

**FACTORS CONTRIBUTING TO HUMAN DOG BITE IN THE KHAKHU MADALA LOCAL
AREA IN THE THULAMELA SUB-DISTRICT OF VHEMBE DISTRICT, LIMPOPO
PROVINCE**

by

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DECLARATION

I, Rangolo Aifheli, Student number 11590145 hereby declare that the dissertation entitled ***“FACTORS CONTRIBUTING TO HUMAN DOG BITE IN THE KHAKHU MADALA LOCAL AREA IN THE THULAMELA SUB-DISTRICT OF VHEMBE DISTRICT, LIMPOPO PROVINCE”*** submitted by me, has not previously been submitted for a degree at this or any other university, that it is my own work in design and execution and that all reference material contained therein has been duly acknowledged.

Signature: 

Date: 2023/05/17

DEDICATION

This dissertation is dedicated to:

- My wife, for supporting and encouraging me when my hope was fading.
- My daughter-in-law, Lorain, for her expertise in the technical skills required for this project.
- My son-in-law, Phinos, for his contribution to the artefact's role.

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LIST OF ACRONYMS AND ABBREVIATIONS

ARACON	Asian Rabies Control Network
CDC	Centers for Disease Control
DoH	Department of Health
FAO	Food and Agriculture Organization
FETA	Federal Teaching Hospital Abakaliki
GARC	Global Alliance for Rabies Control
HCTREC	Human and Clinical Trails Research Ethic Committee
HDAB	Human Directed Aggressive Behavior
OIE	World Organisation for Animal Health
KZN	KwaZulu-Natal
NDoH	National Department of Health
PHC	Primary Health Care
RSPCA	Royal Society for the Prevention of Cruelty to Animals
UNIVEN	University of Venda
WHO	World Health Organisation

ABSTRACT

Background: As domestic animals, dogs have frequent interaction with humans, resulting in possible conflicts causing dog bite incidents. Dog bites result in physical injuries to, psychological trauma, emotional damage, and even fatalities. By ignoring human dog bite incidents, society continues to suffer health risks.

Purpose of the study: This study aimed to investigate the factors contributing to dogs biting humans in the Khakhu Madala local area in Thulamela, a sub-district of the Vhembe District, Limpopo Province.

Methodology: A qualitative approach with an explorative and descriptive design was used to investigate the factors contributing to dogs biting humans in the Khakhu Madala local area. The population comprised dog bite victims registered on the Khakhu Madala Primary Health Care (PHC) facility's dog bite register from January 2018 to December 2019. Non-probability purposive sampling was used to select the participants. The unstructured in-depth face-to-face interviews allowed the participants to respond in the same manner with probing and follow-up questions to obtain thick and rich data. The researcher interviewed 25 participants until data saturation was reached. Tech's eight steps criteria were used for data management and analysis, namely, data preparation and organisation, initial immersion, coding, and interpretation. Trustworthiness was achieved by ensuring data credibility, transferability, dependability, and confirmability.

Findings: The following themes emerged: a lack of responsibility in the control of dogs by dog owners, aggression augmentation of dogs by providing them with indigenous plants and other variations, and structural and environmental factors.

Recommendations: The recommendations were made based on the findings of the study. Future research is needed to address dog bite incidents; health workers should unite, communities should be informed, and laws should be reviewed to maximise safety.

Keywords: District; Human dog-bite; Incident; Primary Health Care; Sub-District

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CHAPTER 1

OVERVIEW OF THE STUDY

1.1 INTRODUCTION

Ngugi, Maza, Omolo and Obonyo (2018) define human dogbite as an entry of an animal bite case in the register and associated with bite injuries. Ngugi et al (2018) articulate that the incidences of dog bites, remains a severe health problem to humans worldwide, continue to be published in various platforms causing serious injuries and fatal incidents. The continuous publication of this problem suggests that there is no universal solution from continent to continent, country to country, nationwide, and local communities (World Health Organisation [WHO], 2019). The ignorance of dog bite incidents does not prevent or eliminate its existence. Therefore, there is a need and relevance to pursuing studies investigating the attributes of dog bite incidents in a different context. Researchers arrive at various findings depending on the context in which the study is conducted (WHO, 2018).

Different factors contributing to dog bites may result from a diverse racial, cultural, and setting in which people find themselves. Rural and urban lifestyles cannot be the same and vice versa. These differences include a densely populated urban settlement and a dispersed rural settlement. Considering this, investigating factors contributing to a dog biting a human in the two settings may produce different results due to their livelihood. Therefore, pursuing an investigation in either setting becomes more significant as the results may produce thick and rich data. Such data may assist with the plan to ensure healthy lives and promote a society free of zoonotic diseases.

1.2 BACKGROUND OF THE STUDY

Hosseini, Vafaeenasab, Rafinejad, Amodaresi, Tafti, Mirzaei and Hanafi-Bojd (2019) define a human-dog bite as a scar from the tooth or claw of a pet on the affected person visiting a health centre. The study conducted by Hosseini et al., (2019) in Mazandaran Province, North of Iran, revealed that the geographical distribution and epidemiological pattern of dog bites and how people are exposed. According to Hossein et al., (2019), the onset of spring and summer attributed to breeding seasons resulting in an increased trend of the stray dog population; non-compliance with the dog keeping laws in North Iran; and increased farming activities during spring and summer, leading to frequent interaction of farming occupational groups with dogs.

The study by Hosseini et al., (2019) suggests the need for birth control of these animals and the adoption of laws forcing dog owners to use movement restriction collars on their dogs as

measures to prevent incidents of dog bites. The study conducted by Hosseini et al., (2019) does not address the issue of public awareness of dogs' breeding seasons to keep the public vigilant. In addition, dog owners must ensure the household yard is locked in order to avoid dogs roaming around the streets and should put up a sign on the gate to warn visitors about the household dogs. The whole section is from one author!

Sor, Higutchi, Saker and Hamajima (2018) pointed out that a high dog population and poor dog control in Cambodia were found to be the contributing factors to the dog bites. The factors identified by Sor et al., (2018) and Hosseini et al., (2019) on dogs biting humans are similar, considering population as a factor and non-compliance with the dog-keeping laws, which have something to do with their control. To prevent further incidents of dog bites, Sor et al., (2018) recommended that authorities (provincial, district, commune, and village) directly inform dog owners about keeping their dogs in the cage to reduce the number of stray dogs in the community. Moreover, it was also essential to develop and disseminate health education, particularly targeting high-risk groups such as farmers. From this study, it is also important to establish regulatory laws that prescribe how much responsibility dog owners should have following a dog bite incident.

Furthermore, in a study conducted in rural and urban slums of Delhi in China, Sharma, Agarwal, Khan and Ingle (2016) revealed the density population of dogs as a contributing factor to dog bite incidents. This study revealed similar findings compared to that of Cambodia. To mitigate these contributing factors, Sharma et al., (2016) suggest that policymakers should work toward policy formulation to address these factors. However, a study conducted by Westgarth, Brooke, and Christley (2017) in the United Kingdom (UK) discovered that dog bites were associated with owning multiple dogs, risking frequent interaction with dogs in breaking up dog fights, and having being bitten by unknown dogs. Personality variation linked to performing behaviours also provokes dogs, including the lack of supervision in children playing outdoors. From the postulation of Westgarth et al. (2017) on factors contributing to incidents of dogs biting humans, they concluded that 55% of dog bites were common from unfamiliar dogs. Ultimately, this conclusion suggests the need to establish and enforce regulatory laws in managing dogs.

Furthermore, a study conducted in the Federal Teaching Hospital Abakaliki (FETHA), Nigeria, revealed that in human-dog interactions, bilateral misinterpretation of signals, and inappropriate reactions were often the root cause of dog bite injuries (Omoke & Chukwueloka Onyemaechi, 2018). These factors are more prevalent in male children who are aggressive. From this study, little is shared about the interventions to mitigate the factors that led to the incident of dog bites. The community, particularly school-going children, must be made aware of how they

should interact with dogs and be familiarised with signals alerting them of the presence of dogs.

Awoyomi and Ogundipe (2019) posit that dogs play important roles as guards, companions, friends, and partners in many households. Unfortunately, this partnership is not without challenges, one of which includes dogs biting humans. Children and teenagers are often exposed to dogs that bite. Awoyomi and Ogundipe (2019) alluded that these exposures result in physical injuries, psychological trauma, and emotional harm to the victims. Furthermore, Awoyomi and Ogundipe (2019) posit that in Ogun state, Nigeria, provoking dogs, availability of stray dogs, the aggressive behaviour change in dogs during mating season, and nursing bitches were contributory factors of dog bites. In addition, the study showed that it was appropriate to raise human-dog interaction in educational campaigns amongst teenagers and children as they are the most affected groups.

Similarly, in a study conducted in Madawaki District Gusau, Nigeria, about the prevalence and associated factors of dog bites, Hassan, Said, Ariffin and Azman (2017-2020) revealed that one's behaviour around a dog, dog ownership, and a lack of knowledge on interaction with dogs also contributed to dog bites. Comparing the studies of Hassan et al., (2017-2020) and Awoyomi and Ogundipe (2019), these factors have something similar in the method of operation. This phenomenon must also be considered when developing and implementing awareness in reducing dog bite incidents among victims.

Tuwei and Kariuki (2017) further reveal that extreme curiosity at a young age and a lack of understanding of the risk posed by dogs, fearless characteristics of male persons, dog confinement, and the mating season of dogs also contribute to dog bites. Similarities of factors can be noted as compared to the above postulation.

In addition, a study conducted by Nkomo, Mahomed and Laher (2020) in select emergency departments of South Africa's public hospitals proved that males were becoming dog bite victims 55% more than females. The possible reason alluded to this phenomenon was that males tend to be naturally more fearless than females. This assertion may suggest that human characteristics may contribute to this regard. Nkomo et al., (2020) also pointed out that children 10 years and below are likely to incite a dog caring for its puppies. From this postulation, the provocation of a dog could also be a contributing factor. Moreover, Nkomo et al., (2020) alluded to the free-roaming of stray and unfamiliar dogs in the streets as another contributing factor. Similar sentiments were shared by Kubheka, Govender, Margot and Kuonza (2013) in a study conducted in the Utungulu District of KwaZulu-Natal (KZN) Province in South Africa. Children between five and 15 years are unable to fend off attacks by animals due to their small stature and inability; these were found to be the two risk factors for dog bite victims. Kubheka et al.,

(2020) further suggested continuing awareness campaigns among community members and health professionals to achieve the intended objectives.

According to Ishaya, Habib, van Rooyen, and Steinberg (2015-2017), dog bite incidents in patients who presented at Kimberley Hospital Complex Emergency Centre in South Africa were exacerbated by a relationship with poverty, unemployment and poor housing which are not a favourable environment for keeping domestic animals. In addition, the study further identifies the seasonal variation as informed by the likely increase in children and adults outside during summer holidays and festive seasons. The assertion made by Ishaya et al., (2015-2017) of poverty, unemployment and poor housing, which are unfavourable for keeping domestic animals, is supported by Hossein et al., (2019). They alluded that dog owners no longer comply with dog-keeping laws due to a lack of providing food, shelter and medical care, resulting in dogs straying in search of food. As a result, they encounter unfamiliar faces, making them aggressive and bite their victims.

The unfavourable environment of poor housing that contributed to dog bite incidents, as Ishaya et al. (2015-2017) alluded to, was also articulated by Sharma et al., (2016) in a study in rural-urban slums of Delhi in China. The study found that the density of roaming dogs resulted from the abandonment of basic care by dog owners. Among the recommendations made by Ishaya et al. (2017), it was mentioned that awareness must be created among healthcare workers on the need to notify all dog bite victims and the effectiveness of stringent measures to limit the number of free-roaming dogs.

1.3 PROBLEM STATEMENT

There is a growing trend of human-dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province. Dog bite incidents are reported at a rate of 10 per week. In addition, from an average headcount of 14154, there were 129 dog bite cases from Primary Health Care (PHC) facilities around the Khakhu Madala local area reported in 2017 (at 0.9%). Subsequently, similar incidents observed in 2018 included 156 dog bite cases reported from a headcount of 15203, showing an increase of 0.12% to a 1.02% rate. This growing trend has a negative effect which may spread infections and cause physical injuries and psychological trauma, including death. The average groups of individuals affected in the community are middle-aged males and females of 17 to 30 years, with a few minors and elders. Therefore, investigating the factors contributing to dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province, is important.

I know different universities follow various patterns of writing the problem statement. Since you quoted numbers please indicate the citations where the information originated

1.4 RATIONALE OF THE STUDY

The problem of dogs biting humans continues to occur; nonetheless, society deals with the problem reactively as they become victims and focus only on treatment rather than prevention. It is necessary to carry out this research to signal to society that dogs biting humans is a health problem that requires collective attention. This study will complement the 2030 Vision of the WHO of zero human rabies deaths. Several studies worldwide have been conducted regarding factors contributing to dog bite incidents, and various factors that differ from one setting to another were revealed; thus, they cannot be generalised to other settings add the citations here since you mentioned *several studies*. Studies regarding factors contributing to dog bite incidents around the Khakhu Madala local area have not yet been conducted; hence, the increased incidents. The communities around Khakhu Madala local area are in a dire state pending the knowledge gap on dog-keeping laws that regulate ownership. Ensuring awareness about dog bite incidents to influential individuals, such as traditional leaders, contributes to redressing the problem as they have the authority to establish bylaws that may reduce the occurrence of dog bite incidents.

1.5 SIGNIFICANCE OF THE STUDY

The study may assist in several ways, including building preventative measures against dog bites, which may promote health and prevent unnecessary injuries in the communities; encouraging practising safe health precautions following a dog bite; and developing common laws that guard against dog bite incidents. Furthermore, this study may create awareness among community members about their subjectivity to the health risks they are exposed to, encouraging them to take preventative measures against dog bites.

The following groups may benefit from this study: victims of dog bites who endure burdens ranging from medical and travelling expenses to physical and psychological trauma and morbidity and mortality. This study is envisaged to empower victims of dog bites, society at large on interacting with these domestic animals, and dog owners on how to take care of their dogs. Moreover, the study may enable community members and dog owners to identify groups at risk of dog bites (including children), the criteria dog owners should follow, and the responsibilities of owning a dog.

The results of the study are envisaged to educate the veterinarian body in identifying areas with dog morbidity outbreaks as manifested by dog bite incidents and the need to institute certain interventions in controlling the dog population. The study may also ease the burden incurred by the National Department of Health (NDoH) in the demand for limited resources in

promoting their effectiveness and efficiency. The study may also add value to the body of knowledge on dog bites.

Good work

1.6 PURPOSE OF THE STUDY

1.6.1 Research purpose of the study

To investigate the factors contributing to incidents of dogs biting humans in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province.

The objective of the study was to:

To explore the factors contributing to incidents of dogs biting humans in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province.

1.6.2 Research question

What factors contribute to human dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province?

1.7 DEFINITION OF CONCEPTS

District: The district is a political sub-division of the state authorised to provide basic services (Goodwin, 2018). In this study, district refers to a municipal demarcated area for the effective administration of health services.

Human dog bite: A human-dog bite is a scar from the tooth or claw of a pet on the affected person visiting a healthcentre (Hosseini et al., 2019). In this study, human dog bite refers to any form of injury on a person caused by a physical encounter with a dog and registered in a health facility following their visit.

Incident: An incident is the likelihood of occurrence during a specific time (Centre for Disease Control, 2021). In this study, incident refers to the frequency of occurrence within a given time.

Primary healthcare: Primary healthcare is the government and society approach to health that combines multi-sector policy and actions, empowered people and communities, and primary care and essential public health functions as the core of integrated health services (WHO, 2019). In this study, primary healthcare refers to a health setting where first level healthcare is offered.

Risk: Risk is defined as a situation involving an individual's health exposure to danger (Brink, Van der Walt & van Rensburg, 2018). In this study, risk refers to any situation that may expose the participant's health to a dog bite.

Rural: Rural is defined as a deep rural settlement location on farms (Besada et al., 2020). In this study, rural refers to an underdeveloped geographical area located outside a town or city.

Sub-district: A sub-district is an administrative division generally smaller than a district to promote accessible, interoperable, and global data to monitor the Sustainable Development Goals (United Nations, 2021). In this study, sub-district refers to an area under a district demarcated.

1.8 RESEARCH METHODOLOGY

This study used a qualitative approach to investigate the factors contributing to human dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province. This approach was conducted in a real-life setting, focussed on the process and less on the results, and was inductive in nature. Investigating the factors contributing to human dog bites required the participant's subjective experiences, thereby allowing the researcher to understand the phenomenon in-depth. The trustworthiness of the study is discussed under credibility, confirmability, transferability, and dependability.

1.9 OUTLINE OF THE DISSERTATION

Chapter 1: Overview of the study

The chapter explains the introduction and background to the study, with particular reference to global, African, South African, Limpopo Province, and local examples of the problem under investigation. The problem statement was outlined, followed by the rationale of the study and the significance of the study. The purpose and objectives of the study were stated, followed by the research questions and the research methodology underpinning the study. The study's key concepts were defined to establish a common understanding.

Chapter 2: Literature review

The literature review is consistent with the title of the study, focusing on the factors contributing to dogs biting humans globally, nationally, and locally. In addition, relevant sources were reviewed to signify the necessity for continuous research of the problem under investigation.

Chapter 3: Research methodology

The research approach, research design, study setting, study population, and sampling, unstructured in-depth face-to-face interviews, pre-test, measures to ensure reliability, data collection, data management and analysis, ethical considerations, delineation of the study, and dissemination and implementation of results are all included in the research methodology to ensure that the method chosen assists in meeting the study's research objectives.

Chapter 4: Presentation, analysis, interpretation and discussion

This chapter presents, analyses, interprets and discusses the data pertaining to this study.

Chapter 5: Discussion of the results and literature control

Chapter 5 discusses the study's findings, with emphasis on the themes and sub-themes. Literature control from various sources supports the discussion.

Chapter 6: Summary, limitations, dissemination, recommendations and conclusions

This chapter summarises the study and discusses the limitation of the study. Moreover, recommendations pertaining to this study's topic are put to the relevant stakeholders, namely, healthcare workers, non-profit organisations, animal regulatory bodies, relevant departments, civic organisations, and policymakers. In addition, the conclusions of the study are presented.

1.10 SUMMARY OF THE STUDY

The background, problem statement, significance, goal, and research objectives of the study are outlined in Chapter 1. Chapter 2 reviews literature from a variety of sources related to the causes of dog bites. In Chapter 3, the researcher selected a qualitative research method to assist the study in achieving its set objectives. Chapter 4 presents, analyses, interprets, and discusses data pertaining to the study. Chapter 5 discusses the study's findings, emphasising the themes and sub-themes. The discussion is supported by literature control from various sources. Finally, chapter 6 reflects on what has been experienced in the different stages of the research.

CHAPTER 2

LITERATURE REVIEW

2.1 INTRODUCTION

The previous chapter gave an overview of the factors contributing to incidents of dogs biting humans from various sources in different contexts. This literature further outlines the solutions to mitigate the problem. The researcher put the phenomenon into context, critically identified the gaps, and familiarised himself with the existing research. The purpose and objectives of the current study have been stated. Exploring the factors contributing to dog bite incidents remains significant as the study complements the vision of the Asian Rabies Control Network (ARACON) of zero human rabies death by the year 2030. In this chapter, the researcher located the research within the existing knowledge in order to generate new knowledge about the phenomenon. This chapter presented the gaps in other sources and stimulated debates based on other scholars' interpretations of the literature. This will help the researcher to arrive at a particular finding with consideration of others' viewpoints, and by so doing, new knowledge will be developed.

2.2 A GLOBAL, CONTINENTAL, AND LOCAL PERSPECTIVE ON DOG BITE INCIDENTS

It cannot be denied that dog bite incidents continue to be a worldwide societal health risk. From continents worldwide to international communities, African regions, and provinces of South Africa (SA), few can deny the dog bite experience. Using various studies conducted in North Iran, Siem Reap, Cambodia, Pradesh India, Sankar Village, United Kingdom, and other countries, the researcher identified dog bite incidents to which common factors contributed. Furthermore, the studies of Hosseini et al., (2019), Sor et al., (2018), Sharma et al., (2016) and Westgarth et al., (2017) conducted in different settings around the world found the high dog population a common denominator among other contributory factors to dog bites, which was also the case in the overview of the study.

Though no factors can be generalised to all contexts worldwide, some elements or factors intersect from one context to another and from one study to the other. Considering this view, one would argue that other contexts with a high dog population may have fewer incidents of dog bites, suggesting that some of the factors may exacerbate or mitigate dog bite incidents even in a high dog population. Though one cannot dismiss "the high dog population" as a factor contributing to dog bites, associating it with other elements cannot be ruled out considering a setting as they have a variety of characters. The researcher's view on this factor suggests the probability of other related activities.

When dog bite injuries continue to be major public health issues worldwide, they hinder the global strategic plan to end human deaths from dog-mediated rabies by 2030, as collaborated by WHO (2019).

According to WHO (2019), their objective is to generate, innovate and measure the impact of rabies control measures to provide guidance, effective policies, and governance and generate reliable data for effective decision-making. The factors contributing to dog bites can be prevented with the objective of the WHO (2019) in mind, namely, to provide policies, guidance, and governance. Though the objectives focus on rabies elimination, they also positively contribute to preventing dog bite incidents, as the two health problems are inseparable. Additionally, countries in Asia like Cambodia, Bhutan, and Chandigarh, were also affected by the factors that contributed to dog bite incidents, albeit to a lesser extent than other regions where the study regarding these factors had been conducted (Ponsich, Goutard, Sorn & Tarantola, 2016).

Furthermore, the Cambodian study by Ponsich et al., (2016) found that provoked attacks were more likely to result in dog bites than unprovoked ones. The assertion made by Ponsich et al., (2016) is that the provocation came about from the activity of butchering dogs for industry purposes in Cambodia and Vietnam. When considering the activity of butchering, it is normal for any living organism to defend itself if it is in danger. This satisfies provocation during butchering and contributes hugely to the incidents of dog bites.

Ponsich et al., (2016) further revealed dog bite incidents while feeding puppies. This also becomes convincing as one would undoubtedly see the level of aggression of a nursing bitch defending the defenceless puppies. In this instance, it is common knowledge that a mother cannot abandon her young ones but will defend them against any risk directed at them. Furthermore, Ponsich et al., (2016) alluded that seasonal influences on the farmer and families, workload, and the seasonal migratory phenomenon, which could insinuate dog fights, are some of the examples of. Therefore, it is convincing that when Ponsich et al., (2016) identify these instances as provocative, it resulted from frequent interaction that the Cambodian community was subjected to, which exposed them to dog bite incidents.

In addition to the factors that contributed to dog bite incidents, a retrospective record review of dog bite cases in 2019 and 2020 from the people living in Thimphu City revealed that stray dogs are the highest risk factor for dog bite incidents (Adhikari, Adhikari & Pradhan, 2022). Furthermore, Adhikari et al., (2022) reviewed the impact of the Covid-19 pandemic on the burden of dog bite cases. According to Adhikari et al. (2022), this study reveals that the age group of 20 to 59 years was significantly at risk of getting bitten by dogs in 2020 because of continuing to go outdoors for work during Covid-19 lockdown-level restrictions. Adhikari et al. (2022) further

highlight the 13000 stray dog population in 2020, which was a number that may have contributed significantly.

The study conducted in a Union Territory of Chandigarh North of India revealed findings similar to Ponsich et al., (2016). Bashar and Duggal (2019) mention seasonal variation due to breeding, provocation, and inferences made by people, especially children. In addition, Ponsich et al., (2016) stated that the provocation attacks came because of butchering activities for industry purposes in Cambodia and Vietnam. Ponsich et al., (2016) further revealed dog bite inferences as a result of feeding the puppies, which insinuated the aggression of the bitch in defence of its young ones.

According to Bashar and Duggal (2019), stray dogs wandering across Chandigarh's neighbourhoods expose youngsters to the risk of dog bites. To reduce these aggravating factors, the afore-mentioned issues can be reduced by raising public awareness through education and knowledge about how to safely engage with dogs in neighbourhoods (Ponsich et al., 2016). Another study by Owczarczak-Garstecka (2020) in Liverpool found that certain dog attacks were seen as play bites and were accepted as a regular element of interactions between people and dogs. However, Owczarczak-Garstecka (2020) believed that unless the seriousness of the pierced wound was determined, such dog bite incidents could not be classified as dog bite incidents.

Owczarczak-Garstecka (2020) further argues that most dog bites do not seek medical attention due to poor supervision of children and the lack of knowledge and skills to control the dog by the dog owners. This perception is dangerous, as it ignores the spread of rabies infection. The longitudinal study of Wierzbowska, Hedrzak, Tallian and Basak (2022) conducted in Poland focussed on the prevalence and circumstances of dog bites. Wierzbowska et al., (2022) found that territorial invasion, stray dogs, and breed-related contributed significantly to dog bites in Poland. Moreover, Wierzbowska et al., (2022) drew two essential factors from a study: aggressive breeds (American Pitbull Terriers, Mongrels, German Shepherd, American Staffordshire Terriers, and Rottweiler). The second factor included dogs that were not owned (stray free ranging), with few small proportions of owned dogs.

The setting where dog bite incidents occur differs from those described above as contributing factors, although the majority share some characteristics and only slightly diverge from one another. To name a few, Wierzbowska et al., (2022) included breed-related factors, which included an American Bull Terrier. Owczarczak-Garstecka. (2020) talked about Pitbulls as a factor of their infamous cruel, hateful nature. In addition to the factors mentioned above, Owczarczak-Garstecka (2020) and Wierzbowska et al., (2022) highlighted the ignorance of the behaviours resulting from dog bites. Start here again

Three factors were identified as contributing to the incident of dog bites in Peru, on the continent of South America. According to De la Puente-leon et al. (2020), there are more stray dogs in peri-urban areas, torrential rainstorms in Arequipa force street dogs to travel through the city, and residents of these areas commonly keep more dogs as a form of security because crime is more prevalent in their area. These factors were all found to contribute to the incident of dog bites.

The study mentioned above by De la Puente-leon et al., (2020) has added another dimension by revealing a different contributing factor. The weather in Arequipa, which drives stray dogs to go across the city, is the contributing element. As a result of this constant contact, people frequently suffer dog bite injuries.

Another study conducted on the African continent in Umuahia, Abia state of Nigeria, concluded that dog bites were provocative (Apeh, Nwagbo, Ifende, Oguiche & Simon, 2021). The issue was brought on by the confinement of bitches and assumptions made by dogs while interacting with their puppies. In a different version, Apeh et al., (2021) describe the protective, aggressive behaviour that a dog may exhibit in response to a provocation. After understanding the various studies, the researcher noticed that many conclusions were comparable from one study to the next.

The study in Kimberley, South Africa, confirms that dog bites are challenging (Steinberg, Ishaya, Van Rooyen & Habib, 2020). However, if the dog feels threatened, it may bite. Trying to take a dog's food away while they are eating could result in provoked bites. They might also occur if you make fun of the family pet. Animal bites, however, frequently occur without being provoked. In South Africa, a few nationally representative data regarding the scope of the dog bites contributing factors are available.

Dog bites were geographically distributed throughout the Bushbuckridge Municipality in Limpopo Province, with hotspots identified for health awareness and education campaigns. Seasonality was associated with dog bite cases, with more cases reported during the summer months of October to January. This factor is likely due to the different social behaviours of humans during the summer months.

2.3 SUMMARY OF THE LITERATURE REVIEW

The literature review in this chapter revealed that factors such as high dog population, non-compliance with dog-keeping laws, and personality variation contributed to dog bite incidents. To avert this, the following could be implemented: restrictions on dogs in controlled environments,

reporting stray dogs to authorities, and awareness of vulnerable community groups.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 INTRODUCTION

The previous chapter focussed on the literature review. The reviewed literature paved the way for the current study to expand on the prior work done by other researchers. The research methodology and design are discussed in detail in this chapter. The research design, study setting, population, sample, face-to-face in-depth interviews, pre-test, measures to ensure validity, data collection, data management and analysis, ethical considerations, study limitations, and dissemination are all included in the research methodology. It is also important to mention that the researcher is the primary instrument of data collection and analysis.

3.2 RESEARCH METHODOLOGY

The research methodology is a set of logical steps the researcher takes to answer the research question (Brink et al., 2018). In other words, it is a strategy used for answering a research question, and in this study, a qualitative approach was used. The qualitative approach's features are that it is conducted in a real-life situation, it is more focused on the process and less on the results, it is inductive in nature, and the researcher is seen as the main instrument. Thus, the researcher followed a qualitative approach, considering the benefits of a qualitative approach as it allowed robust investigation and learning about a social phenomenon, which in the case of this study, was a dog bite. Brink, van der Walt and van Rensburg (2012) indicate the aim or purpose of qualitative research as an in-depth description and understanding of people's beliefs, actions, and events in all their complexity.

The primary purpose of this study was to investigate the factors contributing to human dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province.

The study investigated the factors contributing to human dog bites that required the participant's subjective experiences, thereby allowing the researcher to understand the phenomenon in-depth. In this study, a qualitative approach was used to create an opportunity to transform the philosophical belief system by actively involving both literate and illiterate participants to express how they view the social problem being investigated. All the participants were asked a common central question. Such a question was inductive in nature,

meaning that it could induce as many questions as possible depending on the response given by the participants during the interview.

3.3 RESEARCH DESIGN

There are various ways in which the writer of qualitative texts has organised the diversity of forms of qualitative research. The brief overview of Merriam and Tisdell (2016) suggests no consensus on classifying the baffling number of choices or approaches to qualitative research. Having this information in mind, the researcher then makes a choice based on the variations on how the research question may be asked, sample selection, data collection, and analysis.

Merriam and Tisdell (2016) define research as a systematic process by which we know more about something than we did before engaging in a process which can be pure research, applied research, evaluation research, or action research. Polit & Beck, 2017 (2017) further discuss descriptive and qualitative designs. They assert that descriptive designs are intended to systematically describe the facts and characteristics of a given phenomenon rather than determining cause and effect, predicting, or describing the distribution of some attributes amongst a population.

On the other hand, Polit & Beck, (2017) assert that qualitative researchers are interested in understanding how people interpret experiences, how they construct the world and what meaning they attribute to the experiences. In addition, the questions about understanding the experiences call for a qualitative design. Merriam and Tisdell (2016) further define qualitative research as a methodology of naturalistic inquiry, meaning that it takes place in a real-world setting rather than a laboratory setting, with no control over what is being studied and discovery-oriented with predetermined findings.

From the above assertion, and considering the study's purpose and theoretical orientation, the researcher chose the qualitative approach as the phenomenon under investigation calls for. Therefore, the study conducted calls for dog bite victims to describe their understanding of what factors contributed to such incidents in the Khakhu Madala local area in the Thulamela sub-district of the Vhembe District, Limpopo Province, based on their knowledge.

3.3.1 Explorative design

Brink et al., (2018) define explorative or phenomenological design as a study that examines human experiences through descriptions provided by the people involved and answers the question. In other words, these are the lived experiences regarding certain phenomena. This

study has used an exploratory research design to explore the factors influencing dog bite incidents at the Khakhu Madala local area in the Thulamela sub-district of Vhembe district, Limpopo Province, to gain more insight into the topic under study. This exploratory design

helped the researcher to gain insight into the situation, phenomenon, community, or individual. An explorative design also helped in exploring the dimensions of the phenomena. It allowed for an in-depth exploration by probing, wherein it also allowed participants to explain factors that have influenced dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of the Vhembe district, Limpopo Province.

3.3.2 Descriptive design

Polit and Beck (2017) outlined descriptive design as a design that is used where more information is required in a field through the provision of a picture of the phenomenon as it occurs naturally. In this design, the participant gives an explanation which assists the researcher in having an image of the phenomenon. This study's descriptive design allowed the participants to describe the factors contributing to dog bites in the Khakhu Madala local area in the Thulamela sub-district of Vhembe district, Limpopo Province. The researcher then got a picture of factors contributing to dog bite incidents.

3.3.3 Contextual design

Holtzblatt and Beyer (2015) define contextual design as a customer-centred method that stresses customer data use through ethnographic observation and interviewing techniques. In this design, the researcher used paper examples to engage participants in a dialogue over an interactive refinement process. The participants were given the opportunity to describe the causes of human dog bites in their context of the Khakhu Madala locality in the Thulamela sub-district of the Vhembe district, Limpopo Province.

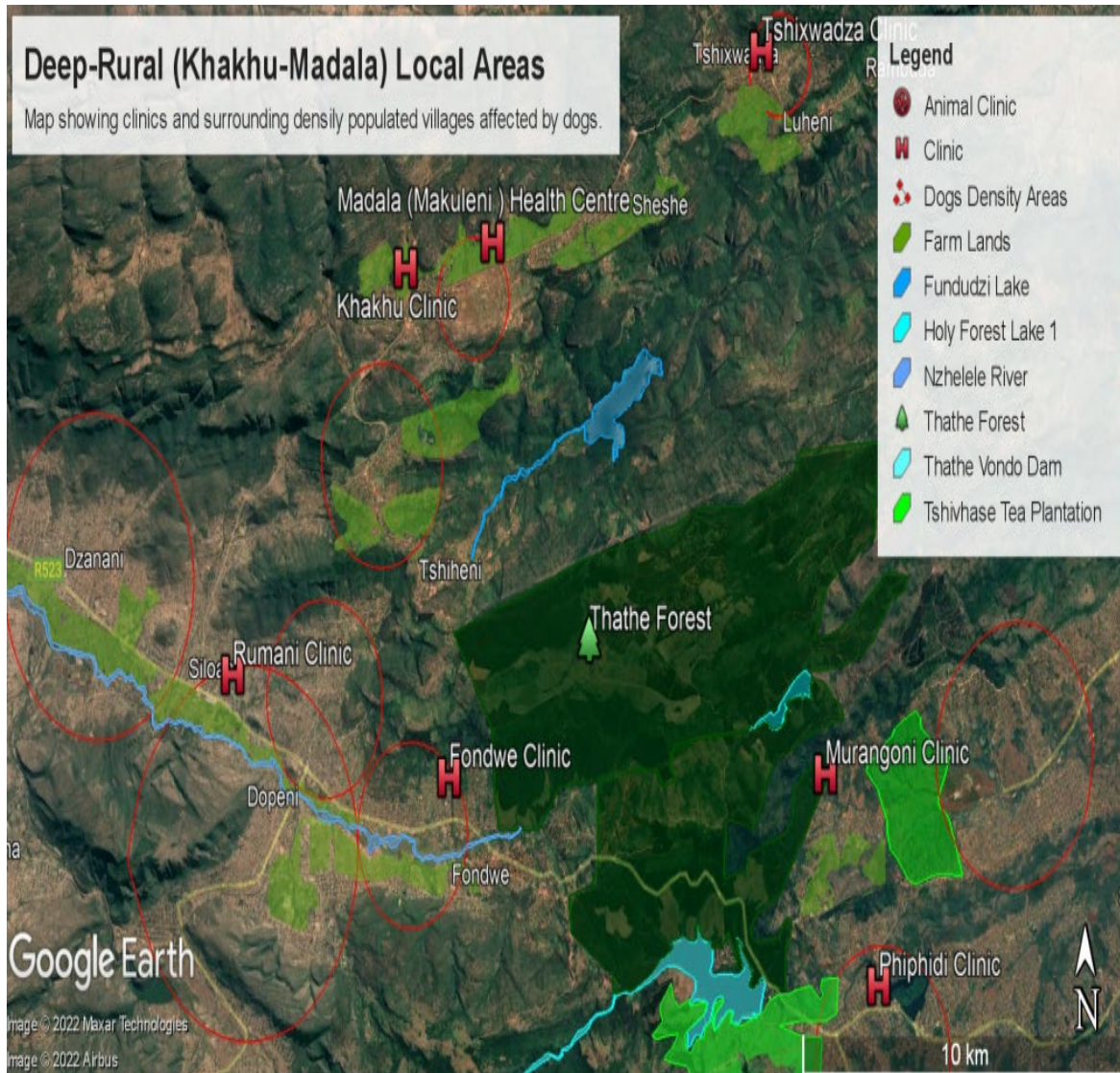


Figure 3.1: A map illustrating key features of the Khakhu Madala local area

3.4 STUDY SETTING

Figure 3.1 above illustrates a topographical layout of the study setting where the research was conducted. The study was conducted in the communities around the Khakhu Madala local area. The Khakhu Madala local area is in the Thulamela sub-district of the Vhembe District, Limpopo Province. This deeply rural area comprises 35 villages and six PHC facilities. Some communities also live within a radius of more than a walking distance from the PHC facilities. The topographical layout of the study area constitutes mountainous areas, streams and valleys. It is dominated by steep slopes and poor road infrastructure, which hinders access to healthcare services. The situation worsens during rainy weather. Some of these areas lack public transport to access healthcare services in fixed clinics. The DoH sometimes provides mobile health clinics to mitigate long-distance travel.

Like any other rural community, the community around the Khakhu Madala local area is characterised by domestic animals such as goats, cattle, chickens, and dogs. These domestic animals seem to contribute to the economic and safety demands these communities face. Hence, there is unemployment. In addition, the crime rate and destruction of crops by wild animals remain the social ills of these communities. Most of the government services required to alleviate their burdens are distal.

Apart from the health services mentioned above, there is no agricultural offices, animal clinic, or public transport. In addition, the infrastructure supporting communication is poor, and the water for domestic purposes is shared with animals and is unsafe for consumption.

The population of this community is dominated by the age groups below 15 years, followed by adults of 18 to 45 years and a lower percentage of elderly people above 45 years. These communities also believe in the culture of sharing, resulting in increased social contact with one another. During this time of visits, exposure to injuries by domestic animals becomes frequent.

3.5 STUDY POPULATION

A population is a complete set of persons with some common characteristics that interest the researcher (Brink et al., 2018). In this study, the population comprised dog bite victims with any form of injury caused by physical encounters with a dog. The dog bite victims were registered in the dog bite register at the Khakhu Madala local area health facilities following their visit between January 2018 and December 2019.

3.6 THE TARGET POPULATION

According to Brink et al. (2018), a target population is a precise group of individuals or things that have a characteristic that the researcher is interested in. Moreover, Grove, Gray and Faan (2019) and Brink et al., (2018) further add that the target group is the entire group of people who meet the criteria the researcher is interested in examining. In this study, the target population comprised dog bite victims aged 18 years and above recorded in the dog bite registers of the PHC facilities in the Khakhu Madala local area between January 2018 and December 2019. The reason for selecting these participants in the dog bite register was based on the traceability of the victims, as the dog bite register included the physical addresses, contact numbers, the bite's site, the bite's severity, and the management plan applied. Such registers assisted the researcher in easily tracing participants at the location where they had chosen to be interviewed. They were easily contacted during their invitation at the clinic of their choice, which they easily accessed.

3.7 SAMPLE AND SAMPLING

According to Groves et al. (2019), sampling is the process by which a researcher chooses a group of individuals, occasions, behaviours, or other elements representative of the community under study. Merriam and Tisdell. (2016) identify the two basic sampling types: probability and non-probability sampling. Merriam and Tisdell (2016) added that probability sampling allows the investigator to generalise the results of the study from the sample of the population from which it was drawn. Since generalisation in a statistical sense is not a goal of qualitative research, even in this study, generalisation cannot be instituted for the selection of participants.

Another type of basic sampling mentioned by Merriam and Tisdell (2016) is the non-probability purposive sampling method, an alternative choice of qualitative research. Merriam and Tisdell (2016) further added that non-probability purposive sampling methods “are logical as long as the field worker expects mainly to use his data not to answer questions like ‘how much?’ and ‘how often?’ but to solve qualitative problems, such as discovering what occurs, the implication of what occurs and the relationship linking occurrences.” This study used non-probability purposive sampling to meet the researcher’s sample of choice.

Since the design of this study is qualitative, the researcher adopted non-probability purposive sampling to select the participants from the dog bite register who were willing and able to explain nuances for the quality of data.

Furthermore, purposive or judgmental sampling was used to enable the researcher to use his knowledge about the target population and its elements to handpick participants with the characteristics for inclusion in the sample.

Recruitment plan used was to identify willing and able participants from the dogbite registers of the facilities under the area of study

3.7.1 Sample size

Gray, Grove and Sutherland (2017) define sample size as the number of participants, occasions, behaviours, or circumstances included in an analysis. The information requirements of the study determine the sample size (Polit & Beck, 2014). The sample size was determined by the data saturation whether to continue or stop with data collection depending on whether new data emerged. It is suggested that data saturation is reached at a point when no new information emerges during data collection and analysis. In this study, the researcher reached saturation from the 22 participants. The researcher proceeded with three more participants until a conclusion was drawn that the sample was adequate for authenticity. In this study, the researcher interviewed 25 participants who met the inclusion criteria for the interview.

3.7.2 Inclusion criteria

The inclusion criteria were dog bite victims of adults recorded in the dog bite register of the local area PHC facilities between January 2018 and December 2019. The researcher used his own discretion to objectively select participants who were able, willing and knowledgeable about the human-dog bite incidents that have occurred.

3.8 MEASUREMENT INSTRUMENT

After due processes of recruitment which is outlined in 3.10 below, the researcher then used unstructured in-depth face-to-face interviews as a data collection instrument using the language which is best understood by the participant and which is Tshivenda as commonly spoken in this community for a duration of approximately 45 minutes. The interview was conducted in a consulting room which was not in use for the day to day activities for the facility and with the use of audio recorder to the participants who granted authorization prior use as they their permission was asked. People are naturally conversational, so interview methods draw on something people are accustomed to participating in. As a research method, an interview is an event that is likely pre-planned. Leavy (2022) posits that different interview methods impose various structure levels. According to Leavy (2022), in-depth interviews are inductive or open-ended and range

from unstructured to semi-structured. This means that interview questions do not have predetermined sets of acceptable responses, such as true or false. Rather, participants can use their own language, provide long and detailed responses if they choose to and go in any direction they want in response to the question.

Data collection interviews require the researcher to begin with broader and more general questions to specific questions. In this study, the researcher developed and used the following central question: Could you please explain the factors contributing to the dog bite incident?

The researcher interviewed the participants using unstructured in-depth face-to-face interviews and observation for data collection. The data involves shared elucidation of the researcher and participants, and no trials are made to control the interaction (Brink et al., 2012). This enabled the participants to feel more comfortable while the researcher built rapport. The interviews depended on building rapport with the participants through active listening. Eye contact and positive gestures were also used. The researcher was interested in what the participants said, encouraging them to share the required data freely without prejudice. Probes were used to demonstrate active listening and to collect richer data. A probe might be a simple “please tell me more” or a non-verbal gesture such as a nod indicating that the researcher would like the participant to continue.

Active listening also helps the researcher to pick up on markers which may be the keys to vital information. The researcher must avoid interrupting the participant until they have completed their response by jotting down markers when they hear them. The benefit of face-to-face interviews is that they create the opportunity to build rapport, pick up on visual cues, and use gestures. The researcher will only transcribe parts of the collected data that he deems relevant. The transcripts will be labelled so that they can be easily analysed.

3.9 PRE-TEST STUDY

Pre-testing is the process by which the researcher tries out the produced question before it is used to identify any potential problems (Kumar, 2018). Brink et al., (2018) stated that a pre-test study differs from a pilot study as it concerns data collection instruments. The researcher conducted a pre-test to ascertain the instrument for its refinement and the researcher’s probing skills as the primary instrument throughout the research process. Pre-test was done to detect possible flaws in the instrument, such as ambiguity, wording, and inadequate time limits. A pre-test also gave the researcher an opportunity for self-assessment as a primary instrument to refine the skills before the real study began. A pre-test study was done by selecting four participants who met the same criteria as those included in the study and were obtained from the sample from the population under study. A pre-test did not form part of the study because the researcher was still assessing

interviewing abilities and making notes about what to omit from the actual interview.

3.10 RECRUITMENT OF PARTICIPANTS

Following a review of the research study by the UNIVEN Human and Clinical Trails Research Ethic Committee (HCTREC), a certificate (number SHS/21/PDC/10/1908) was issued, and the research project was approved. Letters were drafted for authorization to conduct the study to different levels of health care services up to the leaders of the communities where the study was to be conducted including the use of a consent form to ask for permission from participants to partake in the study. Permission from the head of the Limpopo Department of Health in appendix **C**, Vhembe District Executive Manager in appendix **E**, the Chief and Traditional Council in appendix **G** and by the participants signing an informed consent form in appendix **I**. A letter of information was also attached, which included the title of the research study, brief introduction and purpose of the study, outline of the procedure, risk or discomfort to the participants, benefits, conditions for withdrawal of participants, duration of the interview, remuneration, confidentiality, general information, and consent form. The letter of information used accessible and appropriate language for the participants to understand easily. Participants were handpicked from the dog bite register and contacted telephonically using a non-probability purposive sampling technique.

3.11 MEASURES TO ENSURE TRUSTWORTHINESS

Trustworthiness refers to how much trust can be given to the research process and findings (Brink et al., 2018). According to Stahl and King (2020), the trustworthiness of the research is one of those shared realities, albeit a subjective one, where readers and writers might find commonality in the constructive processes. Stahl and King (2020) further assert that consumers can and should expect different findings on different days with different researchers, in different places, and with different writing classes. In addition, Stahl and King (2020) pointed out that different writers can generate unique outcomes even when a given set of data is collected and shared. In support of the statement above, Stahl and King (2020) articulate that it is because of qualitative researchers that reality is constructed. Finally, Stahl and King (2020) articulated four general criteria to rely on credibility, transferability, dependability, and confirmability.

3.11.1 Credibility

Grove et al., (2019) suggested that credibility is defined as the reader's belief in how well the researchers' findings captured the participants' points of view. Credibility is the establishment of the truth value of the findings. This study ensured credibility by applying the following criteria: prolonged engagement by spending reasonable time with the

participants (45 minutes to an hour) and repeatedly visiting the participants in the field. The researcher set expectations, built trust, and developed a rapport during the interview to ensure credibility. Credibility was also ensured through member checks by conducting follow-up interviews and playing back audio tape to confirm responses.

3.11.2 Transferability

Transferability is the ability to apply the findings in other contexts or with other participants (Brink et al., 2018). This study ensured transferability by pursuing thick descriptions, employing purposive sampling and data saturation.

3.11.3 Dependability

Dependability is the ability of the findings to be replicable with the same subjects or similar contexts, and this can be achieved by learning from the participants without controlling them (Brink et al., 2018). The researcher applied enquiry audits and stepwise replication techniques to ensure consistency or dependability in this study. The study was fully disclosed to ensure dependability, which served to demonstrate the process's stability and solidity. Instead of trying to manage the participants, the researcher learned from them. Additionally, the researcher ensured that the research problem was addressed, that the research focus was fostered, and that all procedures within the overall research process were consistent with the phenomenological principle, a philosophical and methodological premise. In order for other researchers to examine the data and reach identical findings, interpretations, and conclusions about the data, the researcher wanted to validate that the results were consistent with the raw data that had been collected.

3.11.4 Conformability

Conformability is the elimination of biases in the research procedures and results (Brink et al., 2018). Confirmability guarantees that the findings, conclusions and recommendations are supported by the data and that there is an intramural agreement between investigators' interpretation and the genuine confirmation (Brink et al., 2018). Conformability was enhanced through inquiry audits of raw data such as field notes, transcripts, and audio clips. The researcher also guarded against imposing preconceived ideas to ensure accuracy, relevance and meaning. Besides, constant engagement between the researcher and the supervisor made it possible for the study's findings to be true and unbiased.

3.12 PLAN FOR DATA COLLECTION

According to Brink et al. (2018), data collection is the process of gathering information to answer a research issue. According to Grove et al. (2019), data collecting is the process of selecting participants and compiling data from them; it includes selecting the sample, using data collection strategies, and transcribing notes and audio recordings. In qualitative investigations, the researcher is required to present a thorough data-gathering procedure so that others may "notice" how the research proceeded to increase the credibility of the study's conclusions. Participants and pertinent authorities were made aware of the goal of the study. The researcher visited the selected PHC facilities and recruited adult patients who met the inclusion criteria. Participants' contact details and their information were obtained from the primary healthcare register.

A direct telephone call was made to recruit participants in the study and to obtain their consent to take part in the study. The researcher informed the research participants through telephone conversation about their freedom of choice to participate, confidentiality to be maintained, consent form signing, period of the research study, and an indirect benefit from the study.

The participant's contact numbers on the register were used to communicate with them for briefing and scheduling of a convenient time, date and venue. Using the unstructured interview technique, the researcher, as the primary instrument for data collection, conducted an interview conversationally to investigate the factors contributing to dog bite incidents. Creating a conducive environment was key to avoiding interruptions by restricting movement in and out of the cubicle by clinic personnel. In-case the interviews were to be conducted in the participant's household, the researcher had measures in place to ensure that the environment was conducive for interviews.

The interview duration was 45 minutes to an hour. Interviews were conducted in Tshivenda, a commonly spoken language in the area. This was done to avoid using English which may have served as a language barrier and, in turn, limited the participants in providing thick and rich information about the phenomenon under study. There was no translator during this conversational interview.

The data collection lasted for at least three weeks, with two interviews conducted per day. In addition, the researcher used a transcription kit for audio clips and recording field notes as raw data.

The conversation began with a broad opening question, "Could you please explain the

factors contributing to the dog bite incident?” Then, the researcher asked the participant follow-up questions to enable the dog bite victim to provide in-depth information about the study phenomenon. Probing questions were also directed to the participant, including questions like: Could you tell me more? Remaining neutral during the conversation by bracketing the preconceived and judgmental ideas was strictly observed. Applying effective communication skills gave way to the flow of the conversation with the researcher. The researcher also demonstrates active listening by nodding their head during the conversation. During the conversation, the researcher also showed that there was no hurry.

When the participant becomes emotional regarding how the dog bite incident occurred, the researcher allowed the situation to calm until it was assumed that it was the right time to proceed. Showing empathy during the moment also builds rapport between the participant and the researcher. For the participants who needed further consoling they were referred to the social worker for the service.

During the interview, the researcher observed measures to prevent the spread of Covid-19. This included the compulsory wearing of masks, screening participants for Covid-19 and ascertaining if the participants were at low risk of having Covid-19. The researcher continued with the interview in case the participant was at high risk of Covid-19. The researcher was ready to refer the participant for health attention. A physical distance of 1.5 metres was observed to curb the possibility of spreading Covid-19. Hand hygiene with soap and water or regular sanitizing of hands was adhered to in order to prevent the spread of the coronavirus through sharing stationery and touching surfaces during the interview session. A well-ventilated environment was preferred where possible and necessary.

3.13 PLAN FOR DATA MANAGEMENT AND ANALYSIS

According to Brink et al. (2018), confidentiality is ensured by keeping all data, whether constituting questionnaire responses or video and audio-taped interviews, in a secure location. This has also been the case in this regard.

Data analysis and data management were done after retrieving collected data from a secured location that is always locked to prevent access by unauthorised persons. However, keeping the data in a secure location ensures legitimate requests by the institution and other researchers in the field to use their research findings. Data were coded manually because the researcher remained “instrumental” to the research outcomes in the form of questions asked, the coding, and the exploration of underlying meaning. Leavy (2022) outlined the five data analysis steps or phases as follows: Data

preparation and organisation phase, immersion phase, coding phase, categorising and theming phase, and interpretation phase. With great consideration of the above data analysis steps, the researcher followed the guide and applied the following steps to analyse the data and arrived at conclusions:

Phase 1: Data preparation and organisation – the researcher sorted field notes and transcripts of the interview using a colour coding system.

Phase 2: The immersion phase – the researcher read, looked at, and analysed data to gain a deep insight to develop initial ideas.

Phase 3: Coding phase – the researcher assigned words or phrases to segments of data, reduced data, and manually classified generated data using participants' language to generate codes.

Phase 4: Categorising and theming – this is the phase in which the researcher has grouped similar related codes together and memo writing in trying to link the researcher's coding and interpretation and attach meaning to a particular concept.

Phase 5: Interpretation phase – the researcher then makes sense of what has been learned. The researcher used memo notes to develop meaning and look for patterns across the data. A link between different categories, concepts and themes was also used. The use of data triangulation by asking different questions was also optional to examine the assertion. An interpretation was made in consideration of the research purpose by asking about the relationships between categories, themes and concepts, looking at emerged patterns, the essence of data to the researcher, the researcher's learned lesson when placing data in context, and the researcher's response to the research question.

3.14 ETHICAL CONSIDERATIONS

The assertion made by Kang and Hwang (2021) regarding the term ethical is that it generally implies "to be good, and avoid evil." Furthermore, Polit & Beck (2017) added that ethical behaviour presents a set of moral codes, standards, or rules for governing a profession or an individual. When giving a deeper meaning of the term ethical behaviour while conducting research has resonance due to the deep nature of observation and interview data collection methods. Moreover, Forster and Maxwell (2023) allege that failure to uphold ethical codes of conduct contributes to ethical dilemmas while conducting research.

Before concluding ethical considerations, Kang and Hwang (2021) articulated that ethical behaviour becomes more salient when researchers utilise direct face-to-face interviews

with vulnerable groups or communities who may be unable to express their emotions during the interview sessions. The point to be made here by Polit and Beck (2017) is that the researcher must adhere to the following ethical conduct: upholding informed consent, confidentiality, and privacy, adhering to beneficence principles, and practising honesty and integrity.

In this current study, the researcher upheld participants' autonomy by allowing them to participate with respect to their free will and avoiding any form of coercion. In addition, the researcher ensured that the interview lasted 45 minutes to avoid subjecting participants to distress. To promote respect and non-maleficence, information was gathered from participants in an extra consulting room at the PHC facility without interruption and using numbers to code participants in order to protect their real names to ensure anonymity and confidentiality and the principle of justice. Finally, the researcher ensured that all data collected was kept in a secure location.

Although the selection of participants was through a non-probability judgmental technique, every participant was given information in a written and verbal form detailed in the consent form. The use of language understood by participants was considered, and they were provided ample time to decide to participate in the study voluntarily.

3.15 PERMISSION TO CONDUCT THE STUDY

The researcher presented the proposal at the Advanced Nursing Department, Faculty of Health Sciences Higher Degrees Committee and the Executive Faculty Higher Degrees Committee. The research proposal was further submitted to the University of Venda (UNIVEN) Research Ethics Committee. Ethical clearance was granted (certificate number SHS/21/PDC/10/1908). Thereafter, the researcher submitted the certificate to the Limpopo Provincial Department of Health and requested approval to conduct the study.

This communique was made via the head of the Limpopo Department of Health in appendix **C**, Vhembe District Executive Manager in appendix **E**, the Chief and Traditional Council in appendix **G** and by the participants signing an informed consent form in appendix **I**. The local office of the Department of Health, Vhembe District. Once written permission from the Limpopo Department of Health as appendix **C** was obtained, it was attached to the copy of the UNIVEN research ethical clearance certificate, and a written letter for permission to interview the community was sent to the community leaders/authorities. Moreover, participants were recruited and made aware of the following ethical principles to be followed in the study.

3.15.1 Informed consent

Polit and Beck, (2017) assert that informed consent is the underlying and founding of ethical principles of conducting qualitative research; hence researchers must abide by this ethical conduct of upholding informed consent. Kang and Hwang (2021) further remind researchers to ensure the partaker's consent before commencing the research, meaning that consent should be obtained before the partakers enter the study.

Brink et al (2017) state that researchers should uphold informed consent by presenting the document appropriately and conveniently for partakers to comprehend; however, it involves minors or individuals with challenges that inhibit them from understanding what the document entails in some situations. Ultimately, Kang and Hwang (2021) lamented that researchers should present the informed consent most conveniently, verbally or in written form. Ultimately, participants should be willing to contribute to the study and have the freedom to choose whether to participate.

An information sheet (Annexure B) and an informed consent (Annexure C) form were given to participants to familiarise themselves with the study to investigate the factors that contributed to dog bites in the Khakhu Madala local area in the Vhembe District of Thulamela sub-district, Limpopo Province. The researcher ensured that participants received adequate information regarding the research that involved them, made them comprehend the information, and exercised their right to free/voluntary participation. Awareness to the participants on relevant areas such as study purpose, detailed information before they consent their commitment, and method of subject selection to enhance confidence in the study and to allow full cooperation was key. This was also coupled with transparency and honesty.

It was also important for the researcher to ensure fairness and just were maintained for all participants irrespective of their gender, race, educational level, language, political, cultural, and religious conviction.

Moreover, it was important to ensure that the risk was as minimal as possible in relation to the possible benefit. In this study, no possible risk was identified which could cause adverse effects to the participants. The researcher also remained focussed on ensuring that any situation that raises suspicion of susceptibility to risk is attended to.

3.15.2 Adherence to Covid-19 protocols

Depending on the venue chosen by the participant for the research study, the following Covid-19 protocols were observed to curb the spread of the coronavirus: screening of participants for Covid-19 to ascertain risk levels, observation of 1.5-metre distance,

wearing of masks, sanitizing of hands, and the promotion of a well-ventilated environment.

3.15.3 Beneficence principle

Kang and Hwang (2012) define beneficence as ethical conduct that refers to acting in ways that benefit others while promoting their safety and welfare. The beneficence principle applies to the inherent requirement of the researcher to uphold the participant's rights and protect them from discomfort and harm (Brink et al., 2018). Fortunately, in this qualitative study, a non-invasive procedure was involved. Furthermore, to uphold the beneficence principle in this study, a reasonable 45 minutes duration for interviews was set to avoid distress. Regarding the protection of an institution, the researcher has acknowledged that no institution is involved.

3.15.4 Justice principle

The principle of justice is carefully implementing and maintaining appropriate confidentiality procedures (Brink et al., 2018). In this study, participants were selected purposive or judgmental, searching for those who met the criteria. The cultural values, practices and beliefs were upheld by seeking permission from the royal leaders before data collection. Confidentiality was ensured by avoiding the use of real names and replaced with letters so that their data could not be linked to them. Participants were informed about the publication of the research findings with a great level of confidentiality.

3.15.5 Anonymity

The researcher protected the information provided by participants, particularly sensitive and personal accounts shared (these will only be accessible to the researcher). In addition, the data collected from participants are locked away securely. To ensure anonymity, the researcher avoided associating participants' data with their names or any other identifier. Instead, the researcher preferred using letters on the participant's data to remain anonymous until the publication of reports and findings.

3.15.6 Privacy and confidentiality

Grove et al., (2019) defined privacy as the freedom of participants to decide the time, extent, and general conditions of their private and emotional information. This study conducted interviews in a private room away from destruction, and participants were guaranteed privacy and confidentiality. Personal identifiers such as names, birthdates, and places of residence were not collected, and the data was kept locked away to protect participants from psychological harm.

3.15.6 Remuneration

The researcher ensured that the participants accrued no material or monetary benefit during the course of the project.

3.16 LIMITATIONS OF THE STUDY

The study was limited to the Khakhu Madala local area at Thulamela sub-district in the Vhembe district, Limpopo Province. The study's findings did not generalise to the entire Limpopo Province. This was because of their uniqueness regarding their way of life in making ends meet and their contribution to subsistence farming and other basic service needs that the government abandoned. Furthermore, the geographical layout of the Khakhu Madalalocal area, which is characterised by poor road infrastructure, renders the area inaccessible during rainy weather due to the type of soil that is more clay and becomes slippery when wet.

3.17 DISSEMINATION OF RESULTS

Apart from different forms of results presentation, the researcher will also share the research findings of this study in the form of a report presentation to the community groups. In addition, copies of the final research report will be sent to other relevant stakeholders, including the DoH and the UNIVEN library. The research findings will also be presented at accredited national and international conferences. In addition, the findings of the study will be published in accredited journals.

3.18 SUMMARY OF THE RESEARCH METHODOLOGY

This chapter outlined the research design of the qualitative approach chosen by the researcher to allow robust investigation and learning about social phenomena. The designs adopted were exploratory, descriptive, and contextual. A map illustrating a topographical layout of the Khakhu Madala local area was provided in the chapter. Moreover, the study population, target population, sampling and sample size, inclusion criteria and exclusion criteria of the study were also discussed. The chapter also used the interview method for data collection; this instrument was pretested to ascertain its flaws and determine whether to proceed. Participants were recruited following permission which was granted. Reliability, credibility, transferability, dependability, and confirmability were used to establish reliability and validity. Data were collected and run concurrently with data management and analysis over a three-week exercise. Ethical consideration was promoted by ensuring that participants were protected by any means possible. Informed consent was given to participants, including beneficence and justice principles.

The data collected with the interview tool in question gave way to the analysis, presentation, and interpretation in the next chapter.

CHAPTER 4

DATA ANALYSIS, PRESENTATION, AND INTERPRETATION OF FINDINGS

4.1 INTRODUCTION

The previous chapter discussed the research approach and design used in this study. This chapter analyses data using a table of themes and sub-themes that emerged during data collection. From the transcripts and notes taken during data collection, the participant's responses were analysed and coded using colour codes. From that basis, the following interpretations of the findings were made.

The study's objective was to explore the factors contributing to incidents of dogs biting humans in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province. The population was adults registered in the dog bite register of all six Khakhu Madala PHC facilities. Sampling was done following a non-probability purposive sampling approach. The data were analysed based on the study's objective. After interviewing 22 participants, the researcher realised that no new information was obtained and proceeded with three additional participants to ascertain if new information was still coming. It was at this point that data saturation was reached. In this study, participants were free to withdraw from participating at any time if they wished to do so and did not need to provide any reason for their discontinuation. Confidentiality was maintained by keeping the names of participants anonymous and locking away the records.

4.2 DEMOGRAPHIC DATA

A total of 25 participants were identified and interviewed about factors contributing to incidents of dogs biting humans in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province. The distribution included both males and females. The majority were males between 18 and 34, followed by males 35 years and older. Another identified characteristic was female adults of 35 years and older, followed by women between 18 to 34 years. All the participant categories met the criteria for inclusion in the study. This can be seen in Table 4. 1 below, which illustrates the percentage of the affected groups.

Table 4.1: Demographic summary

CHARACTERISTICS	TOTAL NUMBER	AGE
Male adults	9	18 years to 35
Female adults	3	18 years to 35
Male adults above 35 years	7	Above 35 years
Female adults	6	Above 35years

4.3 MAIN THEMES

Following what the researcher obtained as the findings of the study, the following three themes emerged during the interview: lack of responsibility in the control of dogs by dog owners, aggression augmentation by providing them with indigenous plants and other variations, and structural and environmental factors. In each theme, the sub-themes emerged during the interview with participants. A presentation and interpretation of the findings are discussed below. Table 2 presents the themes and sub-themes that emerged from the data analysis.

Table: 4.2 Themes and sub-themes

OBJECTIVES	EMERGED THEMES	SUB-THEMES
Explore the factors contributing to incidents of dogs biting humans in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province.	THEME 1: Lack of responsibility in the control of dogs by dog owners	1.1 Negligence 1.2 Inadequate practice in dog tethering 1.3 Lack of dog cages 1.4 Owning a dangerous dog breed

	<p>THEME 2: Aggression augmentation of dogs by providing them with indigenous plant and other variations</p>	<p>2.1 Guard dogs 2.2 Confinement/nursing bitch 2.3 Animal cruelty</p>
	<p>THEME 3: Structural and environmental factors</p>	<p>3.1 Lack of veterinary services 3.1 Free-roaming sick dogs as expressed by the participants.</p>

4.1.1 Theme 1: Lack of responsibility in the control of dogs by dog owners

Takacova, Skurkova, Mesarcova, Leskova, Kottferova, Packova, Vajanyi and Kottferova (2021) defined the practice of dog tethering as a method that restrains a dog to a stationary ground object such as a tree, usually in a pet owner's yard as a means of keeping the dog under control.

Participants cited many factors that stimulated dog bites, which included detaining dogs in a limited space; restricting the dog in a dangerous spot that exposes the dogs to provocation; for example, next to a route where people pass by; and restricting the dog for long hours without basic needs like shade, water, and food. These factors contributed to several incidents of dog bites. Four sub-themes emerged from this theme: negligence, inadequate practice in dog tethering, lack of dog cages, and owning a dangerous dog breed.

The findings revealed that the dog owners were accustomed to a method that exposes ordinary people to risk. The assertion made by participants in this regard is based on their observation that the dogs bit them and escaped from restrictions. Participants showed that it made them conclude that dog owners' lack of responsibility in controlling their dogs contributed to instigating the dogs to bite.

The lack of responsibility in the control of dogs by dog owners was mentioned repeatedly by most participants following a dog bite incident. As dog bite victims, participants gave related responses on how the dog bite incident occurred. The relation was that all dogs had tethering materials around their neck. What led to the incident of biting ranged from negligence and inadequate practice in dog tethering to the lack of cages and failure to feed dogs in their households.

This was evidenced by most of the participants who said:

Participant L: *“The dog owner chose to tether his dog in the wrong site which is near the passage route in which community members frequently pass by, which exacerbates dog’s aggression frequently and compromises the quality of the rope to fray and break easily, resulting in a dog bite. Furthermore, with this lack of responsibility in the control of the dog by the owner, it clearly shows that the dog owner inadequately practices dog tethering. It should be borne in mind that restricting a dog within a site where everybody passes by, including young girls and boys, may provoke the dog when they pass by and pose a serious risk.”*

Participant F: *“The dog owner brought his dog to the funeral, trying to create an opportunity for his dog to feed itself with the leftovers. This clearly shows that there is also a lack of responsibility in control of dogs by the dog owner and failure to feed the dog as he relied on garbage that remains during events which is not the right food for a domestic dog.”*

The expressions above reveal that dog owners persistently restrict their dogs for extended hours without releasing them or allowing them to move freely around the yard, which becomes stressful for the dogs. In addition, the participants mentioned that some dogs are left without food, shade, and water. When exposed to extreme environmental temperatures, the dogs become stressed and fight to break the leash, restricting them. Ultimately, the material used to restrict the dog, frays and breaks. The dog then becomes dangerous and starts to bite, fearing repeated restriction, making them vulnerable.

4.1.1.1 Sub-theme 1: Negligence

Negligence as a sub-theme emerged following the lack of basic requirements such as food, a dog cage (shelter), lack of healthcare plan, lack of appropriate tethers, timing in tethering, sight, and lack in communication, including verbal and non-verbal communication as expected from any dog owner. Therefore, the understanding thereof was that a dog owner should possess the requirements listed above when becoming a dog owner and be demanded an amount of responsibility for their dog.

Participant L expected that the dog owner must be responsible enough to control his dog, which just escaped the yard, went astray, and didn’t heed the owner’s call. Following several classifications, such as lack of dog cage, control, and inadequate practice in dog tethering, Participant L asserted that the incident would not have happened. Participant L was heartbroken as the interview reminded him of the scars left on his left arm. After calming him down, he added:

Participant L: *“The dog escaped the yard in the morning in the presence of the dog owner, and the dog didn’t heed its owner’s call, but what hurts most was the lack of action to take control over the dog as an owner who chose to go to work before the dog was kept under control. This resulted in the dog going astray and didn’t matter about the safety of the people the dog may encounter in the street. This kind of negligence subjected me to the dog bite incident as the dog chose to go and lie at my household gate. This incident could have been prevented, but the dog owner didn’t take advantage of the opportunity and report to the nearest veterinary services for assistance.”*

This indicates that the dog owner was negligent by failing to provide the basic needs for his dog and inadequate practice of dog tethering to keep his dog under control for extended hours. In addition, the dog owner lacks responsibility for who to consult for assistance when needed. The following quotations supported this view:

Participant T: *“I felt so disturbed when the dog owner neglected his dog as he failed to provide the basic needs for his dog. Bringing a dog in public and allowing it to feed on leftovers is evidence on its own that the dog owner has neglected his own dog because he does not provide care for his own dog. Most dog owners, when going in public spaces, they put dog collars in order to control the movement of their dogs so that they do not easily break into a fight and they do not roam around”.*

Participant P: *“After the dog bit me, the dog owner was not ready to own the responsibility as he was pretending he was not the dog owner. It became clear that the dog is his when people beat it up, and the dog shielded around him for safety.”*

Participants expressed that it was necessary for the dog owners to understand the caring and handling of dogs, not tether them where they could be easily provoked by people passing by.

4.2.1.1 Sub-theme 2: Inadequate practices in dog tethering

Looking at what factors have contributed to dog bites, there have been interlinks of factors from one incident to another. This resulted from one factor dependable on the other or two factors contributing to one dog bite incident. To substantiate this statement, a dog owner is found to be lacking a dog cage, with a broken fence, and failing to feed his own dog. Some of the circumstances referred to are articulated as follows:

Participant M: *“The incident happens because of a lack of adequacy in the practice of dog tethering. The dog owner uses to restrict the dog’s movement using breakable materials and even forgets to change the positioning in different weather. The incident of a dog bite happens*

as a result of the dog having broken the tether and escaped a broken fence. Unknowingly I came into an encounter with a dog in the street as it was searching for food. The dog bit me as I was performing gestures to scare the dog so that it must not come closer to me. The dog resisted and then responded by biting me up, defending its meal. Although, the dog had a piece broken tether around its neck after being abandoned in hot weather, it fought and succeeded in breaking the tether. It was also evident that the material for tethering was not of quality.”

Participant A: *“I was so disturbed by how the dog owner has hugely contributed to this dog bite incident. This is because he has not been consistent with tethering practices though he is aware that customers frequently visit his home to buy some groceries items. The dog owner didn’t have a cage to keep his dog and used tethering materials that fray. In this regard, tethering was inadequately practiced, and he should have a dog cage as an alternative for dog control.”*

Participant A: *“Naturally, dogs are territorial animals, and restricting them to a small space exacerbates them to respond aggressively and territorially to the approach of people and manifest their emotions by barking or biting. These dog owners are negligent and practice dog tethering inadequately as they put their interests first over the general people’s interests by creating no-go areas in public spaces. We live in fear even in a public space because the situation is unpredictable. Dog owners sometimes are inconsistent with their tethering practice as you may find a dog not restricted aggressive or dangerous as it may be.”*

Participant D: *“While chaining does not always make a dog aggressive, the animal is being given fewer options in fighting circumstances, thus inviting situations that increase the likelihood of aggressive responses. Chained dogs are time bombs and a risk to public health, especially those of dangerous breed which are not even fit to be kept in a domestic environment.”*

The participants explained why dogs became aggressive and bit the community members. The reason for falling victim to dog bites was also influenced by the neglected treatment the dog was going through because the dog owner went out without providing the dog with basic requirements. Most participants alluded that the dog sometimes makes unusual noises, resulting from pain when the tether is too tight or has been kinked by other nearby objects. The dog owner is not even consistent with tethering the dog because if he goes out for days, the dog is left without restriction, and when people pass by, they get bitten.

4.3.1.1 Sub-theme 3: Lack of dog cages

The participants highlighted that there had been deviations from principles used for dog restriction, which contributed largely to the dog bite incidents. From what the participants shared, it was mentioned that dog owners did not adhere to the principles that must be followed

when restricting a dog.

The participants expressed that the in-secured yard or broken fence, the frayed material used to restrict the dogs and the inconsistency of dog owners who fail to regularly tether their dogs for a certain period have largely contributed to the incidents of dog bites. In addition, participants frequently reiterated that most households had broken fences, and dog owners continued to own dogs without keeping their fences intact. Further, some dog owners do not even have a fence at all and prefer to restrict their dogs with chains to prevent them from straying.

Participants expect dog owners to adhere to the prescribed standards when restricting dogs; for example, the environment within which the dog is kept should be controlled, not broken. Participants further raised the issue of the material used to restrict the dog – it was mentioned that dog owners use ordinary materials such as ropes, chains, wires, and cables. They further indicated that these materials fray and break easily, allowing the dog to run loose. Thus, the dogs stray and end up biting people in the streets and sometimes in the people's own households.

Most participants further raised the timing issue when the dog is on the tether. It was mentioned that sometimes the dogs are on a tether in one place for extended hours, days, and even weeks or months without free movement. This practice by dog owners poses a risk of dog bite incidents. This was evidenced by the following quotes:

Participant P: *"I felt very annoyed when I became a victim of a dog bite as a result of the dog owner resisting change. It was discussed during a civic meeting in the community a month before I was bitten that dog owners are advised to restrain their dogs, especially those who are without fences. It was further articulated that they can also control their dog movement by keeping them in a dog cage, preferably those with multiple dogs. The dog owner was found to have multiple dogs, of which tethering was not practical but rather keeping the dogs in a dog cage. The dog owner didn't have the dog cage though he was still assuming ownership of those dogs. The dog owner was found to be doing it deliberately as he regarded his dogs as guards for his home as he usually spends much time away from home. This was found to be a serious problem as the dogs were not biting people entering their home but those passing by the street."*

Participant V: *"Unknowingly, as I was visiting my uncle, I was travelling along the street, which destined me to my uncle's household. The street was very quiet and made me wonder why there were no people from the opposite direction and even behind me. After moving a few metres ahead, a pack of three dogs escaped the yard and started to attack me. With the bag that was in my hand, I tried to protect myself, but it was not enough. I fell on the ground screaming for help; luckily, a car arrived, hooting to scare the dogs. One passenger opened the*

door and grabbed me on my jacket for safety. However, the dogs were still aggressive as we drove off the scene for safety. This was horrible for me as I lost a part of my left ear bleeding heavily. Some of the local community members gave their expressions about the uncooperative behaviour of the dog owner, who is reluctant to keep his dogs under control as he was advised to keep them in a cage for the safety of people. Other informants reiterated that the dog owner let his dogs loose as he is unable to feed them. This means that the dog owner has been negligent by lacking a dog cage to keep his dog under control, and even inadequately practiced his dog tethering in this regard. This ultimately led to me being bitten.”

From what was expressed above, both participants blame the dog owners for lacking dog cages to keep their dogs in for other people’s safety.

4.4.1.1 Sub-theme 4: Owning a dangerous dog breed as expressed by participants

The adjective “dangerous” emerged from its frequent utterance in participants’ responses. Participants mentioned that dog owners are keeping dogs that are dangerous to society in the households. A few things were mentioned to label the dog as dangerous: The severity of injury caused by the dog to the victim, the behaviour that the dog portrays when it bites, and the parts of the body the dog is likely to bite.

The perspective under the sub-theme (owning a dangerous dog breed) was informed by the seriousness of the injury caused by the dogs, which were found to have attacked one of the participants and left him with fractures of the radius and ulna of his left hand. According to the participant, the dog was a “German shepherd”. When asked to clarify such allegations, he described a dog with raised ears, well-built muscles, fearless, aloof, and one usually used by police.

Another participant also alleged that dog owners are keeping dangerous dogs in their households. The participant further mentioned the horror attack he had encountered against a Pitbull, which he believed wanted to kill him, as he sustained bites on the face and neck. The seriousness of the attack was aggravated by looking at the dog's aggressiveness and the parts of the body in which the dog was likely to bite. The participant also identified the type of breed by visual identification. The following quotes indicate the participant’s responses:

Participant R: *“I was bitten while protecting my small dog as I was about to leave the restaurant in the afternoon. The dog owner of a Pitbull found me seated, holding my small dog with a harness on his arrival at the restaurant. His dog then became restless though it was under the control of the harness. It pulled the owner, forcing her towards me as it tried to approach my small dog. Eventually, the Pitbull owner’s harness slipped out of her hand, and the Pitbull was*

all over my small dog. When my dog tried to hide in between my legs and as I tried to break up the fight, the Pitbull then intensified the fight such that I was also bitten multiple times over the body. The dog was tearing everything apart as the aggression heightened, and my dog and I were now victims. When the security calmed down the fight, the Pitbull was still eager enough to continue the fight. From what I have gone through and observed out of this phenomenon is that the Pitbull owner was just keeping a dangerous dog. She is even unable to calm it down when it is aggressive.”

Participant I: *“I was bitten by a dog which had a bad reputation regarding the incidents of dog bites. The dog had a first owner who chose to disown the dog after the dog bite; he was also charged with keeping a dangerous dog in a domestic environment. The information of its bad reputation resulted from having bitten a child and caused some deformities on both arms. The current owner didn’t have background knowledge about the dog’s bad reputation. It was saddening for someone to own a matured dog without having the life history of such a dog from the previous owner.”*

Participant D: *“Unknowingly, I opened the household gate to recollect the cellular phone that I forgot as I knocked off from my peace job. I was terrified to come across a very big dog in which I didn’t have the gut to stand and defend myself from that danger. As I chose to run away for my life, it ultimately caught me and broke my left hand with only one bite. I really thank the dog owner who spotted the incident and responded very quickly considering it’s huge and brave physical appearance character of a Pitbull.”*

Participants revealed how the dog bite incident occurred, which convinced them that the dog was dangerous. Participants expressed that the dog was dangerous based on its strength, which caused a fracture with only one bite and the sight the dog targeted to bite on the upper part of the body where vital organs are located. It is further asserted that such dogs are unsuitable in a domestic environment as they bite like wild animals. The responses above clearly indicate that participants have a view regarding certain breeds, such as Pitbulls.

4.5.1 Theme 2: Aggression augmentation of dogs by providing them with indigenous plants and other variations

Participants gave similar comments when asked about the factors that contributed to dog bites; they gave related evidence about the provision of indigenous plant products to augment the aggression of dogs by dog owners. Participants explained that aggression augmentation involves the crushing of leaves of an indigenous plant called “Mulanga” in which a dog is then forced to sniff to exacerbate the dog’s aggression. Participants alleged that dog owners are introducing such a practice to the dogs with the aim of guarding against their agricultural

production from wild animals. Most crop farmer requires a dog that is aggressive towards wild animals.

The information about this indigenous plant, Mulanga, is that most farmers around the Khakhu Madala local area tend to introduce the substance to their dogs. The practice is frequent, especially during summer when there are increased farming activities around the area in order to guard against their crops. When such practice is introduced to the dogs, the dogs do not direct their aggression specifically toward wild animals only, but also to human beings. According to the participants, the state of uncertainty is experienced when dog bite incidents increase as the participants fall victim.

The researcher's observation of this phenomenon was that an increase in dog bite incidents was encountered during the introduction of this practice coinciding with the arrival of the summer season, which affects the dog's variation. Therefore, the effectiveness of this practice cannot be denied considering the dog bite incidents that occur during a particular season. However, on the other hand, seasonal changes are known to affect the dog's behaviour despite the introduction of Mulanga (the indigenous plant).

What was articulated above was evidence of the practice of aggression augmentation to the dogs. Although it was summer, one could not ignore the overlapping of other factors contributing to the dog bite incident.

A similar testimony of aggression augmentation of dogs was revealed by Participant J, who learned that her dog bite incident resulted from the aggression augmentation of dogs when the dog owner and the provider of the substance used to augment dogs failed to stick to their agreement. The following verbatim was shared:

Participant J: *"I learned to know the incident of my dog bite following arguments between the provider of the substance used to augment aggression in dogs and the dog owner when it ensued as it was mentioned that the dog owners owed a certain amount of money for the service rendered on his dogs to beef up security at home following theft. The behaviour of the dog was strange following the influence of the indigenous plant, which was introduced for aggression. This kind of practice sounds inhumane as it risks innocent people's lives."*

In another incident, Participant Y added: *"I was bitten by multiple times outside the crop farm by the dogs which trespassed the broken yard. The incident happened as I was going to buy vegetables in a nearby crop farm. The dog owner was alleged to have introduced the indigenous plant to his dogs for them to become aggressive. In other words, he is leaving his dogs on the farm as guards against crop theft and destruction by wild animals during his absence; this is*

found to be disturbing because the fence of the farm was broken, which makes it easier for the dogs to attack people who use to pass by.”

The kind of practice (sniffing of Mulanga crushed leaves) and the augmentation of aggression by environmental factors makes the researcher conclude that aggression augmentation may not be introduced in the same manner but may have contributed to dog bites. From what has been revealed in the findings of this study, aggression augmentation has been practised for guard dogs amongst the study participants and has led to the emergence of the sub-theme ‘guard dog’.

4.5.1.1 Sub-theme 1: Guard dogs

Guard dogs were the common goal that dog owners gave for having one or more dogs in the household. It is commonly believed around the Khakhu Madala local area that owning a dog is commonly practised as a step towards strengthening household security. When the motive for owning a dog is fulfilled, the qualities required from the dog is its ability to fight back in order to guard against possession.

The above statement is supported by what transpired in a conversation with participants:

Participant B: *“The dog owner did not consider the consequences of his actions thereof as the indigenous plant was introduced to augment the dog for aggression. Previously we used to pass via this route, but now it was no longer safe to do so. Following this, the dog owner has introduced the indigenous plant to augment dog aggression to his dogs for the purpose of safeguarding his crop. This can be seen now when his dogs no longer turn their aggression to the wild animals only but include us, people, as we pass by.”*

Participant E: *“I am still horrified by the brutal attack I suffered by the neighbour’s dogs as they broke my leg that resulted from the introduction of indigenous plant to the dog for aggression augmentation. I have reported the matter to the royal leader to reprimand this practice so that dog owners be refrained from such practice. It cannot be correct to beef up guard dogs for the mealie crop and compromise the people’s safety. The practice must be condemned as it puts community members into physical and psychological trauma following the bite incident.”*

Participant E: *“The dog owner reported that he introduced a substance to his dog to stimulate its aggression towards wild animals in protection of his mealie crop. And I tried to find out what it was, and he mentioned the crushed leaves of an indigenous plant called Mulanga.”*

Participant J: *“The dog owner practised aggression augmentation in response to the housebreaking he had experienced to beef up security in the household.”*

There are several reasons many communities are found to be in relationships with dogs. The main reason found to be common around the Khakhu Madala local area communities was guarding of families and their belongings. A guard dog is about security and has qualities that a dog must possess. The allegations that the above participants are making against dog owners are influenced by the demand for such qualities expected from the dogs by the owners for them to be aggressive and bite.

This then brings the researcher to conclude that people were plunged into risky situations following how dog owners tend to introduce certain practices to augment aggression to their dogs so they become dangerous and bite.

4.5.1.2 Sub-theme 2: Confinement/Nursing bitch

The sub-theme 'Confinement/nursing bitch' emerged following the involvement of a few participants in the dog bite incidents. Participants gave their version of how the phenomenon involving their dog bite experience unfolded.

The participants cited that most dog owners are accustomed to sharing puppies once a dog has whelped. However, it was articulated that such practice is done with careful consideration of the nursing bitch as it may cause danger to the one removing the puppies from their bitch, including the dog owner. The participants indicated that they usually restrict the bitch before selling or sharing puppies to avoid the bitch defending its puppies. The following quotes indicate participants' experiences following the dog bite incident.

Participant F: *"I bought a puppy when the nursing bitch was roaming in the street. As I was about to leave, the situation became hostile as the dog turned against me aggressively and bit me grievously, and as I released the puppy to the ground, the dog moved away with the puppy. My arm was punctured, and the wound was too deep, as I resisted when the dog was pulling me back. When the dog owner arrived, I was badly injured. The dog owner's arrival at the scene didn't assist in the prevention of the bite, as the damage was done already. I blamed the dog owner for the occurrence of such an incident. This is because I asked him about the mother of the puppies, and he responded positively that the bitch will not attack me anyway because he is available. But when the dog turned against me, the owner was not there for me. The dog owner should have restricted her dog before selling those puppies, but because his attention was much more focused on the money he received, he overlooked the precautions to ensure that the dog must be kept in a cage or restricted with tether before taking its puppies."*

Participant W: *"The dog owner released the restrictions from his dog, assuming that a hundred and fifty meters away from where the puppy was removed was far enough, but that is where I*

encountered the horror attack. The incident lasted for a few seconds with great damage. I was bleeding profusely, my clothes were torn apart with multiple puncture wounds on both legs, body, and arms, and I was half consciousness as the dog released me. The lesson learned from the incident was that the dog was provoked as its puppy was removed in its presence.”

From what was articulated above, it is evident that the removal of its puppies provoked the dog, and the bitch reacted in defence. Considering the two incidents above, one can see that the fights stop each time the puppy is removed.

This sends a warning message that nursing bitches are dangerous when it comes to the protection of their young ones. The participants shared the following views:

Participant Q: *“There was a disturbing sound of puppies at the corner of the yard hidden in an abandoned wooden piece of a kitchen unit. A neighbour confirmed ownership. As I stood next to the whelping place, the bitch returned aggressively and bit me multiple times in protection of its puppies. I was trapped by long grass and fell on the ground as I was trying to run away. The incident happens in the presence of the dog owner. The dog owner new about his expecting pregnant bitch dog, but did not prepare the whelping place for the dog, which resulted in whelping its puppies in my yard. This has been exacerbated by the dog owner who failed to make provision for his dog in preparation for the new off springs that were to be whelped, and as a result, the incident occurred. I then ordered him to repatriate his puppies to his household in fear of his dog as it will continue to bite my family members to protect its young ones.”*

From the above, one concurs that a nursing bitch contributes significantly to dog bite incidents. What unfolded from the three incidents above has similarities in how it happened. The second paragraph from the sub-theme, nursing bitch or confinement, talks about the careful consideration when practising the removal of puppies from their bitch for trade purposes. The dog bite incident above evokes a question of whether the incidents were avoidable or unavoidable. If yes, what was not done? Or if no, how so?

Human dog bites occur in separate incidents, making it difficult for society to recognise them as a health problem. It is a matter which resides between the dog bite victim and the dog owner. The dog owner in this situation is the one who is in the best position to have a picture of how bad the situation is as far as the dog bite incident is concerned. Unfortunately, most dog owners do not assume responsibility after the dog bite incident; they remain silent and pretend the situation is normal.

The study is of great significance in raising awareness in society about the risk that dog bite incidents carry. Following a dog bite incident, several questions arise to understand how the

incident occurred. Providing a fair and credible answer to such a fundamental question requires not only a dog bite victim and dog owner, as the two parties may be biased or try to respond to the question in their favour. However, it is an issue requiring someone in a neutral position to arrive at credible findings.

There are several consequences that dog bite victims come across following the incident. Some of those consequences included exposure to infection, physical trauma, and financial burden in an effort to seek medical attention. The dog bite victims suffer those consequences alone without society at large noticing. By conducting this study, society may benefit as they become aware of the contributory factors of dog bite around the environment they find themselves in. The study may also ease the burden incurred by the NDoH in the demand of limited resources in promoting their effectiveness and efficiency use.

4.5.1.3 Sub-theme 3: Animal cruelty

In this study, the exposure of dogs to cruelty and other variations was a concern for the participants because dogs are known as domestic animals that can play a significant role in participants' daily lives. However, due to the exposure of dogs to other variations, society tends to see dogs as their enemy that must be chased away every time there is close interaction with them. A relationship that seems to have become a way of life that has evolved over a long period seems to be under threat. Some events, such as settlement and sociocultural, economic, and environmental changes, contributed largely to this interaction, as alluded. Cruelty and other variations as contributory factors to human dog bites have emerged from this basis.

Participants raised issues around cruelty and other variations contributing to animal bites. According to participants, some of the cruelty contributed to dog bites evolved around socially unacceptable behaviour that led to pain and suffering to the dog. These socially unacceptable behaviours include tying dog's tails using explosives, trapping dogs, and stoning them such that it exacerbates the dog's aggression. The following quotes serve as illustrations to help explain how dog bite incidents occur:

Participant O: *"During the New Year celebration, as I was asleep, a group of youth behaved anti-socially and tied the dogs' tails with explosives and lit them; since that day, the dog didn't come back home. Two days later, I searched for the dog and found it, but the dog was fearful such that when I wanted to tie it with a harness, the dog bit me aggressively, trying to defend itself as it regarded me as its enemy. This clearly shows that the dog was traumatised."*

Participant X: *"Following a group of young boys stoning a dog to death. The dog escaped the brutal attack and had no alternative but to run straight to me as I walked along a narrow passage*

as I tried to fend the dog away from me, it aggressively bit me in self-defence fearing the group of boys chasing behind. A few minutes later, a group of young boys came running, and as I asked what it was all about, I was told that the dog has a tendency of coming to eat eggs and kill chickens continuously, and we wanted to kill this dog before it influenced other dogs to do the same. The group of young men seem to embark on the mission to take the law unto themselves in the absence of the animal welfare officials.”

Participant S: *“As I was in a rescue mission of a dog which was trapped and bitten until unconscious by a group of boys who alleges that the dogs were destroying the livestock in the community including goats and chickens, suddenly the dog recovered and then started to bit me aggressively, and grievously I sustain serious injuries on the face chest and both arms. The dog was in a defensive mode as it lost consciousness when attacked. The people in the community were furious about the damage they were suffering due to the destruction of their livestock. And what is more concerning is the lack of accountability regarding dog ownership, as no one claims ownership. This challenge amongst this community has then incited the cruelty of society towards dogs, which then put the lives of those dogs in danger.”*

Considering how the above incidents have unfolded, it is clear that the community contributes significantly to exacerbating the dogs biting innocent people.

4.6.1 Theme 3: Structural and environmental factors

During the interview proceedings, the theme ‘structural and environmental factors’ emerged as participants pointed out the geographical setting where the dog bite phenomenon was occurring. Participants gave detailed information regarding their experiences, which led to the emergence of two additional sub-themes: lacking veterinary service and free-roaming infected dogs.

What was articulated by a few participants was an indication that the Khakhu Madala local area is a deeply rural area in the Vhembe District, and certain services that require animal care and control have been abandoned. A few participants gave responses that seemed to allege that the density of the dogs around the area is becoming uncontrolled. Due to the area's remoteness, participants also claim that all services related to animal care have been centralised in the urban area. By so doing, participants verbalised that it becomes a barrier for most community members to seek veterinary-related services as they are inaccessible.

Another participant mentioned that it becomes more difficult for justice to be served following a dog bite incident. This results in some community members relying on the traditional leaders around the village to resolve those matters. Traditional leaders lack expert knowledge and advice regarding dog bite incidents, but the matter remains unjustifiable.

One of the participants opined:

Participant C: *“This has been one of the most horror attacks I ever experience following an encounter with a pack of three dogs that grievously bit me. Though the other two dogs were stray, the third dog was neglected by its owner, raising the travelling and medical costs for his dog as it was sick. The dog owner, in this regard, left his dog in abandons following the dog’s sickness. The other dogs were unknown as there was an increased number of stray dogs in the communities around. Looking at this incident, it is clear that, as rural communities, we are left in the dark regarding animal care services that are centralised in urban by the Department of Agriculture and Forestry. If these services were not centralised, dogs would not be roaming around unaccounted for.”*

What the above participant has attested to has raised many questions regarding the owner’s lack of action regarding sick dogs and the roaming of unknown dogs around the community. This clearly shows that the community is more vulnerable to dog bites considering the lack of veterinary services in the area.

The same sentiments were shared by Daigle, Delesalle, Ravel, Ford and Aenishaenslin (2022) in a study of the Northern Indigenous Communities, which was classified under individual human factors, dog factors, and structural and environmental factors as themes. Furthermore, some of the sub-themes that emerged under the theme of structural and environmental factors were geographic remoteness, lack of veterinary service or animal control resources, lack of legislative intervention, the density of dogs in the community, free-roaming, and seasonality (temporal variation). Due to the absence of veterinary services and the unrestricted roaming of infectious dogs, two sub-themes emerged, which will be analysed and interpreted below.

4.6.1.1 Sub-theme 1: Lack of veterinary services as reported by participants

Participants showed that a few aspects of the veterinary services seem to have contributed to their bite. During the interview, it was mentioned that no animal vaccination campaigns are conducted regularly in the area. Participants also mentioned the lack of information about what could be done to the increasing number of stray dogs and those that are rabies-symptomatic. There was a lack of veterinary information regarding what could be done following a rabies-symptomatic dog roaming around. Moreover, it was found that community members tend to kill symptomatic dogs without seeking expert knowledge. Participants shared the following:

Participant G: *“The dog owners turn to abandon their dogs when they are sick due to a lack of facilities for animal clinics such as veterinary services or the Department of Agriculture and Forestry. They dump their dogs far from home when they don’t want to take care of their sick*

dogs, and they end up biting people. I had once found myself in a dire situation when a dog owner rejected the claims following the involvement of his dog in a bite incident as he failed to take it to the animal clinic. It was evident by the look of eyes that the dog was sick, and some community members even wanted to kill the dog for fear of spreading the disease to the people and other dogs around. Because of the lack of expert intervention in this regard, people tend to participate in some form of cruelty when they influence each other to kill those dogs to resolve the problems. This decision is taken without expert advice pending veterinary service in rural communities as the services are centralised in urban settings.”

Participant U: “Coming home from work is no longer safe as many dogs are roaming up and down in the households and even in the street. I was bitten by a dog roaming in the street as I was leaving work. The dog had been stalking me for a distance as I was carrying junk food in my bag. I chased the dog at first, and it ran away; how it returned for the second time was a surprise as it bit me up on the upper leg on the side where I was carrying the food. There were two other dogs approaching from the side, and when they noticed the approach of the other two people towards me at a distance, they fled to the nearby bush. The density of dogs has increased in our community, which is a serious problem for the community. The responsible stakeholders in the Departments are not heeding the call as the community has been raising voices about this problem. This clearly confirms that the structural environment regarding animal control is not in existence.”

The statements above indicate factors that have contributed to the incidents of dog bites. It involves animal cruelty by the owner who rejects their sick dogs, cruelty by the community which influences each other in killing sick dogs, lack of awareness by animal care experts, and the centralised veterinary service. Another participant added:

Participant H: “Until today, I don’t even know the owner of the dogs that were destroying our livestock. This is because I fell victim to the dog bite as I was protecting our livestock on a farm when we discovered that there were dogs coming at night to attack our livestock. As I was part of the community members who mobilised to attack those dogs at night, it happened that the dogs also fought back to escape the cage in which they were trapped. This is when the dog aggressively turned against me and bit me badly such that I was also referred for major stitches at the hospital.”

4.6.1.2 Sub-theme 2: Free roaming sick dogs as expressed by the participants

The sub-theme ‘free roaming sick dogs’ emerged following the incidents in which participants could not demand accountability following a dog bite. Participant C had undergone the same experience following survival from an attack by three dogs; two were stray dogs. The calls have

continued to grow as participants K and N articulated similar sentiments about rabies-symptomatic dogs roaming around the households. The perception around this phenomenology is that the community felt abandoned by the animal welfare bodies with regard to animal care and control. Participants raised issues concerning the unavailability of animal care centres and clinics around the community, expecting that those institutions would address those challenges. The participants expressed the following:

Participant K: *“When the neighbour’s puppies started howling in pain, the neighbour called for help, and as I rushed outside, I wondered what would be happening at the neighbour’s household. As I approached the gate, I was suddenly attacked at the back, and that’s where I was badly injured on my abdomen. The stray dog wanted to destroy the livestock, especially chickens and goats. There was some kind of behaviour that the dog was demonstrating, which raised suspicions about the rabies symptoms. The dog was fighting aggressively until such time when it escaped and fled the scene. Three days later, the dog was reported dead, and three of the bitten puppies were also reported dead.”*

Participant N: *“My dog had a strange behaviour against me as I returned home from a two days conference. As I opened the gate, the dog signalled that it was sick as it repeatedly turned around in a circle. Observing with surprise, the dog suddenly turned against me and attacked. I even tried to fend it off but did not retreat, so I had deep puncture wounds on both hands. It was recently discovered that the dog had recently interacted with a stray dog and seemed to have been infected as the stray dog was reported sick.”*

Both participants in sub-theme 2 above agreed that there were many stray dogs in the Khakhu Madala bushes. Most participants reflected on a few aspects ranging from the area’s remoteness to the centralisation of animal services and lack of accountability by dog owners to unjustifiable solutions regarding accountability following a dog bite.

4.7 SUMMARY OF DATA ANALYSIS, PRESENTATIONS, AND INTERPRETATION OF FINDINGS

This chapter discussed and interpreted the results of the study. Following the study’s results, the researcher conducted research in six PHC facilities in the Khakhu Madala local area with a few selected participants in each facility. Participants painted a picture of what could have contributed to the dog bite incidents in the area. The next chapter discusses the study’s findings and the literature control. Well written

CHAPTER 5

DISCUSSION OF THE RESULTS AND LITERATURE CONTROL

5.1 INTRODUCTION

Participants' revelation in Chapter 4 led to the emergence of three themes and nine sub-themes in this chapter. Chapter 5 discusses the study findings, with particular emphasis on the themes and sub-themes and the discussion was supported by a literature control from various sources. It is in this chapter that the limitations of this research are outlined. The results of this research will be disseminated, and recommendations will be made and directed to the relevant stakeholders, namely, healthcare workers, Non-Profit Organisations, animal regulatory bodies, relevant departments, civic organisations, and policymakers.

5.2 DISCUSSION OF THE THEMES AND SUB-THEMES

It is the frequency of the incidents that drew the attention of the researcher to conduct an investigation closely to investigate the contributory factors. During the interview with participants, information was revealed and was grouped into themes that led to the development of three themes and nine sub-themes. The discussion below will be based on the developed themes.

5.2.1 Theme 1: Lack of responsibility in the control of dogs by dog owners

According to Takacova et al. (2021), dog tethering has been defined as a method used to restrain a dog to a stationary ground object, such as a tree usually in a pet owner's yard, to keep the dog under control. It has been much clearer how this practice was about considering what the Khakhu Madala local area dog owners were accustomed to.

When analysing the assertion made by participants in their responses, the action of dog tethering was mentioned in each incident. Such action demonstrates that the owners of the dogs did not regard their custom as a bad practice that was causing pain and suffering to the community members after being bitten. Hence, they disregard the site of tethering, the duration of tethering, the material used for tethering, and the availability of shade in hot weather. From the researcher's observation, this action led to the emergence of the following sub-themes.

5.2.1.1 Sub-theme: Negligence

In order to establish safety from either side, namely, the dogs and people around, the dog

owner must abide by certain aspects prescribed by the Royal Society for the Prevention of Cruelty to Animals (Shih, Paterson & Phillips, 2019), which prescribes the following: training of the dogs on tethering, the use of an appropriate tether design, consideration of the tethering site, and timing and duration of tethering (Shih, Paterson & Phillips, 2019).

To clarify the principles, Shih, Paterson and Phillips (2019) emphasised that tethering of dogs must comply with any state/ territory laws or regulations relating to tethering of dogs. Furthermore, they made provisions that the tether design should be swivel, made of leather of approximately 3 metres, as it reduces the likelihood of entanglement. They added that metal chains are preferred as they provide greater security than a rope as it frays.

Elliott, Snowdon, Halliday, Hunt and Coleman (2019) elaborate on the tether sites, which must be reasonably flat, dry, non-obstructive, away from footpaths, and shady during hot weather. In addition, Elliott et al., (2019) alluded to the conditions that warranted avoiding tethering and mentioned long-term, extremely cold and hot weather, nursing or pregnant bitches, or near whelping.

Considering what is prescribed above, none of this was followed. There is a clear indication that dog owners disregard what is acceptable and end up causing risk to society at large. Participants articulated these statements as they tried to allege the dog owners contributed by failing to meet the above standards as prescribed. The conclusion was that dog owners neglected the principles used for tethering, as none were followed in most dog bite incidents.

5.2.1.2 Sub-theme: Inadequate practice in dog tethering

In this study, the participants revealed that dog owners failed to provide adequate care to their dogs as they broke the tether and went astray searching for food. The participants asserted that incidents were influenced by dog owners restraining their dogs with material inappropriate for tethering and failing to provide the dogs with basic needs such as water and food, prompting them to break the tether to search for food.

Takacova et al., (2021) alluded that dogs are territorial animals that respond aggressively by barking and biting when restricted for long hours. In addition, Kleszcz, Cholewinska, Front, Pacon, Bodkowski, Janczak and Dorobisza (2022) further identified the sequence of behaviour and the circumstances in which dog bites occur, namely, defensive, distancing, territorial, material, irritable, fearful, displaced, competitive between dogs, and competitive between dogs and people, hunting, and on command. Elliott et al., (2019) reported that RSPCA considers appropriate and safe tethering to be on the site away from the footpath and roadway. The above postulation by the three researchers concluded that dog tethering had

been an inappropriate practice by the dog owner, considering how they failed to meet at least one of the abovementioned requirements.

5.2.1.3 Lack of cages

According to Siracusa (2021) and the RSPCA (2019), certain aspects have been prescribed that must be adhered to when tethering a dog. For example, on the list of the prescripts that must be adhered to when tethering a dog, the following surfaces have been highlighted: a flat surface, a dry area, non-obstructive, and away from footpath conducive in different weather conditions. Furthermore, the RSPCA (2019) mentioned circumstances that do not require tethering, such as long-term, nursing or pregnant bitches or near whelping and extreme hot or cold weather.

The above assertion made by the RSPCA (2019) has been clearly stated and also gave direction as to how long the dog must be tethered. From what has been stated above, it is evident that a dog must not be tethered long-term, unlike in the Khakhu Madala local area, where dogs were tethered for an undefined period until such tether frayed or broke. The rationale thereof was the lack of cages in which dogs can be kept for control. In the previous chapter, participants also alluded to the fact that dog owners sometimes contributed to dog bite incidents as they lacked the dog cages to keep their dogs under control, resulting in dogs roaming in the streets as they escape a broken fence.

5.2.1.4 Sub-theme: Owning a dangerous dog breed as expressed by participants

In a study conducted in Harris County, Texas, USA, a Pitbull breed was mentioned for its greatest frequency of bites compared to Labrador Retrievers but was not considered dangerous (Hasoon., Shipp & Hasoon, 2020). Furthermore, Hasoon et al., (2020) alluded that biting dogs that get reported tend to be larger, such as Pitbulls, because of their genetic makeup.

The sub-theme of owning dangerous dog breeds articulated by participants has been disputed following the study published by the American Veterinary Medical Association in their journal entitled “Breeds of dogs involved in fatal human attacks in the United States between 1979 and 1998”, published on 15 September 2000 was disclaimed as follows: In contrast to what has been reported in the news media, the data contained in this report cannot be used to infer any breed-specific-risk for dog bite fatalities (e.g., neither Pitbull-type dogs nor Rottweilers can be said to be more dangerous than any other breed based on the contents of this report). Knowing the numbers of each breed currently residing in the United States would be necessary to obtain such risk information. In South Africa the citation was found to

be limited to less.

The above disclaimer was made to protect the dog breed pending the study finding to reveal the breed population of a particular context. However, the difficulty experienced in this matter is that the incidents continue to happen and are alleged to be the same dog breed (Pitbull). From what the researcher has learnt, the understanding that Pitbulls are dangerous has stuck in people's minds. This is supported by another incident reported on 13 November 2022 at 19h00 on Phalaphala FM news media about a fatal incident in which a Pitbull bit an 8-year-old boy of Vista Park in Free State Province.

In another study in Liverpool, some dog bites were regarded as play bites and perceived as normal if it does not involve a Pitbull. However, according to Owczarczak-garstecka (2020), the dog bite incident becomes a concern only if a Pitbull is involved. The rationale behind this was that Pitbulls are notoriously vicious and hateful such that they attack people until they maul their prey and are proud of what they accomplish. Based on Owczarczak-garstecka's (2020) assertions, it can be said that Pitbulls are more dangerous than other breeds.

However, following the above information, the researcher did not know how many dog breeds existed within the Khakhu Madala study population. Thus, he cannot say which dog breed is more or lesser dangerous. The perception that the researcher has learnt was that a Pitbull is said to be involved in most cases by visual identification. The pictures taken from different incidents of dog bites by different breeds below suggest the bite characteristics of a Pitbull compared to other breeds.



PICTURE 5. 1: Facial Pitbull Terrier mauling (DogsBite.Org, June 4, 2019)

The above is a “classic” facial Pitbull mauling. A disproportionate response to what is assumed to be a minor stimulus. The victim’s name is known only as Latoya. No airline can take the risk of this type of attack while passengers are on board a flight from Delta Airlines in USA Atlanta. Picture obtained from DogsBite.org, June 4, 2019.

Picture 5.2: The nature of the multiple bite characteristics at the back view.





Picture 5.3: The nature of the multiple bite characteristics at the front view

Pictures 1, 2 and 3 above show different bite characteristics in which a Pitbull Terrier is alleged in picture 1 and a different dog breed is alleged in Pictures 2 and 3. These are the results of the dogs that are owned in the communities in which people find themselves on a daily basis. Considering the disclaimer above about Pitbull Terriers, the researcher shall leave the matter to different stakeholders to decide which breed is more dangerous than the other.

5.2.1 Theme 2: Aggression augmentation of dogs by providing them with indigenous plants and other variations

Aggression augmentation of dogs by their owners emerged as a theme with only one sub-theme: guard dogs.

The study of Farhooody, Mallawarachchi, Tarwater, Serpell, Duffy and Zink (2018) on aggression towards familiar people, strangers and conspecifics in gonadectomised and intact dogs defines aggression as the threat of harm to another individual involving snarling, growling, snapping, biting, barking or lunging. Fahoody et al., (2018) conducted the study to compare the effects of gonadectomised on dogs with no evidence of aggression and those with a significant level of aggression. Their findings demonstrate that no single factor is responsible for dogs' aggressive behaviour; instead, multiple environmental and genetic factors contribute to aggressive behaviour. Fahoody et al., (2018) further recommended a successful strategy to decrease aggressive behaviour in populations of dogs by educating the public about the full responsibilities of dog ownership, including selecting appropriate

dogs, a daily physical and mental dog requirements.

Kleszcz et al., (2022) define aggression similarly to Fahoody et al., (2018), which is a deliberate attack, or a threat of an attack on another individual. However, Kleszcz et al., (2022) further identified the sequence of behaviour and the circumstances in which they occur, which include: defensive, distancing, territorial, material, irritable, fearful, displaced, competitive between dogs, and competitive between dogs and people, hunting, and on command. According to Kleszcz et al. (2022), the basis of aggression in the case of domestic dogs is still not fully understood, but there are many indications that hormones such as testosterone play a role in it. Kleszcz et al., (2022) concluded that disease, hormone balance, and diet might be associated with adverse aggressive behaviour in a dog contributing to biting. From what has been revealed in this study's findings, dog owners have repeatedly used an indigenous plant to increase security for crop protection in the fields. This practice has become popular amongst dog owners without crops but to guard their households against theft. This was also revealed when other dog bite victims raised complaints following the incidents of dog bites against dog owners without crops. The focus of aggression augmentation then shifted from crop protection against wild animals to guard dogs in the households.

5.2.2.1 Sub-theme: Guard dogs

Aggression augmentation as a theme was a practice influenced by the intention of dog owners to strengthen the safety and defence of their possessions. The practice of sniffing dogs for aggression augmentation was found to be exclusive in the Khakhu Madala setting compared to other community settings, as it was identified during data collection. Though the substance used to augment aggression in the Khakhu Madala differs from the introduction of hormones such as testosterone alluded to by Kleszcz et al. (2022), this practice is influenced by the desire to ensure that the territory is safeguarded by ensuring an increased mechanism of defence amongst others.

Guard dogs were the common goal that dog owners put forward by ensuring that one or more dogs be augmented for aggression to increase security. What is commonly believed in the Khakhu Madala local area is that owning a dog is a positive step towards strengthening household security. As it has been identified that the motive for owning dogs is to strengthen security, this motive then insinuates the dog owners to participate in introducing the indigenous plant to augment aggression to the dog-by-dog owners as they influence each other.

Protection is about security; such a requirement comes with qualities that a dog must possess. From the information that was disposed of during data collection, it became clear

that some dog owners of the Khakhu Madala local area have been contributing to plunging people into risky situations by such a bad practice. The practice has been so dangerous that victims were simultaneously subjected to physical and psychological trauma. The practice was poorly introduced as it was not considered that the aggression would also be directed at people, not wild animals only.

5.2.2.2 Sub-theme: Confinement/Nursing bitch

The sub-theme 'confinement/ nursing bitch' emerged following the participant's encounters with dog bite incidents, which were similar though they were happening in different settings. Most dog owners are accustomed to sharing puppies once a dog has whelped in the Khakhu Madala local area. However, it was articulated that such practice is done with careful consideration of the nursing bitch as it may cause harm to the person involved. From what the participants shared in explaining the factors that contributed to dog bites, they were able to mention the defensive characteristic outplayed by the nursing bitch for its puppies.

Kikuchi, Oxley, Hogue and Mills (2019) outlined the three elements of Human Directed Aggressive Behavior, which asserted context relating to observed stimulus in a particular setting, motivation as the internal state of condition aroused to goal-orientated behaviour, and emotions resulting from environmental stimuli and hormone responses. Kikutchi et al., (2019) further alluded that caring behaviour is invoked as the bitch perceives that the offspring are in danger and need protection. Furthermore, Kikuchi et al., (2019) asserted that the Human Directed Aggressive Behavior appears to mix up terms: aggression related to fear, food, play, possession, territory, predation, maternity or confinement, and against the owner or stranger.

5.2.2.3 Sub-theme: Animal cruelty

The relationship between dogs and humans has evolved over a long period. Some events, such as settlement, socio-cultural, economic, and environmental changes, contributed largely to this interaction. From this basis, exposure to cruelty has emerged as a contributory factor to incidents of dogs biting humans.

Participants have raised issues around the exposure of dogs to the cruelty that has contributed to dog bites. Some cruelty has evolved around socially unacceptable behaviour that intentionally causes unnecessary pain and suffering to the dogs. These socially unacceptable behaviours include tying a dog's tail with explosives, trapping dogs, and stoning them such that it exacerbates the dog's aggression.

Therefore, it is evident that there has been some form of cruelty that exacerbated the dog's aggression to bite humans. This study shares a similar view with that of Omoke and Onyemaechi (2018) on the incident and pattern of human-dog bite injuries conducted in the Federal Teaching Hospital Abakaliki (FETHA), Nigeria, that revealed inhuman-dog interaction and other factors found to be the root cause of dog bite injury oftentimes.

5.2.2 Theme 3: Structural and environmental factors

During the interview proceedings, the theme 'structural and environmental factors' emerged as participants pointed at the geographical setting where the dog bite incidents occurred. Participants gave detailed information regarding their encounters during the interview, leading to two additional sub-themes: lack of veterinary service and free-roaming infected dogs.

What was articulated by a few participants was an indication that the Khakhu Madala local area is a deep rural area in the Vhembe District; as such, certain services that require animal care and control have been abandoned. Few participants gave responses that seemed to allege the density of the dogs around the area was becoming uncontrolled. Due to the area's remoteness, participants also claim that all services related to animal care have been centralised in urban settings. By so doing, participants verbalised that it becomes a barrier for most of the community members to seek veterinary-related services as they are inaccessible.

The same sentiments were shared by Daigle, Delesalle, Ravel, Ford and Aenishaenslin (2022) in a study of the Northern Indigenous Communities, which was classified under individual human factors, dog factors, and structural and environmental factors as themes. Furthermore, some of the sub-themes that emerged under the theme of structural and environmental factors were geographic remoteness, lack of veterinary service or animal control resources, lack of legislative intervention, the density of dogs in the community, free-roaming, and seasonality (temporal variation). Due to the absence of veterinary services and the unrestricted roaming of infectious dogs, two sub-themes emerged, which will be analysed and interpreted below.

5.2.3.1 Sub-theme: Lack of veterinary services as reported by participants

Kleszcz et al., (2022) asserted that there are circumstances in which a dog shows undesirable aggression that can inform the competent caregivers about the animal's disposition and the appropriate measures to eliminate aggressive behaviour. There was a common understanding that if the dog owners were competent to care for their dogs, they would recognise the dog's disposition timely.

There have been growing calls regarding the lack of veterinary services around the Khakhu Madala local area, which seems to contribute to dog bite incidents. During the interview, it was mentioned that no animal vaccination campaigns are conducted regularly in the area. Participants also noted the lack of information about what could be done about the increasing number of stray dogs and those that are rabies-symptomatic. In addition, there was a lack of veterinary information regarding what could be done following a rabies-symptomatic dog roaming around. It was added that community members kill symptomatic dogs without seeking expert advice.

The statement above has factors that contribute to the incidents of dog bites and involves animal cruelty by the owner who rejects their sick dogs, cruelty by the community which influences each other in killing sick dogs, lack of provision of awareness by animal care experts, and the veterinary service which is centralised.

Following a study conducted in selected countries in Kenya, human-animal bite injuries caused by dogs accounted for 76 to 94% of injuries (Ngugi, Maza, Omolo & Obonyo, 2016). Furthermore, rabies was found to be the most significant driving factor following animal bite injuries, suggesting that nothing was done about the spread of rabies amongst domestic animals.

5.2.3.1 Sub-theme: Free roaming sick dogs as expressed by participants

According to a study conducted in Bangladesh, 71.3% of dog bite incidents resulted from free-roaming dogs and stray dogs (Ahmed, Mahmuda & Jordi, 2020). Furthermore, it was revealed that Bangladesh is a hotspot for rabies, with an estimated canine population of 83% of free-roaming dogs. Ahmed et al., (2020) posit that in 2015, the WHO, Food and Agriculture Organization (FAO), the International Organisation for Animal Health (OIE), and the Global Alliance for Rabies Control (GARC) launched a programme to achieve “zero human deaths from dog-transmitted rabies by 2030.” Furthermore, Ahmed et al., (2020) revealed that Bangladesh is a hotspot for rabies, with an estimated canine population of 83% free-roaming dogs.

However, this study has no statistical figures to compare from the theme ‘structural and environmental factors’. Most participants reflected on a few aspects ranging from the area's remoteness to centralisation of animal services and lack of accountability by dog owners to unjustifiable solutions regarding the responsibility following a dog bite. These were some aspects that participants raised that were found to contribute to dog bite incidents.

5.2 SUMMARY OF THE DISCUSSION OF RESULTS AND LITERATURE CONTROL

This chapter's main focus was to discuss and interpret the findings without bias and by using enquiry audits of raw data on field notes. The researcher further edifies the findings using literature control relevant to the study. The objectives of the study, together with the recommendations and the limitations of the study, will follow.

CHAPTER 6

SUMMARY, LIMITATION, DISSEMINATION, RECOMMENDATIONS AND CONCLUSIONS

6.1 INTRODUCTION

The previous chapter discussed the study's results under the emerging themes. Various sources relevant to the themes were used to make references to the new evidence that was collected. This chapter measures the study's objective to ascertain whether it has been attained. A reflection of what limited the study will also be outlined for future improvement. The dissemination of results and the study's recommendation will also be outlined.

6.2 SUMMARY OF THE STUDY

The study was conducted at the Khakhu Madala local area in the Thulamela sub-district of the Vhembe District, Limpopo Province. The primary objective of this study was to investigate the factors contributing to incidents of dogs biting humans in the Khakhu Madala Local area in the Thulamela sub-district of Vhembe District, Limpopo Province. Participants were obtained from the dog bite register of all six facilities, namely, Tshixwadza Clinic, Madala Clinic, Khakhu Clinic, Fondwe Clinic, Murangoni Clinic, and Phiphidi Clinic. The study's objective was met following the research question that asks which factors contributed to the dog bite incidents, in line with the interview guide that calls for an explanation of the factors that contributed to the dog bite incidents.

The use of an interview guide led to the emergence of three themes: the lack of responsibility in the control of dogs by dog owners, the aggression augmentation of dogs by providing them with indigenous plants and other variations, and structural and environmental factors. Thick and rich data were obtained following the emergence of sub-themes from the emerging themes. From the emerging themes and sub-themes, factors contributing to dog bites were investigated and tabulated in Chapter 4. The study's research question, "What factors contribute to human dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province?" was answered.

The results were obtained and categorised into themes and sub-themes to clearly describe the phenomenon that played out. An interview was conducted with at least 20 participants who were victims of dog bites in different settings. Various questions were raised with the use of a data collection instrument.

During this research, new knowledge about the problem under investigation has been generated from the participants who chose to form part of this study. A plan for data collection,

which included the use of transcripts, follow-up questions, and probing questions, was instituted to assist significantly in obtaining thick and rich data. Remaining neutral was key during the conversation, and bracketing of preconceived ideas was also observed to avoid influencing the outcome of the results. Active listening by nodding the head and effective communication were used to encourage communication.

During this study, some of the findings were more common than in other studies conducted in different parts of the world. In addition, new knowledge was generated regarding what had emerged from the interviews that have been conducted.

6.3 LIMITATIONS OF THE STUDY

The study was limited to the Khakhu Madala local area at the Thulamela sub-district in the Vhembe District, Limpopo Province. It did not generalise the results of the study to an area that was not defined above. The study's context included all PHC facilities under the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo Province. The scope of the study was to investigate the factors that contributed to incidents of dogs biting humans. Due to topographical layouts, poor road infrastructure and mountainous regions, some participants who were able and willing to participate did not get the opportunity to do so. In addition, finances, as a limited resource, also impacted this study. Some dog bite victims declined to be interviewed for fear of dog owners as they hold authoritative positions in the local communities. Additionally, some dog bite victims were not traceable due to poor audio recording.

6.4 DISSEMINATION OF RESULTS

The researcher will disseminate this study's results to stakeholders directly and indirectly involved during the research project, some of which include:

- As a report presented to the community groups.
- With the DoH at the district and provincial levels.
- As a presentation to the School of Health Sciences, UNIVEN.
- An article will be sent to the UNIVEN library for publication purposes.
- To communities where the study was conducted in which dog owners and dog bite victims reside to raise awareness among different stakeholders in the community.

6.5 RECOMMENDATIONS

The following recommendations have been put forward based on the research findings of the study conducted around the Khakhu Madala local area at the Thulamela sub-district in Vhembe District, Limpopo:

- Healthcare workers should raise awareness in the communities to refrain from performing provocative behaviour on dogs, especially those in confinement.
- Organisations such as regulatory bodies, including the SPCA, the Department of Agriculture and Fisheries (DAFF), the DoH, Non-Profit Organisations, and society at large should collaborate to address dog bite incidents as a health problem.
- Healthcare workers need to sensitise the community about the fatality caused by rabies infections and the precautionary measures following a dog bite.
- Dog owners should refrain from practices that endanger other people's lives, including aggression augmentation.
- Policymakers should develop laws requiring dog owners to be licensed for a defined period.
- Animal wellness services, including vaccination, should be decentralised to rural communities to enhance accessibility with a schedule communicated to those communities for utilisation.
- Communities should be made aware of the WHO's Vision 2030 target of zero human rabies death and strategies to achieve the goal.
- Animal care services, including animal vaccination, should be accessible to communities in rural settings.
- Bylaws should be formulated in royal councils to provide guidance and justice to vulnerable communities following a dog bite incident.

6.6 CONCLUSIONS

This study conducted in the Khakhu Madala local area at Thulamela sub-district of the Vhembe District, Limpopo Province, has been relevant and of significance to assist in dealing with the incidents of dog bites as collective rather than individuals. Other contributory factors to dog bite incidents were found to have occurred in other settings and were similar to or related to this study. Additional factors were revealed in the Khakhu Madala local area. The additional factors revealed were the practice of dog tethering, as expressed by participants,

the practice of aggression augmentation using an indigenous plant called Mulanga, and the lack of veterinary services to address the issue of free-roaming dogs.

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APPENDIX A: ETHICS APPROVAL TO CONDUCT STUDY

ETHICS APPROVAL CERTIFICATE

RESEARCH AND INNOVATION
OFFICE OF THE DIRECTOR

NAME OF RESEARCHER/INVESTIGATOR:
Mr A Rangolo

STUDENT NO:
11500785

PROJECT TITLE: **Factors contributing to human dog bite at Khakhu-Madala Local area in Thulamela sub-district of Vhembe District, Limpopo Province.**

PROJECT NO: SHS/21/PDC/10/1908

SUPERVISORS/ CO-RESEARCHERS/ CO-INVESTIGATORS

NAME	INSTITUTION & DEPARTMENT	ROLE
Dr TR Luhlima	University of Venda	Supervisor
Dr NS Raliphaswa	University of Venda	Co - Supervisor
Mr A Rangolo	University of Venda	Investigator – Student

Type: Masters Research

Risk: Minimal risk to humans, animals or environment (Category 2)

Approval Period: August 2021 – August 2023

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; Requires 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: July 2021

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

Signature: 

<p>UNIVERSITY OF VENDA OFFICE OF THE DIRECTOR RESEARCH AND INNOVATION</p> <p>2021-08-19</p> <p>Private Bag X5050 Thohoyandou 0950</p>

APPENDIX B: PERMISSION REQUEST TO THE DEPARTMENT OF HEALTH, LIMPOPO PROVINCE, TO CONDUCT THE STUDY

The Head of the Department

Department of Health Limpopo Province Private Bag X 9302
Polokwane 0700

18 August 2021

To: The Limpopo Provincial Department of Health

Subject: Request for permission to conduct a study about the factors contributing to dog bite incidents in the Khakhu Madala local area

I am a postgraduate student registered with the University of Venda (UNIVEN) doing a Masters degree in Nursing. I hereby request to conduct a study with regard to the above subject matter in your village from the participants who meet the criteria (dog bite victims). The purpose of the study is to understand the factors influencing dog bite incidents in Khakhu Madala local area.

Participation is voluntary; participants will be required to sign a consent form to sign. Furthermore, their identity will be kept anonymous for confidentiality purposes.

Dog bite victims, dog owners, community members, the National Department of Health, Veterinaries and the University of Venda may benefit indirectly from the study.

The study is scheduled to commence from November to December 2020. The research findings will be communicated in due course, and the study details are included in Annexure A, attached hereto.

Yours faithfully,

A. Rangolo

Signature: Date:

APPENDIX C: APPROVAL TO CONDUCT THE STUDY FROM THE DEPARTMENT OF HEALTH, LIMPOPO PROVINCE



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

Ref: LP_2021-11-020

Enquiries: Ms PF Mahlokwane Tel: 015-293 6028

Email: Phoebe.Mahlokwane@dhsd.limpopo.gov.za

Rangolo Aifheli

PERMISSION IS GRANTED TO CONDUCT RESEARCH IN DEPARTMENTAL FACILITIES FROM THE LIMPOPO DEPARTMENT OF HEALTH

Your study topic is indicated below:

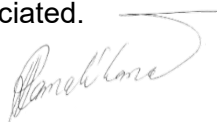
Factors contributing to human dog-bite in Khakhu- Madala local area in Thulamela sub-district of Vhembe District, Limpopo Province.

Permission to conduct a research study per your research proposal is hereby granted. Kindly note the following:

- a) Present this permission letter to the institution supervisor/s a week before the study is conducted.
- b) In the course of your study, no action should disrupt the routine services or incur any cost to the Department.
- c) After completion of the study, it is mandatory that the findings be submitted to the Department to serve as a resource.
- d) The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
- e) The approval is only valid for a 1-year period.
- f) If the proposal has been amended, new approval should be sought from the Department of Health.
- g) Kindly note that the Department can withdraw this approval at any time.

Your cooperation will be highly appreciated.

pp **Head of Department**



Date 06/12/2021

Private Bag X9302 Polokwane

Fidel Castro Ruz House, 18 College Street, Polokwane 0700 | Tel: 015 293 6000/12, Fax: 015 293 6211, Website: <http://www.limpopo.gov.za>

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APPENDIX D: PERMISSION REQUEST TO THE DEPARTMENT OF HEALTH, VHEMBE, TO CONDUCT THE STUDY

The Head of the Department
Department of Health
Vhembe District Private
Bag X 5050
Thohoyandou
0950

18 August 2021

To: The District Executive Manager

Subject: Request for permission to conduct a study about the factors contributing to human dog bite incidents in Khakhu Madala local area

I am a postgraduate student registered with the University of Venda (UNIVEN) doing a Masters degree in Nursing. I hereby request to conduct a study with regard to the above subject matter in your village from the participants who meet the criteria (dog bite victims). The purpose of the study is to understand the factors influencing dog bite incidents in Khakhu Madala local area.

Participation is voluntary; participants will be required to sign a consent form to sign. Furthermore, their identity will be kept anonymous for confidentiality purposes.

Dog bite victims, dog owners, community members, the National Department of Health, Veterinaries and the University of Venda may benefit indirectly from the study.

The study is scheduled to commence from November to December 2020. The research findings will be communicated in due course, and the study details are included in Annexure A, attached hereto.

Yours faithfully,

A. Rangolo

Signature: Date:

**APPENDIX E: APPROVAL TO CONDUCT THE STUDY FROM THE
DEPARTMENT OF HEALTH, VHEMBE**



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

**DEPARTMENT OF HEALTH
VHEMBE DISTRICT**

Ref : S5/6
Enq : Muvuri MME
Date : 29/12/2021.....

Dear Sir/Madam..... *Rangiso A*

Re: Permission to conduct a research on the
“.....”

1. The above matter has reference.
2. Your letter received on the *24/12/2021*..... requesting for permission to conduct an investigation is hereby acknowledged.
3. The District has no objection to your request.
4. Permission is therefore granted for the study to be conducted within Vhembe District. You are expected to submit the results to the District.
5. You are however advised to make the necessary arrangements with the facilities concerned.

Wishing you success in your endeavors.


.....
CHIEF DIRECTOR: DISTRICT HEALTH

03/01/2022
.....
DATE

Private Bag X5009 THOHOYANDOU 0950
OLD parliamentary Building Tel (015) 962 1000 (Health) (015) 962 4958 (Social Dev) Fax (015) 962 2274/4623
Old Parliamentary Building Tel: (015) 962 1848, (015) 962 1852, (015) 962 1754, (015) 962 1001/2/3/4/5/6 Fax (015)
962 2373, (015) 962 227

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APPENDIX F: PERMISSION REQUEST TO THE CHIEF AND TRADITIONAL COUNCIL TO CONDUCT THE STUDY

To: The Honourable Chief and Traditional Council.

Date: 18 August 2021

Subject: Request for permission to conduct a study about the factors contributing to dog bite incidents in the Khakhu Madala local area

I am a postgraduate student registered with the University of Venda (UNIVEN) doing a Masters degree in Nursing. I hereby request to conduct a study with regard to the above subject matter in your village from the participants who meet the criteria (dog bite victims). The purpose of the study is to understand the factors influencing dog bite incidents in the Khakhu Madala local area.

Participation is voluntary; participants will be required to sign a consent form to sign. Furthermore, their identity will be kept anonymous for confidentiality purposes.

Dog bite victims, dog owners, community members, the National Department of Health, Veterinaries and the University of Venda may benefit indirectly from the study.

The study is scheduled to commence from November to December 2020. The research findings will be communicated in due course, and the study details are included in Annexure A, attached hereto.

Yours faithfully,

A. Rangolo

Signature:.....Date:.....

**APPENDIX G: APPROVAL FROM THE CHIEF AND TRADITIONAL COUNCIL TO
CONDUCT THE STUDY**

01

SHANZHA COMMUNITY
STRONGER TOGETHER

PROSPERITY

P.O. Box 330
Nzhelele
0993

MA / NNDAA

Rine sa vhurangaphanda ha vhadzulapo vha Shanzha
na Civic. Ri khou tendelana kana u tangedza
Tshumelo ya Mutakalo u bua Clinic ya Fondwe
i tshi ikhou nekedzwa.

Vho tangedzwa shano Shanzha nga
shasi ha Khosi vho-Shavhani na vhurangaphanda

Ri do Livhuwa Tshumelo yavho

Shavhani L.J.

KHOSI VHO T.P.N. SHAVHANI
P.O. Box 137,
2022-12-07
Nzhelele, 0993
SHANZHA VILLAGE

APPENDIX H: LETTER OF INFORMATION

RESEARCH ETHICS COMMITTEE UNIVEN INFORMED CONSENT

Title of the research study: Factors contributing to human dog-bite in K hakhu Madala local area in Thulamela sub-district of Vhembe District, Limpopo Province

Principal Investigator/Researcher: A. Rangolo

Co-investigators/supervisors: Dr T.R. Luhlima and Dr N.S. Raliphaswa

Brief introduction and purpose of the study: From the observation made around the Khakhu-Madala local area, dog bite incidents are frequently reported at an alarming rate of approximately 10 incidents weekly. This phenomenon is a societal health risk that must be investigated to promote well-being and a healthy life. The purpose of the study is to investigate the factors contributing to human dog bite incidents in the Khakhu Madala local area in the Thulamela sub-district of Vhembe District, Limpopo province.

Outline of the Procedures: The participant's responsibility will be to provide information about their perceptions, understanding and feelings regarding dog bite incidents and use the language determined by the participant to eliminate barriers to data mining. Open-ended interviews will be used as a measurement instrument in an uncontrolled environment, either at the clinic or at the participant's household. Data collection and data analysis will occur simultaneously during the interview. The duration of each interview will be 45 minutes to an hour. Participants will be obtained using a non-probability sample of a purposive technique within a target population who are able to articulate and explain nuances focussing on adults.

Risks or discomforts to the participant: It is anticipated that the participants could experience minimal risk and discomfort as they will be required to articulate and explain nuances about their experiences during a dog bite incident. However, this is manageable.

Benefits: The study will create awareness in society about the risk that dog bites pose to one's health.

Reason/s why the participant may be withdrawn from the study: Participants reserve the unconditional or absolute right to withdraw their participation at any time and without giving any reason. Many circumstances may influence the participant's withdrawal; for example, the inferiority mentality that the participant may have in relation to the position occupied by the dog

owner in the community, the participant's conflict of interest in case the dog belongs to the same family with the participant or close relative, and participant's fear of the unknown. withdrawal from the study will not prejudice any right to healthcare service. It will not lead to any consequences of her/his decisions. Where necessary, the researcher will provide information to ensure an informed decision. The participant's decision will remain respected.

Remuneration: There is no benefit to be accrued by the participant in the form of money or materials.

Costs of the study: There is no cost that the participant is expected to cover as a result of their participation in the study.

Confidentiality: The records of participants in this study and the recordings of the interviews, together with those transcripts, will be marked using symbols or numbers for anonymity and be locked away so that data will not be linked to the participant's name and illegitimate people. Participants' identities will not be revealed when the study is reported or published.

Research-related injury: This study does not constitute research-related injuries.

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

Please contact the student/researcher, A. Rangolo, on 082 955 7694. The student's supervisor, Dr T.R. Luhalima, on 072 482 3404 or the University Research Ethics Committee Secretariat on 015 962 9058. Complaints can be reported to the Director: Research and Innovation, Prof G.E. Ekosse, on 015 962 8313 or email Georges-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.

APPENDIX I: CONSENT FORM

Statement of Agreement to Participate in the Research Study:

- Ihereby confirm that I have been informed by the researcher, A. Rangolo, about the nature, conduct, benefits and risks of this study. Research Ethics Clearance Number: **SHS/21/PDC/10/1908**.
- 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
.....

I, A. *Rangolo*, hereby confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

Full Name of Researcher
..... Signature..... Date.....

Full Name of Witness (If applicable)
.....Signature Date.....

Full Name of Legal Guardian (If applicable)
.....Signature.....Date.....

APPENDIX J: UNSTRUCTURED INTERVIEW

Introductory remarks.

My name is, and I'm currently registered as a student at the University of Venda. I am conducting this study as part of the requirements for my learning exposure.

I have requested your participation in this research as the key informant for the study.

The interview will last approximately 30 minutes. If you agree to take part, I will ask the following related questions.

- 1 Could you please explain the factor/s contributing to the dog bite incident?

APPENDIX K: INTERVIEW TRANSCRIPT

Participant E:

Greetings! My name is Rangolo Aifheli, and I am currently registered as a student at the University of Venda. I am conducting this study as part of the learning requirements for my learning exposure. Therefore, I have requested your participation in this research as the key informant for the study. The interview will last approximately 30 minutes. If you agree to take part, I will ask the following related questions:

Researcher (R): Could you please explain the factors contributing to the dog bite incident?

Participant (P): I think the bite happen as a result of the unacceptable practices that the dog owner has introduced to his dog. The dog owner introduced an indigenous plant to his dog to augment aggression so that his dogs play a guarding role in his household and field. There is a mealie crop that belongs to the dog owner, and the wild animals were destroying the crop. The dog owner then decided to assign his dogs as guards to the mealie crop. This has been done by introducing an indigenous plant to augment aggression from his dog so that they can get rid of wild animals.

The unfortunate part of it was that the dog owner didn't consider that when the dog's aggression also be directed at people, not animals only. And this is exactly what happened to me as I was bitten whilst I was home. The dog turned to have unusual aggression against me and as I was trying to chase the dog but surprisingly, the dog turned against me aggressively and bit me, and it was a clear indication that the dog was under the influence of substances. I then shouted for help as the dog was attacking me aggressively, and the nearby people came and beat the dog so badly that it even fainted.

The dog owner arrived at the scene very furious and demanded answers as to who killed his dog. All of a sudden, the dog recovered and ran away as the argument intensified with the community member around who were complaining against the neighbour's bad practice of sniffing the dog with some crushed leaves of an indigenous plant called Mulanga for their aggressiveness. This was the time when the secret was revealed as the other participants mentioned that the dogs even bit school kids in the morning as they were going to school. The matter was escalated to the chief of the village, who then summoned the dog owner to the royal house to pay the fine.

R: What do you think contributed to you being bitten by the dog?

P: I think the dog owner's practice of introducing those staff to his dogs with the intention of

assigning his dogs as guards, contributed hugely. These dogs use to roam around on daily basis, and they do not behave the way they did this time around. To my surprise, there was no provocation or any form of behaviour that might have insinuated the attack.

R: What do you think should have been done by the dog owner to prevent this incident?

P: I think there is a need for dog owners to refrain from such practice as it poses a risk to the community, and furthermore, there should be full responsibility from dog owners to account for their dog's actions.

R: Was the incident avoidable? Please elaborate.

P: The incident was avoidable because there was no need for the dog owner to engage in such practice. I think the regulatory body for animal wellness could also not authorise such a practice as it is not even based on science. In addition, the incident could have been avoided if the dog owner ensured that his dogs are restricted movement by tying them at home or keeping them in an intact crop where production is taking place other than just leaving them roaming around.

R: How would you describe the incident considering the dog owner's responsibility following the incident?

P: The dog owner cares less about people and care more about his dogs. This can be seen during the incident of dog bite. It is articulated that the dog owner was furious about the injury of his dog instead of the injury about the dog bite victim, which involved his dog. This behaviour was inhuman; hence he was supposed to find out about the damage caused by his dog to the victim, but he was complaining about his dog which was lying down on the ground fainting.

R: What improvements should be made to avoid the repetition of incidents like this in the future?

P: Most dog owner around this village is not fit enough to own dogs as they let their dogs run loose in public without looking after them. Dogs around this village seem to be allowed the freedom to roam around even though they keep on biting people unnecessarily.

R: Is there anything you want to add or ask about?

P: No thanks.

R: Thank you for the wonderful time you shared with me; participating in this study will assist society significantly by ensuring that dog bite incidents are avoidable.

Participant G

Greetings! My name is Rangolo Aifheli, and I am currently registered as a student at the University of Venda. I am conducting this study as part of the learning requirements for my learning exposure. Therefore, I have requested your participation in this research as the key informant for the study. The interview will last approximately 30 minutes. If you agree to take part, I will ask the following related questions:

Researcher (R): Could you please explain the factors contributing to the dog bite incident?

Participant (P): The bite happened following the dog, which was abandoned. It is articulated by one community member who saw a man driving a vehicle along the main road who suddenly stopped and quickly dropped the dog which appears to be sick and immediately drove off. Unknowingly as I was moving along the road and happen to come into encounter of the dog. The dog's behaviour was strange as it was even biting objects around. I noticed this strange behaviour as I was closer to where the dog was because it was moving towards me. I tried to make gestures as a way to chase the dog away; surprisingly, I was caught at the back by another dog which has just appeared on the side of the road. Both dogs heightened their aggression as they influenced each other.

Suddenly the scene was crowded by people, and the dogs left me wounded and embarrassed on the ground. This is where the other community members started to reveal the ownership of the other dog and why it was in the street. The dog owner never noticed that someone saw him when he was dropping off the dog. When he was called, he then avails himself at the scene to account. This is the time when he told community members that he didn't know where to seek medical attention as his dog was sick and biting household members whom they are known to the dog. It was then evidence that the dog was sick.

R: What do you think contributed to you being bitten by the dog?

P: I think the dog owner has failed to take responsibility for his dog to an animal clinic as it was seen that the dog was sick. Another thing is that most dogs around our community are not vaccinated. The campaigns that were conducted previously seem to have been abandoned by the Department of Agriculture and Forestry, where dogs were yearly vaccinated against diseases. This is also a clear indication that when dogs become sick, dog owners don't even know where to take their dogs for medical reasons.

R: What do you think should have been done by the dog owner to prevent this incident?

P: I think in the first place the dog owner should have taken his dog to the animal clinic for

treatment or asked other dog owners where medical attention can be accessed. Another thing is to advocate for animal vaccination for rural communities as the animal clinics are centralised in town. Furthermore, dog owners must be demanded responsibility to meet certain requirements before they become dog owners.

R: Was the incident avoidable? Please elaborate.

P: The incident was avoidable if the dog owner was responsible, as stated above.

R: How would you describe the incident considering the dog owner's responsibility following the incident?

P: the dog owner was irresponsible as he decided to abandon his dog, which then went astray, sick as it was and ended up biting innocent people risking the fatal rabies infection. I think the dog owner must be reported to law enforcement officials for him to account for the damage suffered by us as victims of dog bites.

R: What improvements should be made to avoid the repetition of incidents like this in the future?

P: I think there must be campaigns that need to be conducted to the community to make them aware of the dangers that abandoned dogs and stray dogs can cause with regard to the spread of infection to other animals and the human population around.

R: Is there anything you want to add or ask about?

P: No thanks.

R: Thank you for the wonderful time you shared with me; participating in this study will assist society significantly by ensuring that dog bite incidents are avoidable.

PARTICIPANT: L

Greetings! My name is Rangolo Aifheli, and I am currently registered as a student at the University of Venda. I am conducting this study as part of the learning requirements for my learning exposure. Therefore, I have requested your participation in this research as the key informant for the study. The interview will last approximately 30 minutes. If you agree to take part, I will ask the following related questions:

Researcher (R): Could you please explain the factors contributing to the dog bite incident?

Participant (P): The bite happened at the time when I was coming back from work. Surprisingly I noticed an animal-figured creature in the direction of my gate as it was already dark. I picked an object on the ground and threw it at that creature, and all of a sudden, that creature rapidly stood up and ran towards me; frustrated as I was, I started to search for another object to defend myself. There was nothing to pick on the ground. I then realised that it was a dog as it snarled at me aggressively and bit me on the upper parts of the body, including my lower lip, chick, and right shoulder. The incident lasted for a few minutes.

Within a short space of time, I was surrounded by a crowd of people, most of them were soccer players who were coming from a league match. My wife was called to the scene by then, and she observed with disbelief what was before her eyes. At that moment, I didn't know which direction the dog had taken as I was also confused. There was blood all over my body, and the ambulance arrived to transport me to hospital. After minor operations were performed, I was hospitalised for two days before I was discharged.

As I woke up the next day in the hospital, visitors came, there was a lot of information which was revealed about the dog owner, the type of dog breed, how the dog escaped home and the amount of damage it caused that day. I then learned later that the dog owner was negligent as he didn't act when his dangerous dog escaped the yard and made no effort to take it back. The dog owner was negligent because he didn't even ask for assistance from the veterinary service provider so that his dog be recovered before causing any injury.

The person whom the dog was associated with was known to the community around. It was said that the dog escaped the yard in the morning of the incident and went astray as a roller gate was mistakenly opened before the dog was restricted as it was their daily routine. The saddest part was the passive reaction the dog owner demonstrated by not following the dog to come back into the yard. It was also articulated that the dog was a Pitbull by visual identification, which is known to be a dangerous dog. It was also revealed that the dog killed two goats and bitten an old lady who was also hospitalised on the same day.

R: What do you think contributed to you being bitten by the dog?

P: I think there were multiple factors that were involved and included provocation, negligence by a dog owner, owning a dangerous dog breed and lack of knowledge by the dog owner to seek help from the veterinary services.

R: What do you think should have been done by the dog owner to prevent this incident?

P: I think in the first place the dog owner should have made efforts to recover the dog and take it home before it causes damage to the community outside. Another option was to call the SPCA for help to recover his dog.

R: Was the incident avoidable? Please elaborate.

P: The incident would have been avoidable if the dog owner had taken action seriously and timeously.

R: How would you describe the incident considering the dog owner's responsibility following the incident?

P: The dog owner is a disgrace as he does not even care about the welfare of the people whom he lives with; as he did nothing though he knew that the community was exposed to a very serious danger. In short, the dog owner was negligent.

R: What improvements should be made to avoid the repetition of incidents like this in the future?


P: The dog owner, as part of improvement plan, should undergo training to learn how to take charge of his dog as he is unable to communicate with his dog. The dog didn't listen to him when it escaped the yard though it was under his watch.

R: Is there anything you you want to add or ask about?

P: No thanks.

R: Thank you for the wonderful time you shared with me; participating in this study will assist society significantly by ensuring that dog bite incidents are avoidable.

APPENDIX L: TURNITIN REPORT




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Factors contributing to human dog bite at Khakhu-Madala local area in Thulamela Sub-district of Vhembe District, Limpopo Province

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Editorial Certificate

To Whom It May Concern,

This certificate confirms that the dissertation entitled; **FACTORS CONTRIBUTING TO HUMAN DOG BITE IN THE KHAKHU MADALA LOCAL AREA IN THE THULAMELA SUB-DISTRICT OF VHEMBE DISTRICT, LIMPOPO PROVINCE** by **AIFHELI RANGOLO** was edited by an expert English editor with a PhD. The following issues were corrected: grammar, spelling, punctuation, sentence structure, phrasing, and formatting.

Signed on behalf of NIM Editorial by:

A handwritten signature in black ink, appearing to be 'Dr N.I. Mabidi', written over a light blue horizontal line.

.....
Dr N.I. Mabidi
Founder & Chief Editor