present knowledge, allowing the researcher to relate relevant theories, methods, and gaps in the existing research that the researcher can apply to the thesis or dissertation topic. The literature review does not merely outline sources but examines, synthesises, assesses and critically evaluates to give a clear view of the state of knowledge on the topic (Kraus, Breier, Lim, Dabić, Kumar, Kanbach & Ferreira, 2022). Conducting a literature review is crucial for developing a research idea, consolidating what is already investigated or studied on an issue or topic and identifying how the research study can contribute to further comprehension (Wahyuni, Ritonga & Afrianti, 2023). The purpose of a literature review is to situate the research study in the literature, identify the criteria for data analysis, explain concepts that the researcher will use, set a methodological approach, develop an argument, and lastly, explain how the literature relates to the current research study (Ndlovu, 2022).

The researcher conducted the literature review using Google Scholar, Journal articles, internet databases and PubMed. Articles included meet the following criteria: articles are not older than five years and focused on information related to the experiences of people diagnosed with Malaria. The literature review is guided by the presentation of information according to the topics below, which are dominant in the reviewed literature.

2.2 THEORETICAL FRAMEWORK

Vinz and George (2022) stated that a theoretical framework is the basis on which all knowledge is built for a study. The Health Belief Model is defined as a psychological theoretical framework intended to guide the promotion of health-related behaviours and elimination of disease (Wong, Wong, Huang, Cheung, Law, Chong & Chan, 2021). The researcher has applied the health belief model to the study using the concepts of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action and self-efficacy.

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- Perceived susceptibility

  This refers to a person's belief that one is at risk for obtaining a certain condition or problem (Washburn, 2020). The health belief model predicts that health behaviours are influenced by an individual's beliefs that they are vulnerable to a certain health condition or problem and thus will take part in behaviours to reduce the risk of obtaining the health problem (Green, Murphy & Gryboski, 2020). In this study, a high number of people residing at Mhinga village have and are still experiencing malaria, thus malaria has been considered as a perceived threat to the participants of Mhinga village. The participants might have perceived the high risk of being infected with malaria and thus have engaged in behaviours to reduce the chances of being infected. The findings of the study had revealed that participants would wear long-sleeved clothing, sleep under bed nets, close windows before dark and use mosquito coils to reduce their chances of being infected.

- Perceived severity

  Green et al. (2020) have stated that perceived severity is a person's belief in the seriousness of the problem or disease. The researcher further added that the problem can be built on medical consequences such as death and disability. This is how the participants feel about the consequences of obtaining an illness and leaving it untreated, which may include clinical and social concerns (Ochepo, 2022). The perceived severity in this study refers to the malaria manifestations and complications experienced. In this study, when the participants of Mhinga village perceived malaria as important, they engaged in actions to help reduce its seriousness. The findings of the study revealed that the manifestations experienced by the participants included diarrhoea, fever, abdominal pain, body pain, body weakness, constant headaches, nausea, and vomiting. The results have also shown that participants who experienced aphasia, inability to walk, and extreme fatigue were diagnosed with complicated malaria and thus were more likely to take action to reduce the chances of being infected again.

- Perceived benefits

  Perceived benefits refer to a person's belief in the usefulness or value of engaging in preventative actions to reduce the risk of the disease (Washburn, 2020). When a person believes that a certain action will reduce the vulnerability to a health problem or its seriousness, that person is most likely to take part in those actions (Limbu, Gautam & Pham, 2022). In this study, the advantages of taking preventative actions resulted in the reduction of malaria infection, thus bringing freedom from the disease

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and saving lives, as malaria has been known to cause death. The findings of this study revealed that the Mhinga participants perceived the benefits of taking preventative actions as their yards were clean at their homes from observation by the researcher during interviews, and had verbalised that they do not want to experience malaria again hence they followed the preventative measures willingly which then outweighs the barriers explained below.

- Perceived barrier

  Perceived barriers are any obstacles that obstruct individuals to take action (Wang, Qureshi, Johnson, Mansalay, Muhr, Abatemarco & Freeland, 2024). This can come from adverse consequences that were perceived from the person's view, and if the challenges outweigh the benefits, this may cause difficulty with changing behaviour (Monroe, Olapeju, Moore, Hunter, Merritt, Okumu & Babalola, 2021). Washburn (2020) reported that the perceived barriers may include lack of income, no transportation, unmet needs for childcare and can also be psychological, such as fear or pain and embarrassment. The Mhinga participants might have perceived certain barriers when malaria treatment was delayed. The findings of the study revealed that perceived barriers to seeking early treatment included a lack of knowledge of the infection, a belief in healing naturally, and struggles with childcare and employment needs.

- Cues to action

  Cues to action refer to occasions, individuals or items that set people to change behaviour (Sano, Ahmad, Camara, Daliwa, & Lim, 2024). These can include advice and encouragement from others, the sickness of a family member or online platforms can provide cues (Tai & Yang, 2022). In this study, the findings revealed that participants decided to visit the clinic due to advice from parents or wives, witnessing the sickness of their children with the same symptoms, and a previous illness of a family member who had experienced similar symptoms.

- Self-efficacy

  Self-efficacy refers to the individual's perception or belief in their ability to perform preventative actions (Olapeju, Tamene, Ayele, Heliso, Berhanu, Alemayehu, & Kapadia-Kundu, 2022). Moreover, the health belief model predicts that a person who believes that changing their behaviour is of value but is uncertain of their ability to change behaviour is highly unlikely to undertake lifestyle changes. The findings of the study have revealed that most participants are taking preventative actions against

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malaria, even from observation at their homes during interviews, including maintaining clean yards and surroundings.

2.3 MALARIA OVERVIEW

Malaria has been problematic to humans for thousands of years (Pradhan, Biswasroy, Kulkarni, Taliyan, Pradhan, Bhola, & Rath, 2024). Moreover, it is currently endemic in more than 100 tropical and subtropical countries and is spread to humans by infected mosquitoes carrying the plasmodium parasite. Young children, pregnant women, elderly people, and those with compromised immune systems are at high risk of this disease (Savi, 2022). Additionally, knowledge and attitudes towards malaria in communities are vital for them to take preventative measures and learn how to manage when it is prevalent in their area. This may help the community identify symptoms and seek treatment early, as malaria is a problem internationally for policymakers, researchers and the public (Savi, 2022). The control of this disease can be challenging. However, few studies have demonstrated malaria's complexity, control, and modelling. Undertaking this perspective and looking into the complexities, control, and modelling could lead to effective policy recommendations. Furthermore, the control of malaria parasites is achieved through three lines of defence: antimalarial drugs, seasonal prevention, and vaccination.

2.4 MALARIA CAUSES

Anopheles mosquitoes are responsible for the malaria parasite to humans, who contract it when bitten by a mosquito carrying the Plasmodium parasite. (Islam, Dhar & Rahman, 2023). The malaria parasite was named by Laveran in 1880, he found it to be the parasite that causes malaria (White, 2022). Four types of Plasmodium responsible for malaria in humans include Plasmodium falciparum, Plasmodium ovale, Plasmodium malariae and Plasmodium vivax, which are known to bite at dawn and dusk (Nauriyal & Kumar, 2022). Furthermore, when a female anopheles mosquito bites a person, the parasite gets into the system and infects red blood cells, and most people who get malaria in places where it is common are children or young adults who do not have any other health problems (White, 2022). Mortality rates in older travellers might be high or low depending on the parasite, host, infection, treatment, and other factors (White, 2022).

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2.5 EXPERIENCES OF MALARIA FROM GLOBAL TO LOCAL AREAS

2.5.1 GLOBALLY

Many Asian countries, including China, have been affected by malaria, especially children below the age of five years. Malaria cases and deaths have occurred even after mass drug administration to reduce malaria morbidity and mortality, as it was believed to play an effective role in the eradication of plasmodium falciparum malaria (Nadia et al., 2022). In Canada, 251 people were diagnosed and experienced malaria from people travelling to endemic areas (Marasinghe, Cheaveau, Meatherall, Kuhn, Vaughan, Zimmer & Pillai, 2020). People residing in the United States experienced malaria after returning from another country to visit friends and became infected with plasmodium falciparum in less than 90 days from their arrival. Additionally, individuals who experienced the infection exhibited severe malaria characterised by pulmonary oedema, shock, altered consciousness, haemorrhage, and seizures upon returning from endemic regions such as Africa. These patients also faced renal complications and anaemia. All patients received treatment and have since recovered (Daily, Minuti, & Khan, 2022). Furthermore, malaria developed in 14% of patients who were identified with the disease, and 4% of those patients died because of treatment delays. In Central America, individuals afflicted by malaria predominantly resided in developing nations characterised by rural populations and poverty, and were primarily the elderly and children who were most impacted (Ortiz, Piche-Ovares, Romero-Vega, Wagman & Troyo, 2021). In the United Kingdom, 10,000 pregnant women were diagnosed and experienced malaria and died even after adequate treatment was administered (Des Isles, Chitrakar, Patel & Finney, 2021). In mainland France, travellers and migrants experienced malaria from endemic areas, particularly from sub-Saharan Africa (Thellier, Simard, Musset, Cot, Velut, Kendjo & Pradines, 2020). People below 70 years residing in India experienced malaria, including children below the age of five years who had symptoms of fever, some were asymptomatic with plasmodium falciparum as the most common infection, and some people who were affected died (Kumar, Chaturvedi, Mohanty, Sharma, Malhotra & Pandey, 2020). 162 research studies conducted in India revealed that malaria poses a significant burden, with infected patients exhibiting symptoms such as fever, thrombocytopenia, jaundice, and various organ failure (Arya, Foko, Chaudhry,Sharma & Singh, 2021).

Mahajan, Kesarwani, Shinde, Nayak, Modi, Mahale, and Gajbhiye (2020) studied pregnant women who contracted malaria. The first participant, a 22-year-old first-time mother at 36 weeks and 6 days, had a fever for four days and no other health issues. Malaria meant the baby would be born prematurely, and her ultrasonography showed intrauterine foetal development restriction, requiring labour augmentation. Her newborn weighed 2.2 kg, and she was discharged after nine days of antibiotic treatment (Mahajan et al., 2020). In the second

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case, a 32-year-old woman with pre-eclampsia who tested positive for plasmodium vivax at 24 weeks had a miscarriage, an ultrasound that showed intrauterine foetal death, and retained conception products removed under anaesthesia. During pregnancy, the woman had headaches, hazy vision, breathing problems, and fever with chills (Mahajan et al., 2020).

Malaria is widespread in Pakistan, and its population has experienced it seasonally, especially from September to May. Khan, Qureshi, Bae, Khattak, Anwar, and Ahmad (2023) indicated that it was due to agricultural actions as it was reported to be susceptible to climate change which instigated the experiences of high temperatures, sweats, shivers, vomiting, and headaches by mostly adult males over the age of fifteen who are residents of the country specifically in the rural areas. Khan et al. (2023) further indicated that Pakistan's government used methods of targeted vector control and early diagnosis to fight malaria, but has been failing due to recurrent floods, insufficiency of experienced health care practitioners, and suitable drugs. The researchers concluded that there should be priority in early treatment, diagnosis, and mosquito control programs (Khan et al., 2023). A further report by Vohra, Aqib, Jamal, Mehmood, and Yasin (2023) indicated that people who experienced malaria resided in flooded areas of Pakistan. The victims had been diagnosed with malaria due to exposure to and absorption of polluted water considered as breeding sites of mosquitoes.

Climate change in countries such as Bangladesh has made it easier for its high-density population to contract and experience malaria due to the immense poverty experienced by the inhabitants (Hoque, Islam, Mia, Rafi & Rajib, 2023). Tasnim and Islam (2022) reported on a thirty-eight-year-old male who experienced complicated malaria seven days after travelling to the Chattogram Hill Tracts area in Bandarban. He exhibited symptoms including high fever, body aches, headaches, dark-coloured urine, severe chills, and profuse sweating for three days. The patient was admitted to an intensive care unit in a tertiary care hospital, where he was given paracetamol to reduce the high fever, and the health care professionals observed mild abdominal distention with a mildly tender enlarged liver on palpation and mild enlargement of the kidneys, metabolic acidosis, and hypoglycemia during examination.

A 28-year-old, 32-week primigravida reported a history of malaria contracted in Nigeria during her studies. She subsequently imported the infection to the United Kingdom, where she presented to the maternity department with symptoms of elevated temperatures, rigours, and dark urine. The patient was classified as a late booker with no prior antenatal care and had experienced malaria 10 days before her presentation at the maternity unit in the United Kingdom (Des Isles et al., 2021). The woman experienced illness five days post-arrival, characterised by general malaise and myalgia. On the sixth day, she developed lower abdominal pain and observed dark urine. After two days of completing an antibiotic course,

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she presented to the emergency department, reporting exacerbated pelvic pain, diminished foetal movements for one day, and dark urine with each voiding (Des Isles et al., 2021). Furthermore, three doses of artesunate were administered, resulting in the patient's recovery. However, an ultrasound performed on the foetus revealed a congenital heart defect not identified in a prior scan. The mother delivered successfully, and the infant exhibited no signs of congenital malaria. The experience of malaria in Nigeria is supported by Okedo-Alex, Akamike, Nwafor, Alo, Agu, Abateneh, and Uneke (2022), who said that people who took part in their study in 2020 had fevers and that community malaria control programs were made because most of the people who got malaria were pregnant. This means that the disease is still a problem for the country, especially when the rainy season is over.

2.5.2 AFRICA & SUB-SAHARAN AFRICA

According to the World Health Organisation, many children below the age of five years have been infected by malaria, and deaths have occurred worldwide (Collins & Duffy, 2022). In Graham,Bakare ,Ayede, Eleyinmi, Olatunde ,Bakare and Falade (2022) study, 16,432 children experienced and were admitted with malaria presenting symptoms such as high temperatures, high respiratory rates, seizures, impaired consciousness and signs of severe dehydration in hospitals. Antimalarial and intravenous fluid therapy were given. Furthermore, pregnant women, more especially primigravidae, have been diagnosed with malaria as they are considered vulnerable to malaria due to decreased immunity. As a result, 11% of maternal deaths occurred due to malaria.

The prevalence of malaria in Tanzania is supported by Kołodziej, Ammi, Richert, Marchelek-Myśliwiec and Korzeniewski (2024). Researchers suggested that travellers visiting the national parks and animal reserves annually face malaria, as the Arusha region in Northern Tanzania is widely known for it. The researchers reported that six subjects who had malaria were infected with Plasmodium falciparum. In Tanzania, Wångdahl, Bogale, Eliasson, Broumou, Faroogh, Lind and Färnert (2023) observed that patients encountered delays in accurate diagnosis due to the misdiagnosis of malaria, resulting in varied medical treatments based on the specific phase of the disease. Furthermore, the researchers reported that patients had symptoms of syncope, loss of consciousness, disorientation, and fever, and received intravenous fluids and antipyretics. A report by Mandai, Francis, Challe, Seth, Madebe, Petro and Ishengoma (2024) mentioned that some people in their study had asymptomatic malaria, which means they did not have any symptoms and had lived in poorly built homes in the northwest and were mostly men.

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Pregnant women and children in Siaya County in western Kenya tested positive for malaria. It was suggested to be caused by the presence of malaria parasite on the placenta during pregnancy, where the affected pregnant women experienced maternal anaemia which contributed to low birth weight and infant mortality in high transmission areas, especially during the first pregnancy on their first trimester (Okoyo, Githinji, Muia, Masaku, Mwai, Nyandieka & Kanyi, 2021). Additionally, it was revealed that in low transmission areas, positive pregnant women aged 38 to 43 years reported spontaneous abortions, stillbirths, and premature births. The prevalence of malaria in Kenya is supported by the report of Elnour, Grethe, Siddig, and Munga (2023), who indicated that the disease is still a major public health problem and that the Kenyan government is working on plans to lower the number of people who get malaria in the country.

A study involving 1,655 pregnant women aged 18 and above revealed that malaria during pregnancy has led to adverse outcomes for both the mother and foetus. The research focused on the factors associated with malaria and anaemia among pregnant women attending their initial antenatal visit in four neighbouring administrative areas: Kintampo North Municipality, Kintampo South District, Nkoranza South Municipality, and Nkoranza North District, situated in the Bono East Region within the forest-savannah transitional ecological zone of central Ghana (Dosoo, Chandramohan, Atibilla, Oppong, Ankrah, Kayan & Owusu-Agyei, 2020). The investigation revealed that anaemia was encountered by one in five pregnant women who attended their initial antenatal appointment with plasmodium falciparum. The infection ultimately led to stillbirth. Additionally, they noted that the haemoglobin concentration was substantially lower in individuals with malaria parasitaemia than in those without. They determined that women who were primigravida, young, and older than eighteen weeks gestational age had encountered malaria at a higher rate than those who were less than eighteen weeks pregnant (Dosoo et al.,2020). Studies revealed that malaria made children in Ghana anaemic, iron- and vitamin A-deficient, and they also had low blood counts (Wegmüller, Bentil, Wirth, Petry, Tanumihardjo, Allen & Rohner, 2020).

Infants experienced congenital malaria from pregnant positive women, resulting in foetal complications of low birth weight and perinatal mortality as gestational malaria remains a major public health problem (Labama, Marini, Losimba, Likwela, Bosenge, Nguma, Maido, Alongo, Ahuka, Ona, Longombe, & Okenge, 2021). During the study period, 1248 neonates were diagnosed with malaria. Researchers collected thick blood smears from the mothers' placental prints and umbilical cord samples post-delivery, revealing the presence of congenital malaria in infants born to mothers aged 18 to 34, particularly those who were primiparous (Labama et al., 2020). They also mentioned that each year, 200,000 stillborn children are born because of pregnancy-related malaria. Emina, Doctor and Ye (2021) reported that a child's risk of

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getting malaria went up with age and down with the mother's level of schooling and household wealth.

In Morocco, people who experienced malaria were infected with plasmodium falciparum and plasmodium vivax, and they had migrated from malaria-endemic countries, which caused an increase in imported cases (Abdelkrim, Said & Souad, 2024). In Tangier-Assilah province, most male patients aged 15 to 30 years who experienced malaria were infected with plasmodium falciparum and were diagnosed in less than two days since the onset of clinical signs (Nabah, Mezzoug, Aarab, Oufdou, Kacem & Rharrabe, 2021). Moreover, plasmodium falciparum and plasmodium vivax are widespread and infect people in Mauritania (El Moustapha, Ouldabdallahi, Moukah, Salem, Brahim, Briolant, Basco & Boukhary, 2023). The western region of Almeria province in southern Spain reported 336 individuals affected by malaria, who developed a high fever following their seasonal migrations to their homeland (Pousibet-Puerto, Lozano-Serrano, Soriano-Pérez, Vázquez-Villegas, Giménez-López, Cabeza-Barrera & Salas-Coronas, 2021).

Between June and November 2021, 900 children from the Saraya and Diourbel districts of Senegal, ages 1 to 14, had finger-prick blood samples taken, and microscopy was used to diagnose them with malaria parasite (Afolabi, Sow, Mbaye, Diouf, Loum, Fall & Ndiaye, 2023). Following a high rate of malaria morbidity during the 2019 rainy season, nurses and community health workers conducted a case control study in four health posts, namely Bembou, Diakhaling, Khossanto, and Sambrambougou from November to December 2020 (Tairou, Diallo, Kone, Manga, Sylla & Tine, 2022). A total of 492 purposely selected individuals were included in the study after giving consent where home visits were performed to assess the living conditions of the participants. The study revealed that most people who experienced malaria were living in homes surrounded by stagnant water, there was overgrown vegetation and bushes inside and in the vicinity of the houses of the participants (Tairou et al., 2022).

In sub-Saharan Africa, malaria continues to be experienced by people living in places such as the Uganda Batwa community in Kanungu District. Unfortunately, the community often finds it difficult to access appropriate primary health care services due to affordability. Due to long distances to health facilities, economic constraints and stock outs of malaria medicine at health facilities, the community members are delayed in attaining treatment (Namanya, Bikaitwoha, Berrang-Ford, Lwasa, Kesande, Twesigomwe & Nyakol, 2023). Consequently, the malaria symptoms might worsen, including headaches, shivering, poor appetite, back pains, high temperatures, soreness in the mouth, joint pains, body weakness, queasy feeling in the abdomen, vomiting, and passing loose yellow stools. The researchers reported that it was a challenge reaching the nearest road for accessing road transport, and that the area's poor and

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inaccessible transport network made it difficult for sick people to get to and from hospitals for treatment due to the area's hilly, wide valleys, steep terrain, and the presence of wetlands, swamps, and rivers during the rainy season (Namanya et al., 2023).

Malaria in Ethiopia has been a major health concern, and it is one of the sub-Saharan countries that has led to increased morbidity and mortality rates and has been more experienced by children and pregnant women (Nigussie & Wale, 2022). The Ethiopian government has been developing strategies to reduce malaria prevalence as the population has been exposed to the risk of malaria infection (Yalew, 2022). A study conducted by Mhango, Malata, Chipeta, Sixpence, Taylor, Wilson and Mathanga (2023) reported that during malaria infection in school aged children, both boys and girls there were experiences of long waiting hours, frustration on long travelling time to the health facility and had received attitude from health care providers. Furthermore, other experiences had involved participants being given only Panado and unable to get treatment due to a shortage of Artemether-Lumefantrine. The researcher indicated that participants who had experienced malaria had to self-treat by going to private facilities to get medication, and others who could not afford it had to go home and be left untreated (Mhango et al., 2023). Moreover, the researcher reported that Malaria in Malawi had caused economic challenges, and the large population has overwhelmed the one health facility that is available in rural Malawi. Parents of children affected had experienced inability to escort their children to health facilities due to lack of money, and some believed in witchcraft (Mhango et al., 2023).

2.6 EXPERIENCES OF MALARIA IN COUNTRIES AROUND SOUTH AFRICA

An individual living in ward six of Beitbridge District, Zimbabwe, experienced symptoms of malaria, including nausea, vomiting, headache, and overall weakness. A rapid diagnostic test confirmed the diagnosis of malaria. The district is situated 583 km south of Harare, the capital of Zimbabwe, and borders South Africa (Takarinda, Nyadundu, Govha, Gombe, Chadambuka, Juru & Tshimanga, 2022). The patient came from a community where there was a second outbreak of malaria, where they were given bed nets but did not use them consistently in houses made from thatch, mud and asbestos, which was concluded to have contributed to the contracted malaria (Takarinda et al., 2022). Furthermore, other individuals of all ages in the community, when they suspect having malaria symptoms, would visit a health care centre or Mtetengwe Clinic, where they would be given Artemisinin-based combination therapy, with the first dose being given when directly observed by the health care worker of the community before they are discharged home. The individuals in the community would complete the full course of anti-malarial medication, but those who experienced complicated malaria would be referred to the Beitbridge District Hospital for more advanced management (Takarinda et al., 2023). Furthermore, the malaria outbreak had resulted in one death in Beitbridge town, and

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participants verbalised that they mostly experience malaria in hot and wet seasons, and the researchers concluded that the district had to improve malaria preventative measures, such as the distribution of bed nets. However, when some people experienced malaria, they would not go to the hospital for treatment due to lack of affordability and accessibility of effective antimalarial medication, rather they used malaria fighting strategies which included herbal and mineral treatments as traditional medicine was more available and accessible in the area thus the community would go to herbalists, psychic therapists and faith healers who believe in the power of God 'vadzimu" and they used steaming as a form of treatment (Makuvara, Magano & Mugumbate, 2024).

In Ohangwena region of northern Namibia, respondents who experienced malaria symptoms especially those of childbearing age had challenges with regard to treatment as they did not go to health facilities due to lack of access, inability to pay for hospital services and the long distance thus they used traditional ways and home based healing practices to heal from malaria disease in secrecy (Uushona, Sheehama & Iita, 2022).In addition, some respondents verbalised that when they experienced malaria symptoms, they went to health facilities, but there was a long waiting time to be assisted as the facilities were overcrowded and the staff members had poor time management, as these people stayed very far from the hospitals (Uushona et al., 2022). Some respondents were diagnosed in the rural clinics using the rapid diagnostic test and were given treatment; however, when they went home the participants burned marula fruit skin or elephant dung to prevent the reintroduction of malaria illness and they used this as a secret as they would often be criticised as these are considered harmful and a threat to human health. Other respondents verbalised that after being treated in the hospital when there was a malaria outbreak, they would wear long sleeved clothing, and those who could afford bed nets would buy them (Uushona et al.2022). Adolescent pregnant girls also faced challenges when infected with malaria due to inability to reach the nearest clinics as it require long traveling hours, poor support with transport fare, no available transport and poor infrastructure and the delay to commence antenatal care due to fear of disclosing pregnancy to family members have contributed to late diagnosis and treatment of disease (Shatilwe, Hlongwana, Tivani & Thompson,2022). Namibia has been considered a low malaria transmission country in southern Africa as it has prosperously reduced the weight of malaria over the previous years due to indoor residual spraying (Smith, Mumbengegwi, Haindongo, Cueto, Roberts, Gosling & Sturrock, 2021).

Eswatini is a landlocked country in the southern part of Africa, bordered by South Africa and Mozambique. A total of about 511 patients experienced malaria and reported to the nearest health facilities with malaria symptoms, where they got treatment, as there was inconsistency

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in residual spraying in the country (Kgoroebutswe, Makate, Fillinger, Mpho, Segoea, Sangoro, & Nkya, 2020). Moreover, those who experienced malaria were diagnosed using rapid diagnostic test malaria kits in government hospitals and in private or company–owned establishments, either with or no microscopy. People experienced malaria during the summer and autumn months from December to May as malaria transmission was seasonal in Eswatini, and this has caused an increase in vector breeding (Kgoroebutswe et al., 2020). Furthermore, malaria has remained a public health problem in Eswatini, where pregnant women who were diagnosed with uncomplicated malaria were treated with artemether-lumefantrine as the first drug choice and quinine for those who experienced severe malaria in the first trimester of pregnancy. Malaria transmissions had occurred in the local communities, mostly from the borders of Mozambique, on people returning to Eswatini, occurring mostly in January after Christmas and holidays in the first few months of the year. Malaria was particularly experienced by adolescents and employed males who spent more time away. Upon diagnosis, they were referred to the nearest health centres where they did not have the treatment for positive patients ((Kgoroebutswe et al., 2020).

Malaria has consistently impacted rural people in the tropical wetlands of developing countries, such as the Okavango Delta in north-western Botswana, as these wetlands offer conducive habitats for malaria-carrying organisms, rendering the area endemic to the disease (Maphane, Ngwenya, Kolawole, Motsholapheko & Pagiwa, 2023). Furthermore, in Botswana, malaria has been endemic in poor households, especially in villages of Shakawe, which has been identified to be a malaria hotspot due to the high number of people experiencing malaria in the area. People who resided in Ngarange village have also been exposed to malaria, and Botswana has experienced malaria mainly from November to May, during the rainy seasons in the northern, central, and eastern parts of the country, with Plasmodium falciparum affecting ninety eight percent of the population, causing symptomatic malaria (Kgoroebutswe, Makate, Fillinger, Mpho, Segoea, Sangoro, Mutero, Chanda, Ntebela, Mogopa & Mosweunyane, 2020).

In addition, 105 patients experienced malaria in Botswana in 2019, and unfortunately, six patients died during the malaria transmission season. The World Health Organisation has recommended the use of chemical insecticides through indoor residual spraying as there has been insecticide resistance in the country, as people have been staying outdoors (Kgoroebutswe et al., 2020). Moreover, the use of indoor residual spraying and long-lasting insecticidal bed nets has been recommended and the community has been encouraged to participate in vector control to reduce deaths and malaria incidences. Botswana has aimed to eliminate malaria but has been failing to reach its targets due to weak health systems, expensive antimalarial drugs and resistance to insecticides, and the researchers have

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concluded that getting rid of breeding mosquito sites and use of insecticides will help eliminate malaria in affected communities (Kgoroebutswe et al., 2020).

2.6.1 EXPERIENCES OF MALARIA IN SOUTH AFRICA

South Africa has experienced malaria along the border areas from people travelling from other countries, especially farmworkers, mainly from Zimbabwe and Mozambique, and others visiting friends and families (Ayanlade, Sergi, Sakdapolrak, Ayanlade, Carlo, Babatimehin & Jegede, 2022). The transmission of malaria in South Africa has been seasonal, as it has been noted to be associated with the climate, especially from October to May. The South African government has been working towards eliminating malaria in the country, but the increased imported malaria cases, vector insecticide resistance, residual spraying delivery and health provision challenges have made it difficult to achieve this goal (Ayaanlade et al., 2022). In addition, most people who experienced malaria in South Africa were usually from low economic classes, as malaria was related to economic status, such as income and housing conditions. The three provinces of KwaZulu-Natal, Mpumalanga, and Limpopo in South Africa are known to be endemic for malaria. Malaria has broken out in these areas, and a large number of people in these provinces have been diagnosed with the disease. Rainfall and high average temperatures in KwaZulu-Natal have been on the rise, putting the province's residents at a higher risk of malaria. (Ayaanlade et al., 2022).

Due to a lack of sanitation facilities, formal education, and reliable electricity, the inhabitants of KwaZulu-Natal who suffered from malaria were disproportionately disadvantaged (Ebhuoma, Gebreslasie & Ogunsakin, 2022). Moreover, rapid diagnostic tests were used to diagnose those who experienced the symptoms and were treated with artemisinin-based combination therapy. The province has also tried to implement annual residual sprayings, but the majority of those with malaria are asymptomatic, especially the ones using the informal border from Mozambique. Community members within the Umkhanyakedu district were assessed for the prevalence of malaria; all participants who consented were tested using the rapid diagnostic test (Raman, Gast, Balawanth, Tessema, Brooke, Maharaj, Munhenga, Tshikae, Lakan, Mwamba & Makowa, 2020). Most positive individuals were males aged sixteen years and above, and the prevalence of malaria was mostly during January to April, especially in households that had not been sprayed. Similarly, Mpumalanga province has experienced malaria outbreaks, and it is still fighting to eliminate its prevalence in the community by yearly indoor residual spraying and more education to the communities (Raman et al., 2022).

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2.6.2 EXPERIENCES OF MALARIA IN LIMPOPO PROVINCE

Malaria caused by plasmodium falciparum has been present in the Limpopo Province, and the Vhembe District has experienced more malaria outbreaks as it has been reported to be the District that has been heavily impacted by malaria in South Africa specifically in the Limpopo River Valley that is bordering Zimbabwe as it has had high malaria incidences (Patrick, Bendiane, Kruger, Harris, Riddin, Trehard, De Jager, Bornman & Gaudart, 2023). In addition, a participant-based survey was done in 2020 investigating the association between housing status and risky behaviours of malaria, where 398 households were visited and the heads of each family member were interviewed through face-to-face questionnaires. The participants who were chosen had experienced malaria within the past five years, with one or more malaria episodes, and others had experienced malaria the same year of the investigation (Patrick et al., 2023). Moreover, during the investigation, the researchers found that participants who experienced malaria had a severe fever as the main symptom, went to seek treatment at a medical centre after two days of worsening symptoms and received treatment within three days, but other respondents said that they stayed at home and did not go to medical centres. People living in Nkotswi Village reported that experiencing malaria was related to being a man, living in a poor family background, and sleeping outside when it's too hot inside the house (Patrick et al., 2023). Furthermore, the researchers concluded that more education was needed on the causes and prevention of malaria.

The Limpopo province is still experiencing malaria as many cases are still being reported each year, with the highest prevalences being Vhembe District, Mopani, Capricorn, Greater Sekhukhune and Waterberg (Lamola, Musekiwa, Voux, Reddy, Morifi & Mutevedzi, 2024). It was further reported that people who experience malaria mostly were children less than five years of age and adults aged 50-64 years, and likely to occur during high rainfall, humidity and high temperatures. The people who have experienced malaria in the Limpopo province are usually travellers coming from neighbouring countries, specifically Zimbabwe and Mozambique (Lamola et al., 2024). The researchers further concluded that there was a need for surveillance programmes to control imported malaria. According to Braack, Bornman, Kruger, Dahan-Moss, Gilbert, Kaiser and Jager (2020), males were experiencing malaria the most due to them being migrant workers and occupational risks such as working in mines, fields and migrating to endemic areas, and they experienced more severe symptoms than females.

2.6.3 IN LOCAL AREAS

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Munzhedzi, Rogawski, McQuade, Guler, Shifflett, Krivacsy, Dillingham & Bessong (2021) conducted a study in Ha-lambani village to evaluate the residents' knowledge, attitudes, and practices to support malaria control efforts in the area. Some participants reported experiencing numbness or tingling in the extremities, difficulty breathing, and headaches that felt like pins and needles on the forehead. They also reported difficulty walking due to the headaches, which made it difficult for them to look up. Ha-Lambani village has high malaria prevalence and the participants members were well aware of the symptoms of malaria and they even verbalised that the nurses at the nearest clinic educated them about malaria but they did not sleep under bed nets as they could not afford them, and there was limited knowledge with regard to the appropriate treatment of malaria (Munzhedzi et al., 2021). Furthermore, the participant's experiences with treatment included being given a drip expressed to contain colourless water-like liquid, yellow pills with dosage taken 8hourly with milk and others got quinine and was expressed that the treatment worked faster, regained consciousness and was considered effective by participants.

Tshivhase, Mashau & Munyai (2022) did a study in Masisi village, which is part of Musina local municipality, to evaluate the participants' malaria knowledge and preventive activities. This was done because malaria is most common in rural areas. In addition, the majority of the participants verbalised that they had experienced malaria once in their lives, and others knew people who had died of malaria in the area. Participants who had suffered from malaria verbalised that they experienced high temperatures, headaches and shivering and were bitten mostly during the night hours. They sought medical attention within twenty-four hours when they noticed malaria symptoms, some went to the Masisi clinic, which was the nearest clinic in the village (Tshivhase et al., 2022). Furthermore, other participants had self-treated and went to traditional healers. The researchers concluded that malaria has posed a threat to rural villages in Limpopo Province, and prevention practices are still a public health challenge; thus, health education should be provided with regard to prevention measures and control of malaria (Tshivhase et al., 2022).

Makhado, Tshiovhe, Mabadzhe, Tshivhase, Ramakuela, Makhado, and Maputle (2022) conducted a study on selected villages about caregivers' knowledge of malaria in children below the age of twelve years, and the researchers indicated that Mopani and Vhembe Districts had the most people who experienced malaria, with Mopani District successfully reducing cases due to decreased weather temperatures. Furthermore, malaria-related deaths have happened in these areas, with the Limpopo member of the executive council confirming that those who had malaria were admitted to Siloam Hospital near Makhado, Donald Frazer in Vhufuli, Malamulele in Vhembe, and finally Nkhensani Hospital in Giyani. Most people who experienced malaria lived in villages located near rivers, and their children who suffered from

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malaria were observed around dumping sites, rivers and wearing short clothes in breeding sites for mosquitoes (Makhado et al., 2022).

2.7 SUMMARY OF THE CHAPTER

Several reports from different areas and regions, including Africa, Asia and America, have reported on malaria in different research studies. The literature review covered aspects of the experiences of people affected by malaria in adults and children in different regions. More research is needed to explore and describe the experiences of people diagnosed with malaria at Mhinga community in Vhembe District, Limpopo province, South Africa.

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CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

The previous chapter presented the literature review related to the experiences of people diagnosed with malaria. This chapter presents the research process used in this study. It covers the research approach, design, setting, sampling process, instrument, data collection and data analysis, measures to ensure trustworthiness and ethical considerations of the study related to the experiences of people diagnosed with malaria in a selected village of Vhembe District, Limpopo, South Africa.

3.2 Research approach

A qualitative approach entails collecting and analysing data to achieve a thorough comprehension of concepts, beliefs, and experiences (Bhandari, 2020). The qualitative method investigates real-life issues and gives us deep insights (Tenny, Janelle, Brannan, & Grace, 2022). In this study, a qualitative approach was used because it helped the researcher understand the experiences of people diagnosed with malaria in Mhinga village of Vhembe District and enabled the researcher to obtain responses from a wide range of participants, which allowed participants to be themselves and provided greater accuracy of the research. The researcher's goal was comprehension rather than predicting the feelings and experiences of the participants.

3.4 STUDY PURPOSE

The research purpose was to determine the experiences of people diagnosed with Malaria at a selected Village of Vhembe District, Limpopo Province, South Africa.

3.5 STUDY SETTING

Akanle (2023) stated that study setting referred to a certain place or area where the information would be gathered. The study was conducted at Mhinga Village, Collins Chabane Municipality, Vhembe District, Limpopo Province, South Africa with no consideration for education level, income, religion or marriage of the community members. Mhinga Village is near the Kruger National Park. Furthermore, the village is in a flat area where, during rainfall, water does not flow to rivers but becomes stagnant for a long time in the area, and that becomes a breeding site for female mosquitoes. The Mhinga Village is not well developed,

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thus, poor housing structures might allow mosquitoes to enter more easily. High unemployment in the area also led to inadequate housing and overcrowding, which could aggravate the spread of malaria in the community. Furthermore, unemployment presents financial struggles that may lead to poor diet, decreased immune system, and inability to buy bed nets. Mhinga Village has experienced high temperatures, which made discouraged people from wearing long-sleeved clothing in hot temperatures. Unfortunately, this leaves the people exposed and vulnerable to mosquito bites as the high temperatures enable mosquitoes to develop faster. Interviews were conducted in the participant's homes for them to feel comfortable .Mhinga Village was selected as the study setting because reports have shown that it had more malaria prevalence than other villages of Vhembe District.

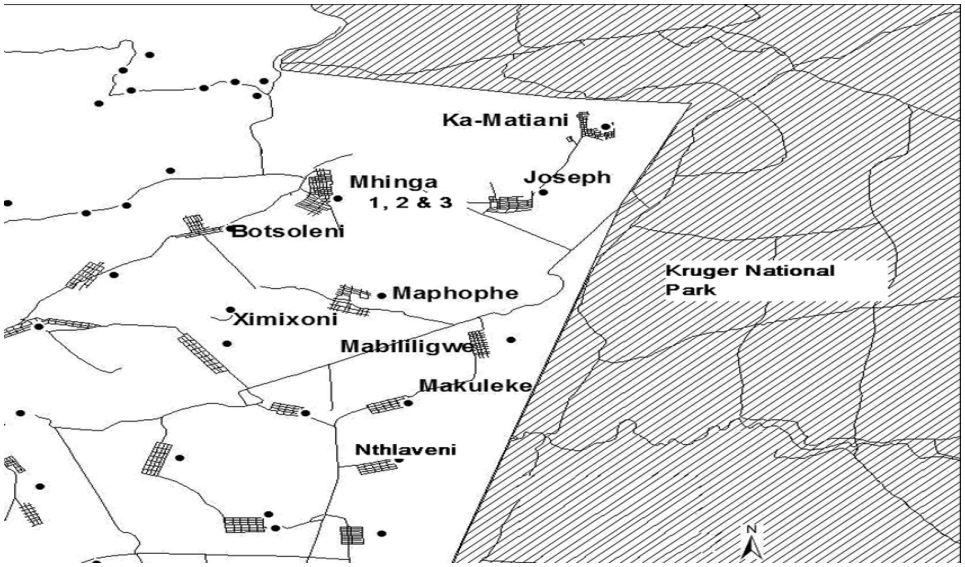


Figure 3.1 Mhinga Village Map

RESEARCH DESIGN

McCombes (2021) stated that a research design is a thorough plan and method that the researcher chooses to ensure that the research topic can be fully explored. Moreover, the research design must be implemented accurately to make sure the study is conducted correctly, producing real and useful results. This study adopted exploratory, descriptive, and contextual research designs because these helped the researcher to comprehensively investigate, collect and analyse data about the experiences of people diagnosed with Malaria at Mhinga Village.

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3.6 Descriptive design

McCombes (2020) stated that a descriptive design describes an event, a group of people, or a phenomenon. Hassan (2024) added that it aims to describe or document the characteristics, actions, views, beliefs, or perceptions of people or groups being studied. Furthermore, it is viewed as an appropriate choice when the research focuses on identifying characteristics and is convenient when little is known about the subject matter or research problem. This design was used because it allowed the researcher to obtain more information on the people diagnosed with malaria. The design was used where more information was required, and therefore it was appropriate for describing the experiences of people diagnosed with malaria at Mhinga Village. The researcher used semi-structured face-to-face individual interviews to obtain a comprehensive description of people's experiences.

3.7 Contextual design

Duda, Warburton, and Black (2020) stated that contextual design is a participant-oriented design emphasising on individuals and their needs and preferences. The researcher used this design because it assisted in understanding participants' experiences of malaria by gathering data in the area where the participants are living, interpreting and combining the data in an organised way. The researcher visited Mhinga Village several times to better understand the participants and their behaviours, collected data and analysed it, making contextual design appropriate for understanding participants and their lived experiences.

3.8 Exploratory design

Hassan (2024) stated that exploratory design is a methodology approach that investigates a study problem or topic that has not been fully or completely studied before. Furthermore, this design can be used when people know very little or nothing about a problem and can be used to find possible areas for more research. Exploratory design helped to clearly, comprehensively and thoroughly get in-depth information and further understand the experiences of people diagnosed with malaria at Mhinga Village.

3.9 STUDY POPULATION

Bhandari (2020) defined the population as a part of the target group from which the sample is chosen. The study population included people of all genders, ages between 18-90, with or without any formal education, different levels of income, different religions, married or single,

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and those who spoke Tsonga, Tshivenda and English as a common language in the community who live in Mhinga Village, Collins Chabane Municipality in Vhembe District.

3.10 TARGET POPULATION

Willie (2023) defined the target population as individuals who meet specific research criteria. In this study, the target population was adults aged 18 to 90, both male and female, who had experienced malaria in Mhinga Village, Vhembe District, Limpopo. The goal was for this group to share their malaria experiences.

3.11 SAMPLING METHOD

Frost (2022) defined sampling as the process of selecting a small group of individuals from a larger population in order to gather information about a specific phenomenon. Subedi (2021) emphasised the importance of selecting a sample that accurately represents the entire population to ensure valid results. According to Nyimbili and Nyimbili (2024), non-probability purposive sampling involves the researcher using their expertise to select a sample that is most relevant to the aims of the research. In this study, the researcher employed non-probability purposive sampling to choose participants based on specific characteristics necessary to address the research question. The researcher used purposive sampling, selecting participants by going to Mhinga clinic to get a list of diagnosed candidates, their contact details and address. The selected participants were individuals diagnosed with malaria, residing in Mhinga village, aged between 18 and 90, and capable of clearly narrating their experiences.

3.12 SAMPLING SIZE

Coursera (2023) indicated that sample size is the number of people who are part of a study. A bigger sample size makes it more likely that the results will be an accurate representation of the population, but if it's too big, it can waste time and resources that are needed. The researcher selected all participants who were found on the list of those diagnosed with malaria. However, the final number of participants was determined by data saturation. Data saturation was reached after interviewing 10 participants, and we decided to add sixteen participants to ensure data saturation was reached and different voices were noted.

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3.13 SAMPLING OF AREA

Pryszlak (2024) stated that area sampling is a method for gathering information about a specific setting, environment, or location by collecting samples from the precise locations where the phenomena occur. In this study, the sampling area was Mhinga Village, as it was the focus of investigation concerning individuals diagnosed with and affected by malaria. Conducting interviews at their homes helped participants feel more emotionally at ease when answering the interview questions.

3.14 INCLUSION CRITERIA

Connelly, and Lynne (2020) emphasised that setting selection criteria is a necessary step to guarantee high-quality research and a reliable study. Nikolopoulou (2022) said that the inclusion criteria describe the people the researcher will use to answer the question.

The inclusion criteria for the proposed study included:

a) Adults aged 18-90, both males and females, in order to include most adults who stayed at Mhinga Village in Vhembe District, Limpopo, South Africa.
b) People diagnosed with malaria or displayed malaria symptoms.
c) Participants who were able to articulate and narrate their malaria experiences.

3.15 RECRUITMENT OF PARTICIPANTS

The researcher recruited all the participants by going to Mhinga clinic to get a list of diagnosed candidates, their contact details and address. Permission to get the statistics was obtained from the province, the district, and the local clinic manager. The diagnosed candidates were called to confirm their location. The researcher approached the candidates house to house, explained to them about the research proposal, asked them to form part of the study, obtained their consent then interviewed them after they gave consent and felt ready to narrate their experience.

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3.16 PRETEST

Hu (2024) stated that pre-testing is done prior to conducting a study, and the researcher reviews the research tool and procedures. The researcher conducted a pre-test by selecting two individuals at Mhinga Village who had experienced malaria, and they were not included as part of the sample. The pre-test was conducted to test if participants might be overly sensitive to specific questions or hesitate to answer, and it helped to determine the level of communication skills that would be required. The pretest helped the researcher ensure that positive results were met and to improve interviewing skills, specifically probing skills. The researcher was able to test how well the research questions worked for gathering information and ensure that the method used to gather information was correct. The pre-test was conducted at Mhinga Village, which was the study setting of the research. The researcher communicated well with the participants, tried to read their reactions, and took notes. The pre-test was conducted to test if the interview guide questions were easy to understand. If the participants did not understand the questions, the researcher rephrased them. The pre-test assisted the researcher in evaluating interviewing skills and voice recorders for quality.

3.17 DATA COLLECTION PLAN

Bhandari (2020) stated that data collection is the process of gathering data on an interesting variable that changes over time so that the researcher can answer the research question. Taherdoost (2021) stated that collecting data helps the researcher get a good understanding of the study site. Furthermore, the main goal of any data collection project is to get good information or proof, which entails detailed data analysis that can lead to reliable and firm answers to research questions.

The ethical clearance was upheld as noted below under ethical considerations. The researcher made an appointment with the chief of Mhinga Village and requested permission to conduct the study. After meeting with the chief, the researcher notified the participants about the study information as it was indicated in Annexure F prior to signing the consent forms. Consent forms were given to individuals who were willing to be part of the study. The consent form was explained in the participants' preferred language before they signed to comply with the right to self-determination.

The data collection instrument the researcher used was semi-structured interviews with interview guide questions in Annexure H to encourage the interviewees to elaborate and provide in-depth information regarding their experiences of malaria. The interview guide focused on the experiences of people who were diagnosed with malaria at Mhinga Village in

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Vhembe District, Limpopo. Other questions were formed based on what the researcher perceived or observed during the interview, where the researcher probed and obtained comprehensive information. The researcher did not ask questions in sequence, as probing was done to get comprehensive information. The researcher took about 15 to 30 minutes with each participant. Materials used during the interviews included voice recordings with participants' permission and paper and pen for writing notes. The researcher interviewed a total of 26 participants. Data saturation was reached after interviewing 10 participants, then decided to add sixteen participants to ensure in-depth information and data authenticity. Data collection took place in the comfort of participants' homes in Mhinga Village, Limpopo, South Africa. Interviews were conducted in Tsonga, Tshivenda, and English as preferred by the participant. A language expert helped the researcher translate to English. Data collection occurred from July to October 2024. Participants were reminded of their right to terminate the interview at any time if they did not want to continue to protect their right to self-determination.

3.18 PLAN FOR DATA MANAGEMENT AND ANALYSIS

Hassan (2024) stated that the plan for data management and analysis spells out what the researcher will do with the data they have gathered and how they will analyse it to find meaning. The researcher listened to the audio recordings and transcribed the recorded interviews, which involved the translation from Tsonga or Tshivenda to English in written words by a language expert. After transcribing, the researcher repeatedly read each transcription to familiarise themselves with the collected data, simultaneously sorting similar and different ideas into themes. Data analysis was guided by Brick et al. (2018) steps. Firstly, the researcher analysed the data using a "hands-on" process which involved gathering a lot of text-based data and spending time thinking about what the data might mean and how it might be related to other data. The researcher went through the transcripts several times to understand what the participants said. Secondly, while the researcher was sorting the data, codes were used, which were groups of letters, numbers, symbols, and words or sentences. Collected data were classified into themes and subthemes using the actual words from the participants. Five themes emerged, with subthemes developed on each theme. The interpretation of data was based on the researcher's understanding of the experiences of those diagnosed. Lastly, an explanatory code was used to explain the possible meanings. The codes developed and changed as the researcher gained more understanding of the meaning of the data. Electronic data was kept under lock and key with a laptop encrypted with a password, where only the researcher could access it to reduce the risk of unauthorised use of data.

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3.19 MEASURES TO ENSURE TRUSTWORTHINESS

Ahmed (2024) stated that trustworthiness provides a way to guarantee the correctness of results and the quality of data. The researcher used multiple strategies to ensure the authenticity and credibility of the study and followed the four criteria to ensure trustworthiness, which included the following:

3.19.1 CREDIBILITY

Ahmed (2024) stated that credibility is the state of being accepted or trusted. The researcher ensured credibility by using the following techniques:

3.19.1.1 Prolonged engagement

The researcher stayed in the field until there was no more information to gather and got a comprehensive understanding of people's experiences of malaria. This created trust and unity between the researcher and participants. The researcher was with participants for two weeks in order to get to know the unique features of the participants, which included their perceptions, views and experiences.

3.19.1.2 Persistent observation

The researcher figured out what parts of the study were most important so that they could be studied in more depth. This ensured credibility as persistent observation provided a deep understanding of important factors.

3.19.1.3 Triangulation

The researcher answered diverse inquiries, looked for different sources and utilised various strategies to ensure reliability. Data about the experiences of people who experienced malaria was collected from various people who experienced it. The researcher used semi-structured interviews, an audio recorder and field notes at the same time to increase credibility.

3.19.1.4 Peer debriefing

The researcher authorised a qualified peer and experienced researcher to analyse and assess the study's transcripts and findings to strengthen the validity of the research. The researcher

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looked for the opinions of peers outside the study who were experienced or were experts in the phenomenon being studied to improve the quality of the research as well as to look for mistakes and biases.

3.19.1.5 Member checks

This is a technique the researcher used in order to investigate the veracity of results. The researcher returned with results to participants to check for accuracy with their experiences, correct errors, add information and for adequacy to be confirmed. Moreover, the researcher played the audio recorder after the interview to determine if what was transcribed is what was said by the participant to ensure the accuracy of the data.

3.19.2 DEPENDABILITY

This criterion ensures that the study results can be reliably reproduced (Kakar, Rasheed, Akhter, 2023). The researcher used this criterion to make sure that if other experts looked at the data, they would come to the same conclusions and ideas, as it was important to ensure that there was nothing omitted in the study. There are two techniques the researcher used to ensure dependability:

3.19.2.1 Stepwise replications

The researcher gave the data to two study teams to work on separately. Then, the results were compared to make sure the data was reliable.

3.19.2.2 Inquiry audits

This is the stage in which a researcher, not engaged in data collection or analysis, examines the methods of data collection, the analytical processes employed, and the outcomes pertaining to the research question (Broussard, 2023). That is how the researcher made sure that the results were correct and that they were backed up by data collection and made sense on their own.

3.19.3. CONFIRMABILITY

Conformability has to do with how well data fits together in terms of truth and usefulness. (Ahmed, 2024). This criterion focuses on how to ensure the study results match the information the participants gave and that the explanations are not based on the researcher's own ideas. The researcher ensured that the findings revealed the voice of the participants,

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and not the researcher's views, to ensure the truthfulness of the results. To enhance the confirmability of research findings, the researcher used inquiry audit and triangulation.

3.19.4 TRANSFERABILITY

This is the capacity of research findings to be relevant for various settings and studies (Broussard, 2023). The researcher used this criterion to ensure that the study results could be applicable to similar settings or individuals. This also helps those who wish to apply it in other contexts. The researcher used the following strategies to improve transferability:

3.19.4.1 Thick descriptions

The researcher's detailed description of the data and application of the findings to a larger body of knowledge were crucial. In this manner, other researchers can determine whether the findings were transferable or helpful in different contexts.

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3.19.4.2 Purposive sampling

The researcher carefully selected participants who were sufficiently knowledgeable about the issue under study. The data became richer as a result of being able to obtain more detailed information about the context. The researcher was also able to evaluate how pertinent findings are found in many contexts.

3.19.4.3 Data saturation

At this stage, either no new information is discovered during data processing or no additional information is provided by the remaining participants (Hennink et al, 2022). The sample was thought to be good because it yielded enough information to draw the appropriate conclusions. This ensured transferability because the data was thought to be rich and thick, and it let the researcher figure out how those results applied to other situations.

3.20 ETHICAL CONSIDERATION

In order to ensure quality assurance, the researcher presented the proposal to the Department of Advanced Nursing Sciences for evaluation, then the proposal was forwarded to the Faculty of Health Sciences Higher Degrees Committee for approval and quality assurance. The proposal was then forwarded to the University of Venda Higher Degrees Committee for approval. The ethical approval was obtained from the University of Venda Ethics Committee

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with clearance no: FHS/24/PDC/01/0404. The Limpopo Department of Health approved. The Vhembe District Department of Health issued a permission letter. The Chief of Mhinga Village and relevant stakeholders in the community granted permission to conduct the study. Participants subsequently provided consent, and ethical principles were upheld throughout the community participation process.

This was very important to protect the participants' rights because the benefits of the study should be greater than its risks to keep the participants safe. The researcher did the study in a kind and moral way that respected the participants' rights. Unethical studies yield invalid, unfair, unreliable, and incorrect results. The researcher applied the following three fundamental principles to protect participants' rights:

3.20.1 Principle of respect for persons

To protect the participants' right to self-determination, the researcher let the participants know they were allowed to quit the study at any time without fear of being punished, kept information from them secured, and answered any questions about the goal of the study. People who were going to be part of the study were asked for consent before starting the study, since they had the choice to be a part of it or not.

3.20.2 Principle of beneficence

In order to keep the participants safe from danger and pain, the researcher made sure that their physical, mental, and emotional health were all taken care of. While participants discussed their experiences with malaria, which could cause emotional disruption, they were closely observed for indications of discomfort. When participants were experiencing distress, the researcher provided them with an opportunity to voice their grievances or ask questions, if needed, and referred them to counselling.

3.20.3 Principle of justice

To demonstrate fairness, the researcher thoughtfully chose participants for reasons connected to the research problem, treated them with respect, and honoured any agreements reached with them. In order to honour the participants' right to privacy and confidentiality, no concealed cameras or microphones were used, and information was only shared with their agreement. Moreover, in order to maintain confidentiality, participants were permitted to choose the level of disclosure of their personal information, and their names were concealed. By storing all data in a safe place, the researcher made sure no one could relate it to the participants.

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3.20.4 Informed consent

In order to safeguard human rights, the researcher obtained informed consent. Everyone had an opportunity to ask questions. Participants were offered the chance to freely provide written informed permission, as shown in Annexure G, after all questions had been answered and clarification had been provided, to participate in the research. To make sure the participants understood the consent form before signing it, the researcher explained everything verbally in the language the individuals preferred.

3.21. PLANS FOR DISSEMINATION AND IMPLEMENTATION OF RESULTS

Upon completion of the study, the researcher will circulate a copy of the results to the Mhinga village and the Department of Health. Electronic dissertations will be uploaded to the University of Venda repository to enable other researchers to access the information. Findings will be published as articles in an accredited journal and are under review.

3.22 Summary of the chapter

This chapter discussed the methodology of the study, whereby a qualitative approach was used to understand the experiences of those affected by malaria using the exploratory, descriptive, and contextual research designs at Mhinga Village. People who were interviewed were between the ages of 18-90 of all genders using non-probability purposive sampling. They were interviewed with semi-structured interviews at their homes after obtaining consent, using mostly Tsonga as the most common language in the Village until data saturation was reached. After data analysis, reliability, and ethical considerations were followed.

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SECTION C: PAPERS/ARTICLES

CHAPTER 4

ARTICLE NO1

INTRODUCTION

In this section, the researcher inserted the article that covered the objectives which explored the experiences of people diagnosed with malaria regarding signs and symptoms at Mhinga Village of Vhembe District Limpopo Province, South Africa.

EXPERIENCES OF PEOPLE DIAGNOSED WITH MALARIA REGARDING SIGNS AND SYMPTOMS AT A SELECTED VILLAGE OF VHEMBE DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA

Submitted to Journal as:

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(Curationis) (Under Review)

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ABSTRACT

Background: There are extreme cases of Malaria worldwide, regionally, provincially, and in Vhembe District. Malaria is a serious health issue despite current efforts and several advancements to control vectors and prevent bites to minimize its burden.

Objectives: The study objective was to explore the experiences of people diagnosed with malaria regarding signs and symptoms at Mhinga Village of Vhembe District Limpopo province, South Africa.

Methods: A qualitative method, exploratory, descriptive and contextual design was used to get an in-depth understanding of the phenomenon. Audio recordings of semi-structured interviews using an interview guide focused on the experiences of people who were diagnosed of malaria regarding signs and symptoms at Mhinga Village in Vhembe District, Limpopo,

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participants were purposely sampled. Qualitative thematic analysis was conducted using codes, and trustworthiness and ethical considerations were obeyed.

Result: Two sub-themes emerged: experiences with signs and symptoms and circumstances prompting immediate consultation. Different signs and symptoms were experienced based on systems.

Conclusion: The study has concluded that the participants had experienced symptoms of malaria and certain circumstances were present which prompted participants to consult immediately.

Contribution: The study adds knowledge about malaria prevention to the participants, reducing its spread and relieving the Department of Health from enormous admissions

Keywords: Diagnosed, experiences, malaria, people, village

Introduction

Malaria is an illness caused by Anopheles female mosquito bite and it was indicated that it can cause mortality in humans, especially children below the age of five years (Varo, Chaccour, and Bassat, 2020). Malaria has affected many tropical and subtropical countries even after adequate actions and treatment (Zerdo, Van Geertruyden, Massebo, Biresaw, Shewangizawu, Tunje, Chisha, Yohanes, Bastiaens, Anthierens, 2020). Varo et. al (2020) indicated that people diagnosed with malaria experienced fever and high temperatures and that it was difficult to diagnose as symptoms are non-specific and measures should be taken to reduce malaria risks such as indoor residual spraying and insecticidal nets. Khan, Qureshi, Bae, Khattak, Anwar, and Ahmad (2023) indicated that in Pakistan malaria is due to agricultural actions as it was reported to be susceptible to climate change which has instigated the experiences of high temperatures, sweating, shivering, vomiting and headaches by mostly adult males over the age of fifteen who are residents of the country specifically in the rural areas. In Bangladesh, Tasnim and Islam (2022) reported a male who had experienced complicated malaria seven days after traveling and had experienced symptoms of high temperature, body aches, headaches, high-coloured urine, severe chills, and profuse sweating for three days. Guo (2021) noted that some countries less prone to malaria such as Germany have also been affected by malaria where people were diagnosed with Falciparum Malaria in 2021.

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Rationale of the study

Gwarinda and Tessema (2021) conducted research about parasite genetic diversity reflecting continued residual malaria transmission in Vhembe District, a hotspot in the Limpopo Province of South Africa. They found that Vhembe District remained a parasite transmission hotspot. Munzhedzi et al. (2021) researched community knowledge, attitudes, and practices towards Malaria in Ha-Lambani, Limpopo province, South Africa. They found that the knowledge of malaria prevention has been limited and there's been inadequate distribution of bed nets. There has been a gap in literature on the experiences of people diagnosed with malaria in villages of Vhembe District and malaria has been causing deaths. If people became knowledgeable about malaria signs and symptoms, they would take preventative measures and seek medical help immediately and that could reduce mortality and morbidity rates. The proposed study objective was to explore experiences of people diagnosed with malaria regarding signs and symptoms in Mhinga Village of Vhembe District.

Problem Statement

When one is diagnosed with malaria, treatment is provided in a hospital with prescription drugs to kill the parasite depending on the type of parasite, severity of symptoms, and age. However, the Mhinga community has people diagnosed with malaria infection and death occurred with 105 cases from January to June 2023 according to the Vhembe District epidemiology office. This was more than in other villages which indicated that malaria at Mhinga has been a problem because many people were still being infected, and a significant number died. Vhembe District hospital statistics indicated that most people still experienced and were being diagnosed with malaria even after several preventative measures such as indoor residual spraying, medical advancements and awareness programs had been implemented. Mhinga Village is a flat area and when it rains water becomes stagnant for a long time and female mosquitoes lay eggs in it and multiply. This has been a problem as people are still being diagnosed and experiencing malaria at Mhinga Village even after prevention measures had been implemented. This has put a financial burden on the villagers and hospital systems. Unfortunately, many community members have lost their loved ones and experienced psychological problems. Children have lost parents from the disease which may lead to financial struggles and a possible increase in the crime rate. The sustainable development goals are actions to transform the world for people to prosper and enjoy peace. This research study calls attention to number 3 of the 17 sustainable development goals and the agenda 2063 which aims for good health and well-nourished citizens as well as promoting health which is number 8 of the National Development Plan 2030. Therefore, the proposed study sought to

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explore the experiences of people diagnosed with malaria regarding signs and symptoms at Mhinga Village of Vhembe District, Limpopo Province.

Research Methods and Design

A qualitative, exploratory, descriptive, and contextual research design was used. This approach helped the researcher understand the experiences of people diagnosed with malaria in Mhinga village of Vhembe District. This has enabled the researcher to obtain responses from a wide range of participants, which allowed participants to describe their lived experiences and provided greater accuracy to the study.

Setting

The study was conducted at Mhinga Village, Collins Chabane Municipality, Vhembe District, Limpopo Province, South Africa. Mhinga Village is near the Kruger National Park and mosquitoes breed more in bushy areas. Furthermore, the village is situated on a level terrain, and during rainy seasons water does not flow to rivers instead it becomes stagnant for a long period, creating an ideal environment for female mosquitoes to breed. Mhinga Village has experienced high temperatures which enable the mosquitoes to develop faster and thus more people are susceptible to mosquito bites. Mhinga Village was selected as the study setting because reports have shown it had more malaria prevalence than other villages of Vhembe Districts.

Population

The study population consisted of individuals residing in Mhinga Village, Collins Chabane Municipality, in the Vhembe District. This included adults diagnosed with malaria aged 18 to 90 years of all genders, regardless of their educational background, income level, religion, or marital status. The participants also spoke Tsonga, Tshivenda and English, which are the common languages in the community.

Sampling of area

The sampling area was Mhinga Village which was selected purposively as it is the area with a high malaria prevalence. Conducting interviews at their homes helped participants feel comfortable and more emotionally at ease when answering the interview questions.

Sampling of participants

The researcher used purposive sampling selecting participants by going to Mhinga clinic to get a list of diagnosed candidates, their contact details and address. The selected participants

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were those who were diagnosed with malaria above the age of 18 years, both males and females who reside at Mhinga village because they were the target population and appropriate people to answer the interview questions.

Sample size

The sample size was determined by the data saturation, which occurred after reaching 10 participants. The researcher then added 16 more participants for in-depth rich data bringing the total to 26 participants for enhanced authenticity.

Data collection

A semi-structured individual face-to-face interview with interview guide questions was used to collect data from July to October 2024. The researcher encouraged the interviewees to elaborate and provide in-depth information regarding their experiences of malaria with signs and symptoms. Other questions were formed based on what the researcher perceived or observed during the interviews where the researcher probed and obtained comprehensive information. Interviews were conducted in Tsonga, Tshivenda, and English as preferred by the participant. The researcher took about 15 to 30 minutes with each participant. Data was collected during the day on weekends which covered those working on weekdays. Participants were reminded of their right to terminate the interview at any time if they wanted to, protecting their right to self-determination. Audio recording was used after obtaining permission from the participants. Audio recordings were transcribed into English each day by a language expert. Data saturation was reached after interviewing 10 participants then the researcher decided to add 16 participants to get in-depth information.

Data management and analysis

Hassan (2024) stated that the plan for data management and analysis spells out what the researcher will do with the data they have gathered, and how they will analyse and understand it to find meaning. The researcher listened to the voice recordings and transcribed the recorded interview which involved the translation from the audio recorder into English by a language expert. After transcribing, the researcher read through each transcription to familiarize with the collected data, simultaneously sorting similar and different ideas together. Data analysis was guided by Brick et al. (2018) steps. Firstly, the researcher analysed the data using a “hands-on” process which involved gathering a lot of text-based data and thinking about what the data might mean and how it might be related to other data. At this stage, the researcher repeatedly read through the transcripts to understand what the participants were saying. Secondly, the researcher sorted the data using codes which were groups of letters,

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numbers, symbols, and words or sentences. The collected data were classified into themes and subthemes using the actual words from the participants. Five themes emerged with sub-themes developed on each theme. The interpretation of data was based on the researcher's understanding about the experiences of those diagnosed. Lastly, an explanatory code was used to explain the possible meanings. The codes developed and changed as the researcher gained more understanding of the meaning of the data. Electronic data was kept under lock and key with a laptop encrypted with a password where only the researcher could access it to reduce the risk of unauthorized use of data.

Measure to ensure Trustworthiness

According to Ahmed (2024), credibility was ensured by the researcher being in the field with participants for two weeks in order to get to know the unique features of the participants which included their perceptions, views, and experiences. The researcher used semi-structured interviews, an audio recorder, and field notes to increase credibility. To ensure reliability, the recordings and documentation were preserved so that the study could be conducted again with individuals in a comparable setting. Conformability was ensured by thoroughly listening to audio recordings in order to confirm interpretations, conclusions, and suggestions. Transferability was ensured by giving a detailed description, which involves the setting, participants, and methods used to collect data for other researchers to come up with similar findings and conclusions. This way, other researchers could decide if the results were useful in other situations or if they were transferable.

Ethical considerations

The researcher ensured quality assurance by presenting the proposal to the Department of Advanced Nursing Sciences and the Faculty of Health Sciences Higher Degrees Committee for approval. Ethical approval was obtained from the University of Venda Ethics Committee (clearance no: FHS/24/PDC/01/0404), and the Limpopo Department of Health also granted permission. Additionally, the Chief of Mhinga Village and community stakeholders gave permission. Informed consent was used to protect human rights, respecting traditional practices. Participants were allowed to choose how much sensitive information to share, and their identities were kept anonymous to ensure confidentiality.

Results

Demographic characteristics of participants are presented in Table 1. A total of 26 participants were identified and interviewed about their experiences when they got sick of malaria at Mhinga village of Vhembe District, Limpopo Province.

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Table 1. Demographic summary

Demographic variable	**Category**	**Total number**
Gender **Total**	Male Female	15 11 =26
Number of episodes of malaria **Total**	Once Twice	19 7 =26
Age group Total	20-29 30-39 40-49 50-59 60-69 70-79 80-89	4 5 12 1 2 1 1 **=26**
Year of diagnose and experience 	2024 2023 2022 2021	3 14 7 2 **=26**
Marital status **Total**	Single Married Widowed	12 10 4 **=26**

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Employment status	Employed	10
	Unemployed	11
	Retired	3
	Student	2
Total		**=26**

The study findings revealed the experiences of people who experienced malaria in Mhinga village. Following the data collected by the researcher four themes emerged during the interview: experiences with signs and symptoms and circumstances prompting immediate consultation. These themes are presented with direct quotes from the participants alongside sub-themes.

THEME 1: Experiences with signs and symptoms

Theme 1 emerged from data indicating participants verbalising their experiences in the form of signs and symptoms which affected their overall well-being and quality of life. Seven sub-themes were identified that fall under different types of body systems namely: central nervous system, gastrointestinal system, autonomic nervous system, central and peripheral nervous system, musculoskeletal system and reproductive system (Table 2). Each theme was discussed separately under experiences with signs and symptoms.

Table 2: Theme and sub-themes

Theme 1

Emerged themes	***Sub-themes***	***Categories***
Theme 1: Experiences with signs and symptoms	*Central nervous system*	➢ *Constant headache and dizziness* ➢ *Confusion* ➢ *General body pain* ➢ *Pins and needle sensation*

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		➢ *Joint pain* ➢ *Thirst*
	Gastrointestinal system	➢ *Nausea and vomiting* ➢ *Abdominal pain* ➢ *Food intolerance* ➢ *Taste impairment* ➢ *Diarrhoea*
	Immune system	➢ *Fever and chills* ➢ *Shivering*
	Autonomic nervous system	➢ *Sweating*
	Central and peripheral nervous system	➢ *Inability to sleep*
	Musculoskeletal system	➢ *Fatigue*
	Reproductive system	➢ *Low libido*

Sub-theme 1.1: *Central nervous system*

The study findings revealed that certain symptoms affected the central nervous system including constant headache, dizziness, confusion, general body pain, pins and needle sensation, joint pain, and thirst. Constant headache and dizziness were revealed as one of the first experienced symptoms on the first day of being diagnosed with malaria. The participants took medication from nearby spaza shops and those available in the house to cope with the headache. The participants further indicated that they would feel better for a short space of time.

"I decided to go to the spaza shop and get some painkillers which I took and it helped me to feel better and the headache would stop for a few hours". (Participant 1).

"I first had a sharp headache which felt like my head is spinning when I woke up in the morning". (Participant 3).

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They described the confusion to be exacerbated by physical touch, extreme pain, both symptoms happening at once, and not knowing what was happening. The general body pain was described as extremely worsened by physical touch which raised fears of the unknown.

"I would feel confused especially when someone touches my body, and would feel as if I am crazy at times because it was too painful and cannot explain what was happening inside my head". (Participant 2)

"My body was too painful especially when I touch each part of the body, I would not even know where the pain is exactly ". (Participant 3)

The symptoms of pins and needle sensation were reported to be present to a few participants and were expressed as uncomfortable tingling or prickling from and to the legs worsened by body pains and occurring throughout the day. The study findings revealed that the participants drank a lot of water during the time of infection.

"My legs felt like there was something as if they were freezing, like something was moving around my legs to the top".(Participant 17)

"We were always asking for water, we drank a lot of it on the road". (Participant 17)

Sub-theme 2: Gastrointestinal system

Symptoms affecting the gastrointestinal system were nausea and vomiting, abdominal pain, food intolerance, taste impairment, and diarrhoea. Nausea and vomiting were repeatedly mentioned by most participants, and it was revealed to occur on the first few days of the infection. The findings have shown that this symptom had caused food intolerance as vomiting was constant with each food intake. Abdominal pains were expressed to be triggered after eating food and were indescribable according to participants due to multiple symptoms occurring at once as indicated by the following:

"Vomiting at times and nausea prevented me from eating food". (Participant no 2)

"I did not like eating, when I ate food, it felt tasteless honestly". (Participant 20)

"I had abdominal pains especially when I ate food". (Participant 10)

"Yes, when I was sick of malaria, I had a running stomach and would drink water and mageu to manage". (Participant 23)

Subtheme 3: Immune System

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The immune system as a subtheme emerged from the participants' responses which revealed that fever and chills were some of the most experienced symptoms on the first few days of being unwell.

"My body felt hot on touch, and I was feeling cold. Around 15h00, I would put on a lot of blankets to help with the cold for three days until I decided to visit the clinic". (Participant 2)

Shivering was described to occur with chills, headache, and dizziness and it was expressed to be worsened by being in a shadowed area.

"I was feeling cold, shivering. It happened the first day, I was shivering staying under the sun". (Participant 20)

Subtheme 4: Autonomic Nervous System

Participants mentioned that sweating had occurred together with fever and chills. The findings revealed that this symptom took place in the morning and night and would be triggered by feeling hot and using blankets at night.

"I felt weak when I slept, I was very sweaty, like someone poured water on me, and my blanket would be very wet". (Participant 24)

Subtheme 5: Central and Peripheral Nervous System

The study findings have shown that the inability to sleep had occurred during the night and was worsened by body pain as evidenced by the following quotations:

"It was not easy to sleep at night due to body pains, but during the day I would sleep a bit but the body was too painful". (Participant 2)

Subtheme 6: Musculoskeletal System

The study findings revealed that most participants experienced fatigue. Struggles with movement from the bed, taking care of oneself, daily chores, and walking short distances were expressed to occur throughout the time of sickness by participants.

"I even collapsed at home after walking a few steps, feeling very tired, I was not able to do anything even to walk was difficult, to bath and eat, it was as if I was drugged when walking. I

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would sleep at the bed the whole five days till the day I collapsed, I really thought I was about to die, I thank God I didn't die." (Participant 10)

"I was weak, my friends and daughter were helping me to make food, clean, and wash dishes". (Participant 24)"

Subtheme 7: Reproductive System

This sub-theme emerged when a participant indicated to have experienced low libido during the period of sickness. The participant had expressed experiencing decreased sexual desire. The participant had reported that this symptom was aggravated by body weakness.

"I was having low interest in sex, or anything intimate". (Participant 21)

Theme 2

Emerged themes	**Sub-themes**
Theme 2: Circumstances prompting immediate consultation	Previous education
	Previous experience
	Family diagnosis
	Family motivation

Theme 2: Circumstances Prompting Immediate Consult

The study findings revealed that certain situations and events led participants to avoid procrastination and consult immediately. The participants reported that the delay in consultation was mainly due to laziness, lack of money, and belief in natural remedies. However, not all participants delayed consultation. Certain factors made participants seek treatment which revealed the four subthemes namely: previous education, previous experience, family diagnosis, and family motivation.

Sub-Theme 1: Experience Impacted by Health Information

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The study found that some of the participants sought medical advice within six hours of experiencing symptoms, influenced by Dr. Phophi Ramathuba, the MEC who educated the public during her visits to health facilities.

"I first had a sharp headache which felt like my head was spinning when I woke up in the morning, the headache was accompanied by dizziness, it happened from 7am to 13h00 until I decided to go to the clinic the same day because I knew that this must be a sign of malaria as I had traveled from Mozambique the previous three days before the onset of symptoms and I knew the malaria symptoms and its causes considering that Mozambique is also a malaria area". (Participant 3).

Sub-Theme 2: Previous Experience

This subtheme emerged from participants who revealed to have experienced malaria more than once. These participants expressed that symptoms were the same in both episodes which motivated them to seek help immediately to avoid complications.

"We were infected twice". (Participant 17)

"It was around 2019 the first time when I went to the clinic, then they didn't give me anything they said the pills were out of stock" (Participant 25).

Sub-theme 3: Family Diagnosis

The study findings revealed that more than one family member was infected simultaneously. It was expressed that seeking immediate consultation was due to the illness of the young ones with the same symptoms as the parent, forcing the parent to visit the clinic and get tested too.

"I told them how I was feeling and asked them to check me for malaria because my kid was diagnosed positive the same week." (Participant 10)

"Eish umm, when I went to the clinic, it was because my son was not well, I was also sick, so I decided to get checked too since my body was unwell, I followed my son where they were testing him, and they asked what I was feeling, then I told them that I have been struggling to sleep".(Participant 17).

Sub-Theme 4: Family Motivation

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The participants expressed that their parents and spouses encouraged the affected participants to consult after observing the constant worsening of symptoms.

I had a headache for two days which was accompanied by dizziness, my wife advised me to go to the clinic since our children were diagnosed with malaria the same week, I decided to wait a bit until symptoms were constant, then was taken to the clinic when symptoms got worse. (Participant 5)

"It was day four or five when I woke up feeling weak, I even collapsed at home after walking a few steps, my mother checked and helped me and then told me to bath and go to the clinic." (Participant 11).

Discussions

The majority of participants reported persistent headaches and dizziness, followed by exhaustion, bodily discomfort, fever, and chills. These symptoms were clearly stated. The study found that symptoms appeared in the first few days of illness and worsened with time. Some had the same symptoms but reported minor distress. Touch aggravated the terrible anguish, causing fear of the unknown. An intense, whirling headache was described. The findings are congruent with Hijazi (2022:81), who reported headache, dizziness, and weariness. These symptoms would occur simultaneously and worsen with movement. Participants visited spaza shops to get painkillers to reduce symptoms. Other studies in Uganda's Batwa in Kanungu District found that the first participant suffered from headache, body discomfort, fever, and chills and bought drugs from neighbouring drug stores but did not feel better (Namanya et al., 2023). The WHO (2023) reports that weakness, body pains, fever, and chills begin a few days after the bite and might be severe or mild. Cytokines that induce acute malaria headaches may also cause these symptoms. Most individuals with previous experiences recognized malaria symptoms from earlier experience. Participants reported sleeping all day due to body pain and fatigue, walking short distances was difficult, and staying in the sun to stay warm helped them cope with fever and chills. Namanya et al. (2023) found that the sixth Batwa participant in their survey had experienced excessive temperatures; some reported that shadows increased fever and induced shaking, so they wanted to sit by a fireplace or in the sun. Bria, Yeh, and Bedingfield (2021) reported that Indonesians diagnose malaria with fever and shivering. Most participants said these problems impacted their daily lives and required help from parents, spouses, children, and friends. Initially, participants identified symptoms as coronavirus and influenza. Khew, Akbar, and Mohd-Assaad (2023) showed that malaria and influenza symptoms are identical, making it difficult to differentiate between COVID-19 and malaria. According to Wilairatana, Mala, Kotepui, and Kotepui (2022),

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influenza and malaria are co-endemic in many places and are difficult to identify based on clinical criteria. Two individuals acquired malaria in Mozambique after traveling abroad. According to Namanya et al. (2023) the 28-year-old Nigerian student had malaria five days after arriving in the United Kingdom. A study by Harp et al. (2021), stated that malaria is endemic in Mozambique, putting the entire population at risk. Blankets used to treat fever and chills caused nighttime and morning sweats. Sweating has been linked to moving from shaded to sunny places. Center one medical (2023) states that fever is a typical defense mechanism reaction to the disease. Participants had trouble eating and feeling full because shivering caused them to lose their appetite. Namanya et al. (2023) found that the second participant had a decreased appetite, preventing them from eating their food. Many individuals avoided eating due to nausea and vomiting. This symptom persisted with every meal, regardless of quantity. A twenty-eight-year-old woman with nausea and vomiting after eating was diagnosed with post-infectious cerebellitis related to plasmodium falciparum malaria by Hijazi (2022:81).

Phophi Ramathuba who was the MEC (executive council) at the time was found to be the source of education on malaria when she used to visit health care facilities. The education had included malaria causes and transmission cycle. Ribeiro, Havik and Craveiro (2021) has indicated that knowledge and experiences of symptoms trigger healthcare-seeking behaviours which is presumably the reason the community members consulted immediately before symptoms worsened. The study findings revealed that more than one family member was infected at the same time. It was expressed that parents and spouses had encouraged the affected participants to consult after observing the constant worsening of symptoms. Samari, Teh, Roystonn, Devi, Cetty, Shahwan and Subramaniam (2022) indicated that people who are struggling and unwell, and who share their challenges with family and friends, were more likely to get motivated to seek treatment.

Strength and limitations

The findings of the study are important for raising awareness of the signs and symptoms of people experiencing malaria in Mhinga village of Vhembe District, Limpopo Province. The study was limited to one village in Vhembe District, Limpopo province. Only people from the ages of 18-90 years were interviewed in this study, while the studies reveal that children are also experiencing malaria. The scope of the study was to determine the experiences of people diagnosed with malaria, the sampling method caused difficulty as the information of patients was incomplete, wrong, and missing. Other participants could not be located telephonically. This problem could have influenced the findings in some way.

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Recommendations

The department needs to also provide bed nets as the Mhinga community has people mostly living in poverty, additionally, some live in very small RDP houses. As a result, the people live in large numbers thus education on the impact of overcrowding in households should also be considered. There is a need for waste removal at Mhinga village to reduce breeding sites. Further research is necessary on investigating the experiences of children below 18 years of age diagnosed with malaria in selected villages.

Conclusion

The burden of malaria is high in South Africa and has caused infections and deaths, especially in areas where temperatures are high. The study findings showed that participants had experienced different signs and symptoms of malaria based on each body system. The delay in consultation was mainly due to laziness, lack of money, and belief in natural remedies. However, certain factors made participants seek treatment which include previous education, previous experience, family diagnosis, and family motivation.

Acknowledgments

The author of this study would like to acknowledge the contribution of all participants who volunteered their time. Also, gratitude is extended to the University of Venda faculty of Health Sciences colleagues who gave guidance during this paper.

Competing interests

The authors declare that no financial or personal relationships inappropriately influenced them in writing this manuscript.

Author contributions

W.K. conceptualised the study and was involved in protocol presentation, ethical approval, data collection, and analysis. T.L. and A.D.M. supervised and guided the study, evaluated the article according to the journal guidelines, and edited the final article, T.L and A.D.M assisted in drafting the article.

Funding information

No financial resources were allocated for the investigation.

Data availability

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All the data related to this manuscript are included in this manuscript. Additional information is available from the corresponding author upon request.

Disclaimer

The views and opinions in this manuscript belong to the authors and do not represent the official policy or position of any agency affiliated with the authors. The authors take responsibility for the results, findings, and content presented.

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ARTICLE NO 2

INTRODUCTION

In this section, the researcher added the article that covered the objectives that explored" **Post Discharge Experiences of People diagnosed with Malaria at a Selected Village of**

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Vhembe District, Limpopo Province, South Africa" Submitted to Journal (Health SA Gesondheid) (Under Review) (See Annexure J for Author Guidelines).

Post Discharge Experiences of People diagnosed with Malaria at a Selected Village of Vhembe District, Limpopo Province, South Africa

Submitted to Journal as:

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Abstract

Background: People in Africa have been diagnosed with malaria including those coming from other countries. Malaria is still life-threatening, and people are still being diagnosed even after preventive measures have been developed

Aim: The study purpose was to determine the post-discharge experiences of people diagnosed with malaria at Mhinga Village of Vhembe District.

Setting: The setting was at the participants' homes at Mhinga Village, Collins Chabane Municipality, Vhembe District, Limpopo.

Methods: An exploratory, descriptive, and contextual qualitative method was employed to attain a comprehensive understanding of the phenomenon. Audio recordings of semi-structured interviews, utilizing an interview guide, concentrated on the post-discharge experiences of people diagnosed with malaria in Mhinga Village, Vhembe District, Limpopo, with participants selected by purposive sampling. Qualitative theme analysis was performed utilizing codes, while adhering to trustworthiness and ethical considerations.

Results: The findings described and expressed the post discharge experiences of people diagnosed of malaria at Mhinga village, Vhembe District which included complicated

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symptoms experienced after discharge from the Mhinga clinic and the transfer to Malamulele hospital.

Conclusion: The study has concluded that the participants had experienced complicated symptoms of malaria even after obtaining treatment from the clinic and hospital.

Contribution: In addition to mitigating the spread of malaria and alleviating the Department of Health from substantial admissions, the study provides the participants with additional information regarding malaria prevention.

Keywords: Diagnosed, experiences, malaria, people, village

Introduction

Children under the age of 5, women and girls, indigenous peoples, migrants, individuals with disabilities, and those living in rural regions without access to healthcare are among the groups most at risk of contracting malaria, according to the World Health Organization (2024). A large portion of the population in the WHO African Region, which is responsible for around 95% of the fatalities, does not have access to the necessary resources to avoid, identify, and cure the disease (WHO, 2024). According to Ayanlade et al. (2022), malaria is still a big problem in South Africa and many other parts of the world. Makhado et al. (2022) noted that malaria is still a problem in the Vhembe District of Limpopo Province. Thus, it is vital to effectively assist patients in their recovery and prevent reoccurrence.

Problem Statement

Malaria remains a significant public health concern in the Vhembe District of Limpopo Province, South Africa. Despite advancements in treatment and prevention, the post-discharge experiences of individuals diagnosed with malaria in this region are not well documented. This study aimed to explore the post-discharge experiences of people diagnosed with malaria in a selected village of Vhembe District, focusing on their health outcomes, adherence to follow-up care, and the socio-economic and psychological challenges they face, understanding the experiences is crucial for developing targeted interventions to improve post-discharge care and support for malaria patients in this community.

Rationale of the study

Tshivhase et al. (2022) conducted a study on selected villages about caregiver's knowledge on malaria in children below the age of 12 years and the study indicated that Mopani and

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Vhembe District had the most people who experienced malaria. Patrick et al. (2023) investigated how household living conditions and individual behaviours are associated with malaria risk in Limpopo. It was found that housing conditions such as overcrowding pressures and poor living environments were factors of malaria exposure. There has been a gap in the post-discharge experiences of people diagnosed with malaria in villages of Vhembe District and malaria has been causing death. If people are not knowledgeable about their experiences of malaria, it may lead to increased rates of morbidity and mortality and make it difficult to implement preventative measures. The proposed study objective was to explore and describe the post-discharge experiences of people diagnosed with malaria in Mhinga Village of Vhembe District.

Contributions

The findings of the study were necessary as it may benefit the community members, considering that malaria is one of the leading causes of death, and may give them knowledge about precautions and prevention methods against the spread of malaria. This study was of importance as people became more knowledgeable about malaria prevention methods and may reduce its spread. Unique contributions include relieving the Department of Health from possible reduction of admissions. Moreover, morbidity, mortality rate, and costs for treating malaria might decrease. National guidelines concerning malaria such as mosquito avoidance and the use of antimalarial agents have been present and effective in preventing malaria, therefore policymakers might also encourage the community to continue implementing preventative measures to reduce malaria cases.

Theoretical Framework

The researcher applied the health belief model to the study using the concepts of perceived susceptibility, perceived severity, perceived benefits, perceived barriers, cues to action, and self-efficacy. A high number of people residing at Mhinga village have and are still experiencing malaria thus malaria has been considered as a perceived threat to the participants of Mhinga village. The participants perceived the high risk of being infected with malaria and thus engaged in behaviors to reduce the chances of being infected. The findings of the study revealed that participants would wear long-sleeved clothing, sleep under bed nets, close windows before dark, and use mosquito coils in order to reduce their chances of being infected. When the participants of Mhinga village perceived malaria as a significant threat, they engaged in actions to reduce its seriousness. The perceived severity in this study refers to the malaria manifestations and complications experienced. The findings of the study revealed that the manifestations experienced by the participants included diarrhoea, fever,

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abdominal pain, body pain, body weakness, constant headaches, nausea, and vomiting. The results also showed that participants who experienced aphasia, inability to walk, and extreme fatigue were diagnosed with complicated malaria and thus were more likely to take action to reduce the chances of being infected again. The advantages of taking preventative actions included the reduction of malaria infection thus bringing freedom from the disease and saving lives as malaria has been known to cause death. The findings of this study revealed that the Mhinga participants perceived the benefits of taking preventative actions as their yards were cleaned at their homes from observation by the researcher during interviews and had verbalised that they did not want to experience malaria again hence they followed the preventative measures willingly which then outweighs the barriers. The Mhinga participants perceived certain barriers when they delayed malaria treatment. The findings of the study revealed that perceived barriers to seeking early treatment included a lack of knowledge of the infection, belief to heal naturally, childcare, and employment needs. In this study, the findings revealed that participants decided to visit the clinic due to advice from parents and wives, the sickness of their children with the same symptoms, and the previous illness of a family member who had experienced similar symptoms. The findings of the study revealed that most participants are taking preventative actions against malaria even from observation at their homes during interviews while maintaining clean yards and surroundings.

Aim

The research purpose was to determine the post-discharge experiences of people diagnosed with Malaria at a selected Village of Vhembe District, Limpopo Province, South Africa.

Research Methods and Design

An exploratory, descriptive, and contextual qualitative research approach was employed to gain a comprehensive understanding of the phenomenon (Bhandari, 2020). This method allowed the researcher to investigate and articulate the post-discharge experiences of individuals diagnosed with malaria in Mhinga village. It facilitated the researcher's comprehension of the experiences of individuals diagnosed with malaria in Mhinga village, Vhembe District, and enabled the researcher to gather responses from a diverse array of participants, thereby allowing them to express themselves authentically and enhancing the accuracy of the research.

Setting

The investigation was conducted in Mhinga Village, Collins Chabane Municipality, Vhembe District, Limpopo Province, South Africa, without regard for the education level, income,

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religion, or marital status of the community members. The researcher chose the participants by visiting the Mhinga clinic to identify individuals who have been diagnosed with malaria. Obtained their consent and conducted the research in their homes to ensure that the participants felt comfortable and at ease while answering interview questions. The researcher noticed that some of the homes were situated near streams or rivers and therefore were likely to be the most susceptible to malaria. Subsequently, some of the homes were located at greater distances from water bodies. The Kruger National Park is situated close to Mhinga Village, and mosquitoes were more prevalent in forested regions.

Sampling of institutions

Pryszlak (2024) stated that area sampling is a way to get information about a setting, environment, or surroundings by collecting samples from the exact location where it appears to be taking place. The sampling area was at Mhinga Village because it was the area under investigation as a hotspot of people who had been diagnosed and experienced malaria.

Sampling of participants

Participants were selected by visiting Mhinga clinic to obtain a list of diagnosed individuals, along with their contact information and addresses. Authorization to access the statistics was secured from the province, the district, and subsequently the local clinic manager. The diagnosed individuals were contacted to verify their location. Being interviewed at their homes might make participants emotionally comfortable to answer the interview questions.

Data collection

A semi-structured face-to-face interview with interview guide questions was used from July to October 2024 to gather information. The researcher asked participants to go into more detail about their post-discharge experiences on being diagnosed with malaria. Other questions were made based on what the researcher thought or saw during the conversation, where they asked a lot of questions and got a lot of information. People who wanted to be interviewed could choose to be interviewed in English, Tsonga, or Tshivenda. Data was gathered during the day on the weekends, which included people who worked during the week. People who took part were told that they had the right to end the interview whenever they wanted to protect their right to self-determination. After getting consent from the people who took part, audio recordings were used. Every day, a language expert turned audio clips into written work in English. The researcher talked to each person for about 15 to 30 minutes. After reaching saturation interviewing 10 participants, the researcher decided to add 16 more participants to get more in-depth information.

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Data Analysis

According to Hassan (2024), the data management and analysis plan details how the researcher will analyse and interpret the data to uncover significance. The researcher listened to an audio recorder and transcribed the interview, which a language expert translated into English. The researcher reread each transcription to familiarize herself with the data and sort similar and dissimilar concepts. Brick et al. (2018) instructions guided data analysis. First, the researcher "hands-on" analyzed the data by obtaining a lot of text-based data and thinking about its meaning and relationships. The researcher read the transcript numerous times to comprehend what the participants stated. Second, the researcher employed codes—groups of letters, numbers, symbols, and words or sentences—to sort the data. Participants' words were used to classify data into themes and subthemes. Subthemes built from five themes. Researchers interpreted data based on diagnosed patients' post-discharge experiences. Finally, an explanatory code was utilized to clarify the possible meanings of these codes, which changed as the researcher learned more about the data. To prevent data misuse, the researcher's laptop was password-protected.

Measures to ensure trustworthiness

To ensure trustworthiness, the researcher stayed with participants for two weeks to learn about their thoughts, beliefs, and experiences, which ensured trustworthiness. The researcher employed interviews, a tape recorder, and field notes simultaneously for credibility. The recordings and paperwork were kept repeating the study with the same participants in a similar situation. Consistent interpretations, conclusions, and proposals were confirmed by attentively listening to audio recordings. Detailed descriptions of the environment, participants, and data collection techniques allowed transferability for other researchers to reach the same conclusions. This will allow other researchers to determine if the findings were applicable.

Ethical considerations

The study was approved by the Higher Degrees Ethics Committee. University of Venda Ethics Committee (clearance no: FHS/24/PDC/01/0404). The Limpopo Department of Health approved. The Vhembe District Department of Health issued a permission letter. The Chief of Mhinga Village or relevant stakeholders in the community granted permission to conduct the study. Participants then gave a signed consent voluntarily and ethical principles were followed during community engagement. Participants were assured that because participation was voluntary, they could withdraw from the study at any moment without being punished, protecting their right to self-determination. The researcher-maintained confidentiality by

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employing codes instead of the participants' actual names, which resulted in anonymity. This was done to ensure that the data could not be connected to the participants. All participants remained engaged till the conclusion without any withdrawals. Records were securely stored in a password-protected device, with a copy accessible exclusively to the researchers.

Results

The demographic data of participants are presented in Table 1. A total of 26 participants were identified and interviewed about their post-discharge experiences when they got sick with malaria at Mhinga village of Vhembe District, Limpopo Province. Both males and females were included and had met the inclusion criteria.

Table 1: Demographic summary

Demographic variable	**Category**	**Total number**
Spoken language	Xitsonga Tshivenda English	16 6 4
Total		=26
Number of episodes of malaria	One episode Two episodes	19 7
Total		=26
Gender	Male Female	15 11
Total		**=26**
Age group	20-29 30-39 40-49 50-59	4 5 12 1

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Total	60-69 70-79 80-89	2 1 1 **=26**
Year of experience of malaria	2024 2023 2022 2021	3 14 7 2 **=26**

Source: researcher's analysis

Table 2: Themes and Sub-themes from the findings

Emerged themes	**Sub-themes**	**Categories**
Theme 1: Post-discharge experience from Mhinga clinic	Symptoms on post-discharge from clinic	
	Immune system	➢ Fever and chills ➢ Body pain
	Gastrointestinal system	➢ Poor appetite ➢ Diarrhoea
	Central nervous system	➢ Pins and needle sensation ➢ Drowsiness ➢ Aphasia ➢ Confusion
	Central and peripheral nervous system	➢ Inability to sleep

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	Musculoskeletal system	➢ Body weakness
Theme 2: Post discharge experience from the hospital	Symptoms on post discharge from the hospital	➢ Mild body weakness
	Musculoskeletal system	

Source: researcher's analysis

Theme 1: Post discharge experience from Mhinga clinic

Participants' responses indicated that symptoms emerged at home after treatment at Mhinga clinic, similar and some differing from those experienced before treatment. Some symptoms got severe, forcing participants to drive straight to the hospital without stopping at the clinic as directed.

Symptoms on post discharge from the clinic

The study found that following clinic discharge, patients reported fever and chills, body pain, poor appetite, diarrhoea, pins and needle sensation, drowsiness, aphasia, inability to sleep, and body weakness. These symptoms are detailed below.

Sub-theme 1.1 Immune system

The study findings revealed that fever, chills, and body pains were continuously experienced even after discharge from the clinic. Participants expressed that the symptoms would disturb them from sleeping and contribute to feelings of not being well at all. Participants could not understand why the pain was still there and experienced it when they got back home. Participants indicated that they were recovering bit by bit from these symptoms until they faded off completely as evidenced by the participant quotation below:

"I was still feeling the cold and hotness during the four days of drinking pills but became fine after". (Participant 23)

"When I came back home, I felt pains, then I decided to sleep, then after some time, I woke up not feeling well at all and couldn't sleep, when I tried to sleep my body was just somehow".(Participant 15)

Sub-theme 1.2 Gastrointestinal system

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The findings have shown that poor appetite and diarrhoea was experienced before treatment and continued even after taking the pills from the clinic. Participants expressed that these symptoms were present and would force themselves to eat with the reason for taking the tablets which were instructed to be taken with food. The findings of the study revealed that a single responder experienced diarrhoea after ingestion of the tablets from the clinic. The single participant had expressed that it was triggered by nausea. This symptom was described as not severe and occurred for a day and was expressed as the feeling of a thing that could not be released by the mouth and had to be released by the back. This was reported to occur on the day of treatment. As evidenced by the quotes below:

"I was forcing myself to eat a bit because those pills needed me to take them with food." (Participant 17)

"But, after that I went to the clinic, and they gave me pills, I felt diarrhoea but not too much just one day, then my symptoms faded away, so the day I took the pills I did not vomit anything whatever that wanted to come out couldn't come out through the mouth and had to come out by the back, but it just happened on that day only". (Participant 20)

Sub-theme 1.3 Central nervous system

The findings revealed that certain symptoms experienced under this system included pins and needle sensation, drowsiness, Aphasia, and confusion. These symptoms were mentioned to have been present continuously until they faded away. These symptoms were expressed to occur at any time of the day, when sitting or sleeping and they were triggered by body pains. Aphasia was experienced by a single participant who expressed that she could not speak and there were feelings of fear of dying and could not understand what was happening to her body. It was expressed that the participant had complications while at home and was rushed to the hospital and admitted. It was reported that a single participant had experienced confusion, and it was described as a feeling of changes in the brain after completing the course of treatment.

This was evidenced by the quotations below:

"I can't explain it properly on what was happening on my legs, it was like they were not my legs the way they felt.The leg thing was still there, those symptoms faded away bit by bit until I felt my usual self, it was not easy at all. It was happening anytime, whenever I felt body pains, the feeling was there, even when I was seated, sleeping it was the same". (Participant 17)

"When I came back home, I felt drowsy and decided to sleep" (Participant 15)

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"When I arrived home from the clinic I decided to sleep when I woke up, I was still not well at all, it nearly killed me. My body was just somehow, I could not even speak, they had to hire another car to take me to the hospital in Malamulele". (Participant 15)

"After I completed treatment, I felt like there was something wrong with my head, as if malaria had changed a few things in my head". (Participant 5)

Sub-theme 1.4 Central and peripheral nervous system

It was reported that participants were unable to sleep at night even after taking treatment from the clinic. It was expressed that healing was gradual and all symptoms faded away after completion of the course of treatment. As evidenced by the comment below

"Hey hey hey, it took seven days still sleepless. (Participant 17)

Sub-theme 1.5 Musculoskeletal system

The study findings also revealed that participants who experienced fatigue before treatment continuously experienced it after treatment from the clinic. Participants expressed that the feelings of self, including strength came bit by bit until full recovery. As evidenced by the participant's quote below:

"A whole week still weak, unable to do anything". (Participant 17)

Theme 2: Post-discharge experience from the hospital

The study findings revealed that a single symptom was experienced by a single participant. The results have also shown that patients who got treatment from the hospital had fewer symptoms than those coming from the clinic.

Symptoms on post-discharge from the hospital

The study findings revealed that symptoms were still present even after discharge from the hospital. The symptoms were expressed to be less severe, and participants healed gradually.

Sub-theme: Musculoskeletal system

The study findings revealed that participants experienced mild body weakness after discharge. Participants reported that this symptom was slight and gradually improved over time. While some participants mentioned that their recovery took longer than expected. Fortunately, all of them eventually healed completely and returned to their usual selves. As evidenced by the quotes below:

"I was recovering bit by bit, felt tired". (Participant 16)

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"I went to the clinic on the seventh day, the nurses gave me pills and transferred me to Malamulele hospital where they inserted a drip, I am not sure how long I stayed there, I got discharged but was still a bit weak for three months post-discharge". (Participant 9).

"I went home, and I was fine after three days post-discharge because I was still feeling weak and was scared of what had happened to me". (Participant 11).

Discussions

Participants expressed that they continuously experienced symptoms they arrived with at the clinic. Studies have shown that malaria can be cured within about two weeks with the right treatment (WHO, 2023). Furthermore, following successful anti-malarial medication, the malaria parasites clear from the blood circulation and the treated person gets to feel better after a couple of days. Other times, symptoms may have developed while at home which were different from the ones experienced before treatment at the clinic. Centre for Disease Control and Prevention (2024) indicated that symptoms can progress due to infections and are persistent even after completion of treatment.

These symptoms included fever and chills, body pain, poor appetite, diarrhoea, pins and needle sensation, drowsiness, aphasia, inability to sleep, and body weakness. After clinic discharge, these symptoms manifested and progressively diminished till full recovery. The experience of symptoms after discharge has been explained by WHO (2023) that it takes about two weeks for malaria to be cured completely following treatment. Participants had to force themselves to eat to take the medication prescribed which is similar to Nursing Revalidation's (2024) statement that it is important to take medication correctly as instructed at the right time and dose. This explains the reason participants had to try to eat with poor appetite to take the tablets with food as instructed. The diarrhoea has been explained to have been triggered by nausea which concurs with Padkowska, Pieniążek, Arciszewska, Dobosz, Buczkowski, Mataczyńska and Paprocki (2024). Symptoms of fever, chills, body pain, weakness, and inability to sleep affected participants the same way as before they consulted but were gradually improving until complete recovery. Additional symptoms manifested on the same day following the visit included drowsiness, aphasia, and confusion. Chelsea and William (2023) indicated that drowsiness can be a sign of malaria, most probably caused by anemia due to parasites destroying the red blood cells when the infection takes place. The experienced aphasia has been indicated to be caused by malaria as a neurological complication (Trivedi & Chakravarty, 2022). This can explain the reason the participant got admitted and stayed for long in the hospital even after taking the pills from the clinic. The confusion experienced is similar to Fane (2021) who reported a case with a 38-year-old

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Moroccan male who had recently returned from Niger, where he had been effectively treated for cerebral falciparum malaria with a high parasitaemia of Plasmodium falciparum and experienced episodes of confusion throughout his hospitalization. Studies have supported the symptoms experienced after treatment from the clinic.

One participant reported experiencing one symptom following hospital release, and that symptom was described as light. Mild symptoms such as feelings of fatigue can also be experienced after treatment as it takes time for symptoms to fade away completely Health Guide (2023). Mild weakness was seen upon discharge from the hospital and was less pronounced than at the time of hospitalization. Recovery progressed gradually until full completion. Health Guide (2023) indicated that it is common for patients to feel tired and weak for several weeks following malaria treatment. Additionally, they had also indicated that the malaria treatment can also cause weakness for a few weeks.

Limitations

Some limitations have been identified in this research. The study was limited to Mhinga village of Vhembe District, Collins Chabane Municipality in Limpopo Province**.** Similar research can provide different outcomes or conclusions if it is undertaken in a different place as findings cannot be extended to other villages and clinics. The objective of the study was to assess the post-discharge experiences of individuals diagnosed with malaria; however, the sample strategy encountered challenges due to incomplete, incorrect, and absent personal information in the clinic records. Other participants could not be located and were unreachable by telephone for those reasons. This issue may have affected the results in some manner. Furthermore, a few participants were unable to share their complete experiences, as they had forgotten about them since they occurred a long time ago.

Recommendations

Most households at Mhinga village are very clean, but there were a few that the researcher visited that had unclean yards. During interviews, the participants would verbalise that they know the yard should be kept clean, but they are not practising what they have been taught. Thus, there should be a dedicated supervision team, for instance, assigned by the chief to ensure that control prevention measures in households are maintained. Recommendations for research include investigating other villages regarding the experiences of people diagnosed with malaria to gather more information that might have been missed in this study.

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Conclusions

Following the discussion, the study concludes that the Mhinga community has experienced symptoms after discharge from the clinic and Malamulele Hospital, which were articulated to improve gradually until complete recovery and included both previously experienced symptoms and some new manifestations. The study objective was met following the research question that demands the post-discharge experiences of people diagnosed with malaria at Mhinga village, in line with the interview guide that enquires about the experiences of those diagnosed with malaria. Following the emerging main themes and subthemes, the post-discharge experiences of people diagnosed with malaria at Mhinga village were investigated, and the study's research question was answered. Certain findings were consistent with earlier research conducted in various regions of the country.

Acknowledgments

The following people have been recognized for their contributions to the research: University of Venda for admission to the university, the university higher degree committee for granting the approval to undertake the study, the university ethics committee for granting the ethical clearance, Limpopo Department of Health for granting the permission to conduct the study, the Vhembe District for permission to visit the Mhinga clinic to obtain personal details of the patients for the study and participants who agreed to be part of the study. This article is partially derived from the author's thesis titled" The experiences of people diagnosed with malaria at a selected village of Vhembe District, Limpopo, South Africa" towards the degree of Masters in Nursing in the Department of Advanced Nursing Science, University of Venda, South Africa, February 2024, with supervisor, Dr T.R. Luhalima and co-supervisor Mrs A.D. Mudzweda.

Competing interests

The author stated that they were not influenced by any inappropriate personal or financial relationships while composing this manuscript.

Author's contributions

W.K. designed the study and participated in data collection, analysis, ethical approval, and protocol presentation. T.R.L. Supervised and directed the investigation, assessed and authenticated the article in accordance with journal standards, and refined the final manuscript. A.D.M. contributed to the draft of the report, as well as the proposal, the data collection, and the data analysis.

Funding Information

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No financial resources were allocated for the investigation.

Data availability

The corresponding author has access to the data sets that were generated and analyzed during the investigation, T.R.L, A.D.M, on reasonable request.

Disclaimer

The perspectives and assertions articulated in this article reflect the writers' viewpoints and results from their professional research. The article may not accurately represent the official policy or stance of any linked institution, funding body, agency, or publisher. The writers are accountable for the results, findings, and content of this publication.

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C

Section D: Summary, Study Limitations, Recommendations, and Conclusion

CHAPTER 5

5.1 INTRODUCTION

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The previous chapter discussed the study results related to the experiences of people diagnosed with malaria at Mhinga village under the emerging themes and subthemes. This chapter presents the study summary, limitations, dissemination, and recommendations related to the experiences of people diagnosed with malaria in Mhinga village. This chapter summarises, recommends, and outlines the limitations for future improvement. The dissemination of the results will also be outlined.

5.2 SUMMARY OF THE STUDY

The study was conducted in Mhinga Village, Collins Chabane Municipality, Vhembe District, Limpopo Province, South Africa. The study broadly expressed and described the experiences of people diagnosed with malaria in Mhinga village. The method of data collection was through semi-structured face-to-face individual interviews to get in-depth information. The primary data sources were adults between the ages of 18-90 years. Non-probability purposive sampling was used to sample the participants. The study used a qualitative approach to explore and describe the experiences of people diagnosed with malaria. The results of the study were consistent with the objectives. Permission to conduct the study was obtained from the University of Venda Ethics Committee (clearance no: FHS/24/PDC/01/0404), the Limpopo Department of Health, Vhembe District Department of Health, the Chief of Mhinga Village and the Mhinga clinic manager. Informed consent was obtained from the participants after they had been told about the study.

Data saturation was reached after interviewing 10 participants. However, the researcher continued to interview 16 participants to ensure authenticity and obtain different voices and in-depth information. All participants who were interviewed had met the inclusion criteria and resided in Mhinga village. Brink et al. (2018) steps were used in analysing the data. The transcribing of data was done by a language expert, and transcripts were coded by the researcher. Trustworthiness was ensured by ensuring credibility, confirmability, transferability, and dependability.

The study findings were categorised into five major themes related to the experiences of people diagnosed with malaria in Mhinga village. The experiences with regard to signs and symptoms were explained according to body systems. Circumstances prompting immediate consultation included previous education, previous experience, family diagnosis, and family motivation. Experiences concerning reaching a healthcare facility were clearly explained. The experiences with the treatment provided at the clinic and hospital showed that participants have experienced different treatments, but to some, it was similar; those with complicated malaria were transferred to Malamulele Hospital. The post-discharge experiences were clearly

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explained, and some included complicated symptoms participants encountered after receiving treatment from the clinic.

5.3 STUDY LIMITATIONS

Some limitations have been identified in this research:

- The study was limited to Mhinga village of Vhembe District, Collins Chabane Municipality in Limpopo Province. Similar research might produce different results or findings if it is conducted in a different area as findings cannot be generalised to other villages and clinics**.**
- The scope of the study was to determine the experiences of people diagnosed with malaria. The sampling method caused difficulty as the information of some patients was incomplete, wrong, and missing. Other participants could not be located and were not found by telephone due to those facts. This problem could have influenced the findings in some way.
- In addition, a few participants had forgotten about their experiences as it happened long ago and were unable to describe their full experiences.

5.4 DISSEMINATION OF RESULTS

The researcher will disseminate the study results to the stakeholders directly and indirectly involved during the research study, including:

- The Department of Health at the district and provincial levels.
- To the University of Venda library as an article for publication processes.
- Presentation to community groups as a report.
- To the Mhinga community, where the study was conducted on their experiences.

5.5 RECOMMENDATIONS

Recommendations have been proposed based on the research study results on the experiences of the Mhinga community due to malaria infection in the village.

Recommendations to the Department of Health, Vhembe District

This study proposes the following recommendations to the Department of Health:

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- The Department of Health might need to enhance strategies to reduce the prevalence of malaria at Mhinga Village, as adults and children are still being infected from the Mhinga clinic records, despite the yearly indoor residual spraying of each household and frequent household malaria testing and education.
- The government has made an enormous effort to improve access to primary health care services for the Mhinga community, but the distance is a barrier as participants did complain that the clinic was far so providing mobile clinics around villages of Mhinga with available malaria testing and treatment as participants did struggle to reach the Mhinga clinic due to inability to move or walk properly when they experienced malaria.
- The government should cater for those who are stricken by poverty by giving them preventative materials to protect themselves.
- Remind the nurses to show the community how to contact the emergency services, as there's a standby ambulance available at the clinic, as participants were struggling to reach the clinic due to tiredness and body pain.
- Malaria awareness programs should be developed to give health education regarding preventative measures of malaria to those who are outside Mhinga village.

Recommendations for the community

Recommendations for the community to include:

- The community members, especially the elderly, need to recognise malaria as a major health problem at Mhinga village, as some participants had sounded not to take malaria seriously. This could be achieved by arranging regular meetings with the community leaders to discuss the role they can play in controlling behaviours and promoting good malaria prevention.
- It came out clear that participants who experienced malaria were not able to recognise that it is malaria signs and symptoms that is probably the reason they jeopardised promptness in seeking treatment thus there should be a priority in educating the community either in community meetings, chiefs gathering, churches or by community health workers to visit households or ncommunity meetings and remind them on control measures and should be educated to visit the clinic within two days of experiencing signs and symptoms of malaria.
- Most households at Mhinga village are very clean, but a few ones the researcher visited had unclean yards during interviews. The participants would verbalise that they know the yard should be kept clean, but they are not practising what they have been

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taught. Thus, there should be a dedicated supervision team, for instance, assigned by the chief to ensure control prevention measures in households are maintained.

Recommendations for Collins Chabane Municipality

- During interviews, all participants had verbalised that they dig holes to throw away trash, then, when it gets full, they would burn it. In other sections, such as in zone 1 of Mhinga village, the community members throw trash at home, then, when it gets full, they take it to the other side of the road near a tarred road, but the wastes are not removed. There is a need for waste removal at Mhinga village to reduce breeding sites. The provision of refuse bags can help to keep trash in one place instead of throwing trash outside the household.

Recommendations for further research

Recommendations for further research include the following:

- Further research should be done into other villages so that they are not left behind without noticing their health challenges.
- Investigate the experiences of children below 18 years of age diagnosed with malaria in selected villages.
- In future research there must be a collaboration with parents or guardians to ensure that the children under the age of 5 and 12 need and concerns are represented regarding their feelings towards malaria. Ethics committee to ensure that the rights and interests of children under 5 and 12 are protected and the research should be beneficial to this population.

- Research on the experiences of children and adults diagnosed with malaria in hospitals known to admit most malaria-positive patients.
- This study used only a qualitative approach, future studies need to consider using a quantitative approach as well, this should enable the researchers to obtain information about the number of people diagnosed with malaria in villages known to have high malaria incidences by conducting in-depth interviews with purposively selected village members and focus group involving men and women.
- The malaria-related experiences mentioned by participants were limited as malaria symptoms are a lot. Therefore, the researcher would suggest that more experiences with signs and symptoms need to be investigated and evaluated.

5.6 CONCLUSION

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The objectives were to explore and describe the experiences of people diagnosed with Malaria at Mhinga Village of Vhembe District, Limpopo Province. Participants were obtained from the Mhinga Clinic malaria register. The study objective was met following the research question that demands the experiences of people diagnosed with malaria at Mhinga village, in line with the interview guide that enquires about the experiences of those diagnosed. The use of the interview guide led to the emergence of five main themes: experiences with signs and symptoms, circumstances prompting immediate consultation, experiences with reaching the healthcare facility, experiences with treatment given in the clinic and hospital, and post-discharge experience from Mhinga clinic and the hospital. Thick and rich data were obtained following the emergence of sub-themes from the main themes. Following the emerging main themes and subthemes, the experiences of people diagnosed with malaria at Mhinga village were investigated, and the study's research question was answered.

The results were obtained and categorised into main themes and subthemes to clearly describe their experiences. An interview was conducted with 26 participants who had experienced malaria in the previous years at Mhinga village. New knowledge was obtained from participants who agreed to be part of the study using transcripts from voice records and probing questions in order to get thick and rich data. The researcher maintained neutrality and avoided assumptions during conversations with the participants to prevent the influence of results. The researcher maintained active listening by nodding to encourage communication. Some of the findings were common with other studies conducted in different parts of the country.

ANNEXURE A

Ethics clearance certificate

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ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Ms W Kwinda

STUDENT NO:
18003332

PROJECT TITLE: The experiences of people diagnosed with Malaria on the selected Village of Vhembe District, Limpopo Province

ETHICAL CLEARANCE NO: FHS/24/PDC/01/0404

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr TR Luhalima	UNIVEN, Advanced Nursing Science	Supervisor
Mrs A Mudzweda	UNIVEN, Advanced Nursing Science	Co-Supervisor
Ms W Kwinda	UNIVEN, Advanced Nursing Science	Investigator – Student

Type: **Masters Research**
Risk: **Straightforward research without ethical problems (Category 1)**
Approval Period: **April 2024 – April 2025**

The Human and Clinical Trials Research Ethics Committee (HCTREC) hereby approves your project as indicated above.

General Conditions
While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following.

- The project leader (principal investigator) must report in the prescribed format to the REC:
  - Annually (or as otherwise requested) on the progress of the project, and upon completion of the project.
  - Within 48hrs in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project.
  - Annually a number of projects may be randomly selected for an external audit.
- The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the REC. Would there be deviated from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited.
- The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date; a new application must be made to the REC and new approval received before or on the expiry date.
- In the interest of ethical responsibility, the REC retains the right to:
  - Request access to any information or data at any time during the course or after completion of the project,
  - To ask further questions; Seek additional information; Require further modification or monitor the conduct of your research or the informed consent process.
  - withdraw or postpone approval if:
  - Any unethical principles or practices of the project are revealed or suspected.
  - It becomes apparent that any relevant information was withheld from the REC or that information has been false or misrepresented.
  - The required annual report and reporting of adverse events was not done timely and accurately,
  - New institutional rules, national legislation or international conventions deem it necessary.

ISSUED BY:
UNIVERSITY OF VENDA, RESEARCH ETHICS COMMITTEE
Date Considered: March 2024

Name of the HCTREC Chairperson of the Committee: Prof NS Mashau

Signature: NSMashau

UNIVERSITY OF VENDA
OFFICE OF THE DIRECTOR
RESEARCH AND INNOVATION
2024 -04- 05
Private Bag X5050
Thohoyandou 0950

University of Venda
PRIVATE BAG X5050, THOHOYANDOU, 0950, LIMPOPO PROVINCE, SOUTH AFRICA
TELEPHONE (015) 962 8504/8313 FAX (015) 962 9000
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ANNEXURE B

PERMISSION FROM LIMPOPO PROVINCE FROM THE DEPARTMENT OF HEALTH TO CONDUCT RESEARCH

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH

Ref : LP_2024-04-006
Enquires : Legodi P
Tel : 015-293 6028/6410
Email : Malesela.Legodi@dhsd.limpopo.gov.za

KWINDA WAVHUDI

CC: UNIVERSITY TO ENSURE COMPLIANCE WITH CLAUSE 2d OF THIS APPROVAL LETTER

PERMISSION TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES

Your Study Topic as indicated below;

EXPERIENCES OF PEOPLE DIAGNOSED WITH MALARIA AT A SELECTED VILLAGE OF VHEMBE DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA

1. Permission to conduct research study as per your research proposal is hereby Granted.
2. Kindly note the following:
   a. Present this letter of permission to the office of District Executive Manager a week before the study is conducted.
   b. This permission is **ONLY** for Mhinga Clinic
   c. In the course of your study, there should be no action that disrupts the routine services or incur any cost on the Department.
   d. After completion of study, it is mandatory that the findings should be submitted to the Department to serve as a resource.
   e. The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
   f. **The approval is only valid for a 1-year period.**
   g. If the proposal has been amended, a new approval should be sought from the Department of Health
   h. Kindly note that, the Department can withdraw the approval at any time.

Your cooperation will be highly appreciated.

pp **Head of Department** **Date** 5/6/2024

Private Bag X9302, Polokwane 0700
Fidel Castro Ruz House, 18 College Street, Polokwane 0700
Tel: 015 293 6000. Fax: 015 293 6211. Website: www.doh.limpopo.gov.za

The heartland of Southern Africa - *development is about people!*

ANNEXURE C: APPLICATION LETTER TO THE VHEMBE DISTRICT DEPARTMENT OF HEALTH FOR PERMISSION TO CONDUCT THE RESEARCH

P.O BOX 427

© University of Venda

Manini Tshikovha

0950

Vhembe District

Department of Health

Private bag x 5006

Thohoyandou

0950

Dear Sir/Madam

I am Kwinda Wavhudi, a postgraduate student at the University of Venda. I am writing this letter to request permission to conduct the research at Mhinga clinic to obtain information on people who were diagnosed with malaria at Mhinga village. My subject is: **The experiences of people diagnosed with malaria at a selected village of Vhembe District, Limpopo Province, South Africa.** This research will be conducted under the supervision of Dr Luhalima and Mudzweda A.

Objectives of the study are:

- To explore the experiences of people diagnosed with malaria at Mhinga Village of Vhembe District, Limpopo Province, South Africa.
- To describe the experiences of people diagnosed with malaria at the selected Village of Vhembe District, Limpopo Province, South Africa.

Upon completion of the study, I undertake to provide the Department of Health with a bound copy of the full research report. If you require any further information, please do not hesitate to contact me on 0797692331 or wavhudikwinda8586@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely

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ANNEXURE D

PERMISSION LETTER FROM THE DEPARTMENT OF HEALTH

LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
HEALTH

Ref: S8/4/2/3
Enq: Gertrude Baloyi
Date: 14 June 2024
TO: KWINDA WAVHUDI
Venda University

SUBJECT: REQUEST TO CONDUCT A STUDY (RESEARCH) IN MHINGA CLINIC
Your study topic: EXPERIENCES OF PEOPLE DIAGNOSED WITH MALARIA AT A SELECTED VILLAGE OF VHEMBE DISTRICT, LIMPOPO PROVINCE, SOUTH AFRICA

The above matter has reference

1. The Department of Health has acknowledged your communiqué received on the 07 June 2024 for the above mentioned. Kindly be informed that permission has been granted to conduct a research **in Mhinga Clinic from 18 June 2024– 05 June 2025.**
2. You are also advised to comply or adhere with the Departmental Policies, rules and regulations during your operations.

Hoping that you will find this in order

..... 14/6/2024.

DISTRICT EXECUTIVE MANAGER **Date**

Private Bag X5009 THOHOYANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623

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ANNEXURE E

REQUEST TO THE CHIEF OF MHINGA VILLAGE TO ENGAGE WITH THE COMMUNITY

Dear Sir/Madam

I am Kwinda Wavhudi, a postgraduate student at the University of Venda. The research I wish to conduct for my Master's degree is about the experiences of people who experienced malaria in Mhinga Village. This research will be conducted under the supervision of Dr Luhalima and Mudzweda A.

I am requesting your consent to engage with the community and conduct the study on the people who experienced Malaria.

A copy of my proposal will be provided which will include consent forms to be used in the research process, as well as a copy of the approval letter which I received from the University of Venda Ethics Committee.

Upon completion of the study, I undertake to provide the Department of Health with a bound copy of the full research report. If you require any further information, please do not hesitate to contact me on 0797692331 or wavhudikwinda8586@gmail.com. Thank you for your time and consideration in this matter.

Yours sincerely

© University of Venda

ANNEXURE F

LETTER OF INFORMATION

Title of the Research Study : Experiences of people diagnosed with Malaria at a selected Village of Vhembe District, Limpopo, South Africa.

Principal Investigator/s/ researcher : (Kwinda W).

Co-Investigator/s/supervisor/s : (Luhalima T)

: (Mudzweda A).

Brief Introduction and Purpose of the Study: Malaria is an illness caused by anopheles female mosquito bite. People with malaria usually feel very sick with high fevers and shaking chills. The disease is very serious and can sometimes be fatal. The study will explore the experiences of people who were affected by malaria in Mhinga Village of Vhembe District. The study findings will contribute to new knowledge as measures to eliminate the spread of malaria will be improved.

Outline of the Procedures: A qualitative method, exploratory, descriptive and contextual design will be used. The setting will be in Mhinga Village at the homes of participants. Two individuals will be selected for pre-test. Non-probability purposive sampling will be used and an estimated 20 participants will be selected. However, the final number of participants will be determined by data saturation. The data collection tool will be an interview guide. Principles of respect, beneficence and justice including trustworthiness will be ensured.

Risks or Discomforts to the Participant: Participant may experience emotional breakdown

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Benefits: Findings of the study may benefit the community members by giving them knowledge about malaria considering that the disease is one of the leading cause of death. People would then take precautions to prevent the spread of malaria).

Reason/s why the Participant May Be Withdrawn from the Study: When the participant no longer feels comfortable to continue participating).

Remuneration : There shall be no remunerations for the participants.

Costs of the Study : no cost shall be expected from the participants to qualify for the study.

Confidentiality : During the course of the study pseudo names will be used to safeguard anonymity and ensure confidentiality. The information will be kept under lock and key, no information will be linked to participants' names.

Research-related Injury : In case of research related injury, the participant will be withdrawn from the study and will be referred to the doctor for intervention. The event will soon be reported to the institution manager and to my supervisor at the University for Assistance.no compensation shall be made available to the injured participant.

Persons to contact in the event of any problems or queries:

Please contact the researcher on (079 769 2331), my supervisor (072 482 3404) or the University Ethics Committee Secretariat on 015 962 9058 .Complains can be reported to the director: Research and Innovation, Prof GE Ekosse on 015 962 8313 or George Ivo.Ekosse@univen.ac.za

General:

Potential participants must be assured that participation is voluntary and the approximate number of participants to be included should be disclosed .A copy of the information letter should be issued to participants' .The information letter and consent form must be translated and provided in the primary spoken language of the research population.

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ANNEXURE G

CONSENT FORM

RESEARCH ETHICS COMMITTEE

UNIVEN Informed Consent

CONSENT FORM

Statement of Agreement to Participate in the Research Study:

- I…….. hereby confirm that I have been informed by the researcher, **(**), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number:…….
- I have also received, read and understood the above written information (*Participant Letter of Information*) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.
- I may, at any stage, without prejudice, withdraw my consent and participation in the study.
- I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.
- I understand that significant new findings developed during the course of this research which may relate to my participation will be made available to me.

Full Name of Participant Date Time Signature

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I…….. …….. …… ……

( ) herewith confirm that the above participant has been fully

Informed about the nature, conduct and risks of the above study.

Full Name of Researcher: Kwinda Wavhudi

Date: Signature:

Full Name of Witness (If applicable)

……. Date …….

Signature……..

Full Name of Legal Guardian (If applicable

…… Date……

Signature……

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ANNEXURE H

SEMI STRUCTURED INTERVIEW GUIDE

1) Can you share your personal experience of having Malaria?
2) Can you describe how painful malaria is?
3) Can you explain what Malaria made you feel?
4) Please share your experience on how you got treated of Malaria?

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Annexure I: health SA Gesondheid submission guideline

Overview

The author guidelines include information about the types of articles received for publication and preparing a manuscript for submission. Other relevant information about the journal's policies and the reviewing process can be found under the about section. The **compulsory cover letter** forms part of a submission and must be submitted together with all the required **forms.** All forms need to be completed in English.

Original Research Article

An original article provides an overview of innovative research in a particular field within or related to the focus and scope of the journal, presented according to a clear and well-structured format. **See the full structure of the original research articles below.** If a submitted manuscript has been previously posted in an open access repository (e.g., a dissertation or thesis posted in an open-access university repository), the submitted manuscript must be unique and have less than 50% overlap with the posted paper.

Submission status	open
Word limit	7000 words (excluding the abstract, tables, figures, graphs, and references)
Abstract	maximum: 250 words requires structural headings: Background, Aim, Setting, Methods, Results, Conclusion and Contribution
Main text	requires structural headings, refer to the full structure 'Ethical considerations' is a sub-section in the manuscript and must include: Name of the ethical review committee Study approval number Manner of consent (written, oral) for human participants

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	Description of measures taken to maintain the confidentiality of data If the study was not human or animal research or the study was determined to be non-human subjects research or exempt, the authors must provide a statement with those details in this section.
References	40 or less, adhere to the **Harvard referencing style**
Tables, figures and graphs	7 or less, adhere to the Illustrations requirements found in the AOSIS House style guide
Formatting requirements	apply the guidelines located on the **Formatting requirements page** and the **AOSIS house style guide**
Compulsory supplementary file(s)	the **Authorship, disclosure statements, copyright, and license agreement form**, **Ethical Clearance/Waiver Documentation** and any other relevant form applicable to your submission
Ethical clearance/waiver documentation	evidence of ethical clearance for the study, such as the study approval letter or certificate from the Institutional Review Board (IRB), a waiver from the IRB et cetera

A **systematic review** follows the same basic structure as an original research article:

- Structured abstract: Background, aim, setting, methods, results, conclusion, contribution.
- Aim and objectives: Focus on a clinical question that will be addressed in the review.
- Methods section: Describe in detail the search strategy, criteria used to select or reject articles, attempts made to obtain all important and relevant studies and deal with publication bias (including grey and unpublished literature), how the quality of included studies was appraised, the methodology used to extract and/or analyse data.
- Results: Describe the homogeneity of the different findings; clearly present the overall results and any meta-analysis.

Review Article

Review topics should be related to clinical aspects of interdisciplinary health sciences and should reflect trends and progress or synthesis of data in the following format. **See the full**

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structure of the review articles below. Systematic reviews are considered under original research.

Submission status	open
Word limit	4000 words (excluding the abstract, tables, figures, graphs, and references)
Abstract	maximum: 250 words requires structural headings: Background, Aim, Method, Results, Conclusion and Contribution
Main text	structural headings are not always appropriate, but guidance is provided in the full structure
References	40 or less, adhere to the **Harvard referencing style**"
Tables, figures and graphs	7 or less, adhere to the Illustrations requirements found in the AOSIS House style guide
Formatting requirements	apply the guidelines located on the **Formatting requirements page** and the **AOSIS house style guide**
Compulsory supplementary file(s)	the **Authorship, disclosure statements, copyright, and license agreement form**, **Ethical Clearance/Waiver Documentation** and any other relevant form applicable to your submission
Ethical clearance/waiver documentation	evidence of ethical clearance for the study, such as the study approval letter or certificate from the Institutional Review Board (IRB), a waiver from the IRB et cetera

Editorial

An editorial intends to provide expert comments on relevant topics within the focus and scope of the journal.

Submission status	by invitation only
Word limit	1200 words (excluding the tables, figures, graphs, and references)
Abstract	none
Main text	structural headings are not required, but authors are encouraged to use them to help guide readers when necessary

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References	10 or less, adhere to the **Harvard referencing style**
Tables, figures and graphs	2 or less, adhere to the Illustrations requirements found in the AOSIS House style guide
Formatting requirements	apply the guidelines located on the **Formatting requirements page** and the **AOSIS house style guide**
Compulsory supplementary file(s)	the **Authorship, disclosure statements, copyright, and license agreement form** and any other relevant form applicable to your submission

Commentaries

Commentaries draw attention to or present criticism on a previously published article, book, or report, often using the findings as a call to action or to highlight a few points of wider relevance to the field. Commentaries do not include original data and are heavily dependent on the author's perspective or anecdotal evidence from the author's personal experience to support the argument.

Submission status	open
Word limit	1000-1500 words (excluding the tables, figures, graphs, and references)
Abstract	maximum: 75 words structural headings are not required, but authors are encouraged to cover a Background, Objectives, Method, Results, Conclusion and Contribution
Main text	structural headings are not required, but authors are encouraged to use them to help guide readers when necessary
References	10 or less, adhere to the **Harvard referencing style**
Tables, figures and graphs	2 or less, adhere to the Illustrations requirements found in the AOSIS House style guide
Formatting requirements	apply the guidelines located on the **Formatting requirements page** and the **AOSIS house style guide**
Compulsory supplementary file(s)	the **Authorship, disclosure statements, copyright, and license agreement form** and any other relevant form applicable to your submission

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Corrections

A correction provides the platform to communicate important, scientifically relevant errors or missing information in a published article. Any changes after publication that affect the scientific interpretation (e.g., changes to a misleading portion of an otherwise reliable publication, an error in a figure, error in data that does not affect conclusions or addition of missing details about a method) are announced using a Correction. Read our submission procedure for **corrections** and **publishing policies**.

Compulsory title	The title of the submission should have the following format: 'Corrigendum: Title of original article'.
Submission File	completed **Correction Submission Form** (required)
Compulsory supplementary file	any supporting documents or emails, **Author Change Request Form** (if applicable), **Corresponding Author Change Request Form** (if applicable)

Cover Letter

The authorship, disclosure statements, copyright, and license agreement form is our compulsory cover letter which needs to form part of your submission. Kindly download and complete, in English, the provided **form**.

Anyone that has made a significant contribution to the research and the paper must be listed as an author in your cover letter. Contributions that fall short of meeting the criteria as stipulated in our policy should rather be mentioned in the 'Acknowledgements' section of the manuscript. Read our **authorship** guidelines and **author contribution** statement policies.

Original Research Article full structure

Title: The article's full title should contain a maximum of 95 characters (including spaces).

Abstract: The abstract, written in English, should be no longer than 250 words and must be written in the past tense. The abstract should give a succinct account of the objectives, methods, results and significance of the matter. The structured abstract for an Original

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Research article should consist of seven paragraphs labelled Background, Aim, Setting, Methods, Results, Conclusion and Contribution.

- **Background:** Summarise the social value (importance, relevance) and scientific value (knowledge gap) that your study addresses.
- **Aim**: State the overall aim of the study.
- **Setting**: State the setting for the study.
- **Methods**: Clearly express the basic design of the study, and name or briefly describe the methods used without going into excessive detail.
- **Results**: State the main findings.
- **Conclusion**: State your conclusion and any key implications or recommendations.
- **Contribution**: Concise statement of the primary contribution of your manuscript.
  Do not cite references and do not use abbreviations excessively in the abstract.

Introduction: The introduction must contain your argument for the social and scientific value of the study, as well as the aim and objectives:

- Social value: The first part of the introduction should make a clear and logical argument for the importance or relevance of the study. Your argument should be supported by the use of evidence from the literature.
- Scientific value: The second part of the introduction should make a clear and logical argument for the originality of the study. This should include a summary of what is already known about the research question or specific topic and should clarify the knowledge gap that this study will address. Your argument should be supported by the use of evidence from the literature.
- Conceptual framework: In some research articles it will also be important to describe the underlying theoretical basis for the research and how these theories are linked together in a conceptual framework. The theoretical evidence used to construct the conceptual framework should be referenced from the literature.
- Aim and objectives: The introduction should conclude with a clear summary of the aim and objectives of this study.
  Research methods and design: This must address the following:
- Study design: An outline of the type of study design.

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- Setting: A description of the setting for the study; for example, the type of community from which the participants came or the nature of the health system and services in which the study is conducted.
- Study population and sampling strategy: Describe the study population and any inclusion or exclusion criteria. Describe the intended sample size and your sample size calculation or justification. Describe the sampling strategy used. Describe in practical terms how this was implemented.
- Intervention (if appropriate): If there were intervention and comparison groups, describe the intervention in detail and what happened to the comparison groups.
- Data collection: Define the data collection tools that were used and their validity. Describe in practical terms how data were collected and any key issues involved, e.g. language barriers.
- Data analysis: Describe how data were captured, checked and cleaned. Describe the analysis process, for example, the statistical tests used or steps followed in qualitative data analysis.
- Ethical considerations: Approval must have been obtained for all studies from the author's institution or other relevant ethics committee and the institution's name and permit numbers should be stated here.

Results: Present the results of your study in a logical sequence that addresses the aim and objectives of your study. Use tables and figures as required to present your findings. Use quotations as required to establish your interpretation of qualitative data. All units should conform to the **SI convention** and be abbreviated accordingly. Metric units and their international symbols are used throughout, as is the decimal point (not the decimal comma).

[For Qualitative Research - Measures of Trustworthiness]
Measures of Trustworthiness: This refers to the findings of the study being based on the discovery of human experience as it was experienced and observed by the participants. The following are the criteria of trustworthiness, credibility, transferability, dependability and confirmability to be discussed.

[For Quantitative Research - Reliability and Validity]
Reliability: Reliability is the extent to which an experiment, test, or any measuring procedure yields the same result with repeated trials. Without the agreement of independent observers able to replicate research procedures or the ability to use research tools and procedures that yield consistent measurements, researchers would be unable to satisfactorily draw conclusions, formulate theories or make claims about the ability to generalise their research.

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Validity: Validity refers to the degree to which a study accurately reflects or assesses the specific concept that the researcher is attempting to measure. While reliability is concerned with the accuracy of the actual measuring instrument or procedure, validity is concerned with the study's success at measuring what the researchers set out to measure. Researchers should be concerned with both external and internal validity. External validity refers to the extent to which the results of a study are generalisable or transferable. Internal validity refers to:

- The rigor with which the study was conducted (e.g. the study's design, the care taken to conduct measurements and decisions concerning what was and was not measured).
- The extent to which the designers of a study have taken into account alternative explanations for any causal relationships they explore.

Discussion: The discussion section should address the following four elements:

- Key findings: Summarise the key findings without reiterating details of the results.
- Discussion of key findings: Explain how the key findings relate to previous research or to existing knowledge, practice or policy.
- Strengths and limitations: Describe the strengths and limitations of your methods and what the reader should take into account when interpreting your results.
- Implications or recommendations: State the implications of your study or recommendations for future research (questions that remain unanswered), policy or practice. Make sure that the recommendations flow directly from your findings.

Conclusion: Provide a brief conclusion that summarises the results and their meaning or significance in relation to each objective of the study.

Acknowledgements: Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution. Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named. Refer to the acknowledgement structure guide on our *Formatting Requirements* page.

Also provide the following, each under their own heading:

- Competing interests: This section should list specific competing interests associated with any of the authors. If authors declare that no competing interests exist, the article will include a statement to this effect: *The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.* Read our **policy on competing interests**.

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- Author contributions: All authors must meet the criteria for authorship as outlined in the **authorship** policy and **author contribution** statement policies.
- Funding: Provide information on funding if relevant
- Data availability: All research articles are encouraged to have a data availability statement.
- Disclaimer: A statement that the views expressed in the submitted article are his or her own and not an official position of the institution or funder.
  References: Authors should provide direct references to original research sources whenever possible. References should not be used by authors, editors, or peer reviewers to promote self-interests. Refer to the journal referencing style downloadable on our *Formatting Requirements* page.

Review Article full structure

Title: The article's full title should contain a maximum of 95 characters (including spaces).

Abstract: The abstract should be no longer than 250 words and must be written in the past tense. The abstract should give a concise account of the objectives, methods, results and significance of the matter. The abstract can be unstructured and should consist of five paragraphs labelled Background, Aim, Method, Results, Conclusion and Contribution.

- Background: Why is the topic important to us? State the context of the review
- Aim: What is the purpose of your review? Describe the aim or purpose of your review.
- Method: How did you go about performing the review? Describe the methods used for searching, selecting and appraising your evidence.
- Results: What are the findings? What are the main findings of your literature review?
- Conclusion: What are the implications of your answer? Briefly summarise any potential implications.
- **Contribution**: Concise statement of the primary contribution of your manuscript.
  Introduction: Present an argument for the social and scientific value of your review that is itself supported by the literature. Present the aim and objectives of your literature review.

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Methods: Although this is not a systematic review (see instructions on original research for this type of article) it is still necessary to outline how you searched for, selected and appraised the literature that you used. Discuss any methodological limitations.

Review findings: Present your review of the literature and make use of appropriate sub-headings. Your review should be a critical synthesis of the literature.

Implications and recommendations: Discuss the findings of your review in terms of the implications for policy makers and clinicians or recommendations for future research.

Conclusion: This should clearly state the main conclusions of the review in terms of addressing the original aim and objectives.

Acknowledgements: Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution. Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named. Refer to the acknowledgement structure guide on our *Formatting Requirements* page.

Also provide the following, each under their own heading:

- Competing interests: This section should list specific competing interests associated with any of the authors. If authors declare that no competing interests exist, the article will include a statement to this effect: *The authors declare that they have no financial or personal relationship(s) that may have inappropriately influenced them in writing this article.* Read our **policy on competing interests**.
- Author contributions: All authors must meet the criteria for authorship as outlined in the **authorship** policy and **author contribution** statement policies.
- Funding: Provide information on funding if relevant
- Data availability: All research articles are encouraged to have a data availability statement.
- Disclaimer: a statement that the views expressed in the submitted article are his or her own and not an official position of the institution or funder.

References: Authors should provide direct references to original research sources whenever possible. References should not be used by authors, editors, or peer reviewers to promote self-interests. Refer to the journal referencing style downloadable on our *Formatting Requirements* page.

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Annexure J: CURATIONIS SUBMISSION GUIDELINES

Overview

The author guidelines include information about the types of articles received for publication and preparing a manuscript for submission. Other relevant information about the journal's policies and the reviewing process can be found under the about section. The **compulsory cover letter** forms part of a submission and must be submitted together with all the required **forms.** All forms need to be completed in English.

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Original Research Article

An original article provides an overview of innovative research in a particular field within or related to the focus and scope of the journal, presented according to a clear and well-structured format.

Submission status	open
Word limit	7000 words (excluding the abstract, tables, figures, graphs, and references)
Abstract	maximum: 250 words requires structural headings: Background, Objectives, Method, Results, Conclusion and Contribution
Main text	requires structural headings, refer to the full structure 'Ethical considerations' is a sub-section in the manuscript and must include: Name of the ethical review committee Study approval number Manner of consent (written, oral) for human participants Description of measures taken to maintain the confidentiality of data If the study was not human or animal research or the study was determined to be non-human subjects research or exempt, the authors must provide a statement with those details in this section.
References	60 or less, adhere to the **Harvard referencing style**
Tables, figures and graphs	7 or less, adhere to the Illustrations requirements found in the AOSIS House style guide
Formatting requirements	apply the guidelines located on the **Formatting requirements page** and the **AOSIS house style guide**
Compulsory supplementary file(s)	the **Authorship, disclosure statements, copyright, and license agreement form**, **Ethical Clearance/Waiver**

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	Documentation and any other relevant form applicable to your submission
Ethical clearance/waiver documentation	evidence of ethical clearance for the study, such as the study approval letter or certificate from the Institutional Review Board (IRB), a waiver from the IRB et cetera

Corrections

A correction provides the platform to communicate important, scientifically relevant errors or missing information in a published article. Any changes after publication that affect the scientific interpretation (e.g., changes to a misleading portion of an otherwise reliable publication, an error in a figure, error in data that does not affect conclusions or addition of missing details about a method) are announced using a Correction. Read our submission procedure for **corrections** and **publishing policies**.

Compulsory title	The title of the submission should have the following format: 'Corrigendum: Title of original article'.
Submission File	completed **Correction Submission Form** (required)
Compulsory supplementary file	any supporting documents or emails, **Author Change Request Form** (if applicable), **Corresponding Author Change Request Form** (if applicable)

Cover Letter

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Original Research Article full structure

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Title: The article's full title should contain a maximum of 95 characters (including spaces).

Abstract: The abstract, written in English, should be no longer than 250 words and must be written in the past tense. The abstract should give a succinct account of the objectives, methods, results and significance of the matter. The structured abstract for an Original Research article should consist of six paragraphs labelled Background, Objectives, Method, Results, Conclusion and Contribution.

- Background: *Why do we care about the problem?* State the context and purpose of the study. (What practical, scientific or theoretical gap is your research filling?)
- Objectives: *What problem are you trying to solve*? What is the scope of your work (e.g. is it a generalised approach or for a specific situation)? Be careful not to use too much jargon.
- Method: *How did you go about solving or making progress on the problem*? State how the study was performed and which statistical tests were used. (What did you actually do to get the results?) Clearly express the basic design of the study; name or briefly describe the basic methodology used without going into excessive detail. Be sure to indicate the key techniques used.
- Results: *What is the answer*? Present the main findings (that is, as a result of completing the procedure or study, state what you have learnt, invented or created). Identify trends, relative changes or differences in answers to questions.
- Conclusion: *What are the implications of your answer*? Briefly summarise any potential implications. (What are the larger implications of your findings, especially for the problem or gap identified in your motivation?)
- Contribution: *What key insights into the research results and its future function are revealed? How do these insights link to the focus and scope of the journal?* It should be a concise statement of the primary contribution of the manuscript; and how it fits within the scope of the journal.

  Do not cite references and do not use abbreviations excessively in the abstract.

Introduction: The introduction must contain your argument for the social and scientific value of the study, as well as the aim and objectives:

- Social value: The first part of the introduction should make a clear and logical argument for the importance or relevance of the study. Your argument should be supported by the use of evidence from the literature.

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- Scientific value: The second part of the introduction should make a clear and logical argument for the originality of the study. This should include a summary of what is already known about the research question or specific topic and should clarify the knowledge gap that this study will address. Your argument should be supported by the use of evidence from the literature.
- Conceptual framework: In some research articles it will also be important to describe the underlying theoretical basis for the research and how these theories are linked together in a conceptual framework. The theoretical evidence used to construct the conceptual framework should be referenced from the literature.
- Aim and objectives: The introduction should conclude with a clear summary of the aim and objectives of this study.

  Research methods and design: This must address the following:
- Study design: An outline of the type of study design.
- Setting: A description of the setting for the study; for example, the type of community from which the participants came or the nature of the health system and services in which the study is conducted.
- Study population and sampling strategy: Describe the study population and any inclusion or exclusion criteria. Describe the intended sample size and your sample size calculation or justification. Describe the sampling strategy used. Describe in practical terms how this was implemented.
- Intervention (if appropriate): If there were intervention and comparison groups, describe the intervention in detail and what happened to the comparison groups.
- Data collection: Define the data collection tools that were used and their validity. Describe in practical terms how data were collected and any key issues involved, e.g. language barriers.
- Data analysis: Describe how data were captured, checked and cleaned. Describe the analysis process, for example, the statistical tests used or steps followed in qualitative data analysis.
- Ethical considerations: Approval must have been obtained for all studies from the author's institution or other relevant ethics committee and the institution's name and permit numbers should be stated here.

  Results: Present the results of your study in a logical sequence that addresses the aim and objectives of your study. Use tables and figures as required to present your findings. Use quotations as required to establish your interpretation of qualitative data. All units should conform to the **SI convention** and be abbreviated accordingly. Metric units and their international symbols are used throughout, as is the decimal point (not the decimal comma).

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Discussion: The discussion section should address the following four elements:

- Key findings: Summarise the key findings without reiterating details of the results.
- Discussion of key findings: Explain how the key findings relate to previous research or to existing knowledge, practice or policy.
- Strengths and limitations: Describe the strengths and limitations of your methods and what the reader should take into account when interpreting your results.
- Implications or recommendations: State the implications of your study or recommendations for future research (questions that remain unanswered), policy or practice. Make sure that the recommendations flow directly from your findings.

  Conclusion: Provide a brief conclusion that summarises the results and their meaning or significance in relation to each objective of the study.

Acknowledgements: Those who contributed to the work but do not meet our authorship criteria should be listed in the Acknowledgments with a description of the contribution. Authors are responsible for ensuring that anyone named in the Acknowledgments agrees to be named. Refer to the acknowledgement structure guide on our *Formatting Requirements* page.

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self-interests. Refer to the journal referencing style downloadable on our *Formatting Requirements* page.

ANNEXURE K

PARTICIPANT TRANSCRIPT

PARTICIPANT 23

Researcher: Good afternoon.

Participant: Good afternoon to you too and how are you.

Researcher: I am good and you.

Participant: I am good too.

Researcher: I am Kwinda Wavhudi, a registered postgraduate student at the University of Venda doing Masters in nursing .My research focuses on the experiences of people who were diagnosed of malaria at Mhinga village .I want to ask you some few questions related to my study .do you agree?

Participant: Yes, I do.

Researcher: As a participant you are not forced to participate in this study. Feel free to withdraw from the study anytime you feel uncomfortable. Any information obtained during our discussion will not be shared with anyone except my supervisors. Please note that the publication of the findings of the study will be anonymous.

Participant: Ok, no problem.

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Researcher: Please don't mind my pronunciation of certain words. I am still learning Tsonga.

Participant: Okay, no problem.

Researcher: Would like to ask what you were feeling when you first experienced malaria?

Participant: Okay, when it started I had headache, my body was hot, then vomiting and had a running stomach.

Researcher: You had a running stomach?

Participant: Yes, when I was sick of malaria, I had a running stomach.

Researcher: Okay, how was your body?

Participant: It was hot.

Researcher: Did it have power as usual?

Participant: No, it was not there, I had poor appetite too, I would drink water only.

Researcher: You only drank water?

Participant: Yes. I was drinking also mageu.

Researcher: Okay, how did you go to the clinic?

Participant: I went with a taxi.

Researcher: Were you able to walk to get a taxi?

Participant: yes but couldn't walk a long distance.

Researcher: when you arrived at the clinic what did the nurses do?

Participant: They tested me and found that it was malaria and I could feel that it was malaria. They also checked my temperature. Then gave me pills.

Researcher: Okay, they gave you pills?

Participant: Yes.

Researcher: You said you could feel that it was malaria, how did you know?

Participant: My sister's child was diagnosed, so I asked about the symptoms, it was the same as mine like the headache, diarrhoea you see. Then I felt maybe I have it too.

Researcher: Okay, the pills the nurses gave you, how did they say, you should take them?

Participant: They said morning, afternoon and evening.

Researcher: Okay, did they give you pills to drink and rest?

Participant: When they gave me pills I drank in the morning after eating, then ate again in the afternoon then drank again. I came back home with a taxi to home then slept, then around 13h00 would drink the afternoon pills.

Researcher: Okay, did they give you pills to drink there at the clinic?

Participant: Yes.

Researcher: Did you rest after taking the pills?

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Participant: Yes, then said I should go home.

Researcher: Were you fine when you went home?

Participant: I was better the following day. I drank the pills for four days, after four days I was fine.

Researcher: Were you still feeling headache, hot body and other symptoms during the four days?

Participant: Yes.

Researcher: And you became fine after four days?

Participant: Yes.

Researcher: Did they come to spray in the house?

Participant: Yes they came.

Researcher: There are those that test, did they come?

Participant: Yes those ones came too.

Researcher: I heard when they test they call if it's positive.

Participant: No, they did not call which meant I was negative. They did not call.

Researcher: Okay, were you the only one infected here?

Participant: Yes. Others were not infected.

Researcher: Was it the first episode?

Participant: Yes, It was.

Researcher: Were you educated on the prevention of malaria?

Participant : No ,I was not ,oh I was educated by those who come to test in the household ,that I should avoid stagnant water around the yard for a long time, even water near the toilet I should avoid those it makes a lot of mosquitoes roam around there. That's what they said.

Researcher: Yes, did they test the rest of the family?

Participant: Yes, even my neighbours.

Researcher: What do you do at home to prevent recurrence of malaria?

Participant: Exactly what they told me to avoid stagnant water near the toilet and around the house for a long time. They told me that.

Researcher: Okay, thank you, do you have any questions?

Participant: No.

Researcher: Thank you.

Participant: Thank you too.

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