

# **EXPERIENCES OF PEOPLE AFFECTED BY RABIES IN ETHEKWINI DISTRICT**

Jeffrey Mduduzi Hadebe

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Supervisor : Prof MN Sibiyi

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## Declaration

This is to certify that the experiences of people affected by rabies in eThekweni district is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the Durban University of Technology or to any other institution for assessment or for any other purpose.

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Signature of student

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Date

Approved for final submission

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Prof MN Sibiya

RN, RM, D Tech: Nursing

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Date

## **Dedication**

This study is dedicated to all the people who were adversely affected by the rabies disease and all those who are still affected on a day-to-day basis.

## **Acknowledgements**

Acknowledgements go to the following people who had a huge impact on the success of this study – my heartfelt, deepest and sincere gratitude goes to each one of them. May God shower them with the most precious blessings available.

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- DUT staff members.
- Participants in the study.
- Group mates (1/2017).

# **Abstract**

## **Background**

Rabies is a notifiable disease which can be fatal; death is preventable if health care is sought timeously. South Africa is one of the countries in Africa adversely affected by rabies. KwaZulu-Natal has had rabies outbreaks in the past, including one in 2012 which claimed four victims in the eThekweni district.

## **Aim of the study**

The aim of the study was to explore and describe the experiences of people affected by rabies in eThekweni district.

## **Methodology**

The study was guided by a qualitative, exploratory, descriptive design. The sample was purposively selected and a semi-structured interview was used to collect data from people affected by rabies in eThekweni district. Data saturation was reached after 12 participants were interviewed. Data was analysed by using Tesch's eight steps of thematic analysis.

## **Findings**

Five major themes that emerged from the data analysis were a) family background and support, b) predisposing factors and risky practices, c) barriers to seeking assistance, d) knowledge about rabies and expectations from officials, and e) effect of rabies on the individuals.

## **Conclusion**

It was evident in the study that community members in general were affected by rabies. Individuals who were directly affected by rabies through contact with rabid animals were expected to take responsibility for their own lives.

## **Key words**

Animal bites, prophylaxis, rabies, vaccination.

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## **Glossary of Terms**

Ante mortem:	Medical examinations or tests conducted to diagnose a disease before death.
Immunisation:	An act of a prophylactic procedure affording the body to produce protection against diseases by inoculation.
Milwaukee Protocol:	An experimental course of treatment for rabies infection that involves putting a patient in a drug induced coma.
Post mortem:	An examination and dissection of a dead body to determine cause of death or the changes produced by disease.
Rabies:	A notifiable zoonotic disease that is transmitted from animal to animal and from animal to human.
Rabies Action Group:	A committee that meets quarterly or daily during rabies outbreaks to discuss rabies related matters.
Vaccination:	Administration of an antigenic material to stimulate the body response to a disease, hence developing immunity.

## Acronyms

<b>Acronym</b>	<b>Full word/sentence</b>
AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti-rabies vaccine
ATT	Anti-tetanus toxoid
CDC	Communicable Disease Control
EMRS	Emergency Medical Rescue Service
HBM	Health Belief Model
HIV	Human immune deficiency virus
IDP	Integrated Development Plan
KZN	KwaZulu-Natal
PHC	Primary Health Care
SPCA	Society for Prevention of Cruelty to Animals
TB	Tuberculosis
TV	Television
UNISA	University of South Africa
USA	United States of America
WHO	World Health Organization

# CHAPTER 1: OVERVIEW OF THE STUDY

## 1.1 INTRODUCTION AND BACKGROUND TO THE STUDY

Rabies is a notifiable zoonotic disease that is transmitted from animal to animal, and from animal to human, through bites from infected (rabid) animal species for example vampire bats, dogs and cats (Udow, Marrie and Jackson. 2013: 689). According to the World Health Organization (WHO), rabies is a fatal disease responsible for up to 55000 deaths globally each year (World Health Organization [WHO] 2010: 310). One human case constitutes an outbreak. The countries that are affected the most are the developing countries in Africa and India (Devleesschauwer *et al.* 2016: 2).

Rabies is 100% fatal, and is introduced through a bite by a rabid animal (Kalita *et al.* 2014: 662). The saliva containing the rabies is injected into the site that is pierced. The incubation period depends on the site that is bitten and how far the site is from the brain – the closer to the brain the shorter the incubation period. Rabies stays in the injected site and travels slowly until it reaches the nerve cells in the vertebral column. It then travels faster until it reaches the brain; this process may take months or even years (Hendekli 2005: 1048). The commonly documented incubation periods usually range between two and eight weeks, and is not more than 90 days (Bishop *et al* 2010: 42). The most conclusive method to diagnose rabies in human and in animals is to collect a brain sample, which is only possible after the death of the victim. The available pre-mortem diagnostic methods are unfortunately not always conclusive (Bishop *et al* 2010: 33).

If an individual is bitten by a rabid dog and does not receive medical intervention, the results are devastating. This is because it is always too late by the time the rabies symptoms start showing. However, it is 100% preventable with anti-rabies vaccines and immunoglobulin. The immunoglobulin neutralises



the virus at the injection site and should be taken within seven days of the bite. The immunoglobulin is ineffective if administered after the virus has started travelling within the nerve cells which is believed to be from day seven onwards.

In South Africa, from 1984 to 2000 rabies has claimed 226 lives (Bishop *et al* 2010: 33). A rabies outbreak in 2012 claimed 12 victims in KwaZulu-Natal (KZN). Four of the victims were from eThekweni district, with one survivor who has neurological disorders. According to Jibat *et al.* (2015: 2), 70% of the dog population needs to receive adequate vaccination coverage annually to obtain herd immunity and for prevention of a possible outbreak. South Africa is one of the countries where rabies is endemic (Bishop *et al* 2010: v). South Africa, in order to comply with WHO recommendations, had to come up with the following vaccination schedule: puppies are vaccinated, and a booster dose is administered at three months. This is followed by a three-year cycle of vaccination and ad hoc vaccinations during outbreaks. Vaccination campaigns are conducted to cover 70% of the dog population in a short space of time in the area where an outbreak has been reported (Bishop *et al* 2010: 26). Thus, if 30% of the dogs remain unvaccinated during the first year of vaccination, and remain unvaccinated in subsequent years, the percentage of unvaccinated dogs in a particular area would have tripled by the end of the three-year cycle. This could mean that at the end of the three-year cycle, 90% of the previously unvaccinated dogs are already at risk. Coupled with the previously vaccinated dogs whose immunity is wearing off, this increases the risk.

eThekweni district consists of urban, semi-rural and rural areas. The community members keep pets such as dogs for different reasons. Not all of these pets are vaccinated against diseases like rabies. Dogs are territorial in nature; they fight and chase away any strange dog in their territory, which is one of ways the rabies infection is spread. If a stray dog is rabid, the unvaccinated dogs involved in the fight against that dog will be infected. Other animals including humans then are placed at risk. Infected animals cannot recognise a friend or a foe due to the fact that rabies affects the functioning of the brain. The disease also

makes the infected dogs wander and become stray dogs. If they wander into another dog's territory, the infection cycle continues (Bishop *et al* 2010: 3).

The Health Act No.63 of 1977 refers to communicable and notifiable diseases of which rabies is one (Republic of South Africa 1977). Rabies is one of the priority diseases that needs to be reported immediately within 24 hours. One human case constitutes an outbreak. Investigations, outbreak responses and community outreach exercises should take place within 48 hours. The National Health Act No 61 of 2003 and the Animal Act No.35 of 1984 provide guidance for control of zoonotic diseases (Republic of South Africa 1984; Republic of South Africa 2003).

The golden rule in the treatment of dog bites is that if the patient present himself or herself at the primary health care (PHC) facility (Level 1) they should be stabilised, their wound cleaned, and be administered anti-tetanus toxoid (ATT) 0.5mg. They are then referred to a Level 2 facility like a hospital where immunoglobulin and the initial dose of anti-rabies vaccine is administered after which they are referred back to the Level 1 facility for continuation of care. During the 2011 rabies outbreak every dog bite was declared an emergency. Emergency Medical Rescue Service (EMRS) are to be alerted for each dog bite case that presents in any facility (EThekweni Municipality 2011: 3). This means that victims will be transported straight to a hospital for the initiation of anti-rabies treatment. This paradigm was developed because analysis revealed that many victims did not present themselves at hospital for various reasons, until it was too late. Some of the reasons were that there was no money for transport, or the wound did not look serious. These patients ended up being admitted to hospital only when they manifested signs of rabies with devastating results. In some of the patients these signs were later confirmed as rabies. In some instances, the Communicable Disease Control (CDC) co-ordinators were called in to intervene when dog bite victims were refusing treatment. In most instances, they were refusing treatment because they did not understand the gravity of the situation.

## **1.2 PROBLEM STATEMENT**

Dog bites are globally under-reported (Devleesschauwer *et al.* 2016: 12). According to the data from eThekwini district, the outbreak of the rabies disease during 2012 claimed four victims. Many community members self-medicate for most of the conditions they experience, including dog bites. They use over the counter medication, home therapy or traditional medicines. This confirms that dog bites are under reported. The 2012 outbreak occurred despite measures that were put in place by the Department of Health to control it, including mass community awareness campaigns. The Minister of Agriculture took part in these campaigns in an endeavour to add weight to the seriousness of the situation, and mass dog vaccination campaigns were conducted. Ultimately, the onus was put on the pet owner to make it a point that the pet is not a danger to other animals and the community members.

The findings of a study conducted by Dople *et al.* (2015: 298) revealed that rabies affects mostly children. Rabies is rampant in urban areas. The reality is that some people love pets such as dogs and cats. Some owners cannot even afford to cater for themselves, but they still keep pets. This means that in some instances pets have to fend for themselves. It is worse when the owner dies and the rest of the family sees the pet as a burden. In this case the pet is chased away and becomes a stray animal.

Since the vaccination schedule for dogs is a three-year cycle, there is always a possibility of an outbreak every three years. If the approach from the Department of Health is always reactive, more human lives could be lost. If the experiences of humans exposed to rabies are not studied and published, the attitude of the community members towards this disease may remain unchecked.

## **1.3 AIM OF THE STUDY**

The aim of the study was to explore and describe the experiences people affected by rabies in eThekwini district.

## 1.4 RESEARCH QUESTION

What are the experiences of the people affected by rabies in eThekweni district?

## 1.5 SUB-QUESTIONS

- How did the rabies condition psychologically affect you?
- How did the rabies condition financially affect you?
- What impact did rabies have on your family?
- What kind of feelings and attitude do you have towards pets, especially dogs, after the incident?
- How do you feel about the rabies control measures?
- What practices could have contributed to the rabies problem?
- In rabies management, is there anything that could have been done differently according to you?

## 1.6 SIGNIFICANCE OF THE STUDY

During the community awareness campaign in 2011 that was conducted in response to the rabies outbreak, it was noted that the Department of Health is reactive in their response to disease outbreaks (eThekweni Municipality 2011: 3). During the mass community outreach campaigns, community members knew the word rabies, "*amarab*" as they call it, however not all of them had a clear understanding of what is expected of them as a form of intervention should a dog bite happen. Some would point at scars and claim that they had been bitten by dogs. Some believed that if one had a wound and let the dog lick it, the wound would heal speedily which is what happens when a dog licks its own wounds. Common sense should tell us that this is a very dangerous practice since, should the dog be rabid, introduction of the virus would be easy through the broken skin, even if there was no bite because rabies virus is contained in the dog's saliva (Pye 2014: 55). Others thought rabies is only a dog's disease and the dog becomes mad and bites humans, and they were not clear what happens to humans after the bite.

In their advertisements life insurers often use testimonies from individuals who survived diseases like diabetes and human immune deficiency virus (HIV) to sell their products (All Life 2017). The community upon hearing a testimony from people they can identify with, start to improve in their attitude towards that particular disease. Awareness programmes for tuberculosis (TB) and HIV utilise similar tactics during the commemoration of World TB day and World AIDS Day respectively. Former TB patients or individuals living with HIV are used as expeditors of health messages during the health events. The researcher is hoping to achieve similar results with this study, by sharing the experiences of the victims of rabies and their families with policy makers and the public. Between 2000 and 2010 there were no recorded human rabies cases in KZN. However, the disease re-emerged in 2011 with devastating results. The studies that have been conducted so far concentrate on rabies as a disease in animals and humans, the treatment and prevention thereof. The researcher could not find any studies that explored the experiences of the rabies victims or their families. This study will contribute by approaching health promotion and disease prevention through experiences of other community members. These community members will benefit by being part of adding value to the betterment of the lifestyle and disease awareness in the community at large. The recommendations from the study can be used to influence policy development and/or policy change to benefit other areas as well, beyond eThekweni, which are at risk for developing human rabies.

## **1.7 STRUCTURE OF THE DISSERTATION**

**Chapter 1:** Background and introduction to the study.

**Chapter 2:** Literature review.

**Chapter 3:** Theoretical framework.

**Chapter 4:** Research design and methodology.

**Chapter 5:** Presentation of findings.

**Chapter 6:** Discussion of findings.

**Chapter 7:** Conclusion, limitations and recommendations of the study.

## **1.8 CONCLUSION**

In this chapter, the researcher provided the background and the aim of the study. The risk of contracting rabies and diagnostic methods were presented. The risks posed by rabies to humans and the significance of the disease to be studied using the human experiences approach, were also considered by the researcher.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 INTRODUCTION**

This chapter serves as the pillar that underpinned the researcher's approach to the rabies subject. Literature review is a structured discussion on the available information on a research topic with the aim of highlighting what is known about the topic, to evaluate the researcher's sagacity (*mental ability to understand and discriminate between relations*) on the topic, to debate major issues about the topic, and to identify limitations in previous studies (Moule and Goodman, 2014: 56).

### **2.2 SOURCES OF LITERATURE**

The researcher had to read and understand what other studies provided on rabies. The researcher reviewed the existing literature on rabies, globally, nationally, provincially and locally. Ebscohost and Google scholar were used to access the literature. The key words that were used during the search in the database were rabies, rabies outbreak, rabies guidelines. The researcher critiqued and put into context the information gathered (Creswell 2014: 29).

### **2.3 RABIES IN ANIMALS**

Globally, animals remain the primary source of rabies (Bishop *et al* 2010: 1). Pets are more likely to transmit rabies to humans because of the close proximity between humans and them. Animals other than pets can also be a source of rabies. If they are infected and they come into direct contact with humans, they can infect them through bites. Alternatively, they can infect other pets (Udow *et al.* 2013: 689). Globally, rabies has been detected in various animal species, including bats, opossums, skunks, wolves, foxes, monkeys, raccoons and coyotes (Smith 2015a: 2). Rabies symptoms in animals may not necessarily be

specific to rabies. Nonetheless, rabies should be suspected especially in rabies endemic countries. Rabies control in animals has been through mass vaccination of pets and according to National Association of State Public Health Veterinarians (2011: 2), rabies is very rare in vaccinated animals. In some other parts of the world birth control has been used as a measure of control (Devleesschauwer *et al.* 2016: 10; Morters *et al.* 2013: 11).

## **2.4 RABIES IN HUMANS**

Rabies in humans is acquired through a bite from an infected animal; there are no documented cases where rabies was transmitted from one human to another (Bishop *et al.* 2010: 33). The rabies virus is introduced via saliva of the infected animal and the virus stays for some time in the bite site and travels slowly until it reaches the nerve cells where it travels faster till it reaches the brain (Bishop *et al.* 2010: 33). At this point encephalitis will ensue and most of the rabies disease symptoms will show, but by this time there is nothing anyone can do because the disease is fatal (Bishop *et al.* 2010: 42). Several factors may influence the incubation period; including the amount of virus introduced into the wound, the site itself (whether it possesses a large number of nerve cells), and the distance of the wound site from the brain or nerve cells. The only known control measure is pre- and post-prophylaxis (Hendekli, 2005: 1048). Deshmukh *et al.* (2011: 178) argue that post-exposure prophylaxis sometimes fails due to deviation from the WHO guidelines. The WHO rabies guidelines state that human death caused by rabies can be reduced drastically and pre- and post-exposure prophylaxis is the mainstay (WHO1994, cited in by Bishop *et al.* 2010: 34).

Besides all this information, there are some individuals around the world who have survived the rabies disease. One of the documented rabies survivors, a teenager from Wisconsin in United States of America (USA), Jeanna Giese, was put into an induced coma by her doctor in 2004 to put her brain at rest for it to recuperate, an approach known as the Milwaukee Protocol. However, a study conducted around the world between 2005 and 2014 on rabies survivors



noted that the same protocol failed in all 12 patients who were treated using it (Zeiler and Jackson, 2016: 46). The survival of some of the individuals can be attributed to other factors such as the amount of virus introduced to the individual, the immune status of the individual, or that the individual was already vaccinated with anti-rabies vaccine (Zeiler and Jackson 2016: 44). Hendekli (2005: 1052) documented five documented rabies survivors and the similarity among them was the fact that they did not receive the immunoglobulin at any stage. They were treated with an incomplete course of anti-rabies vaccine.

Weyer *et al.* (2016: 68) found 13 human cases who survived rabies around the world, four of whom were exposed to rabid bat bites. There is a view that the bat strain of the virus is different from other rabies strains in a sense that bat strain is lethal to a lesser degree. Jeanna Giese (the patient that was treated with the Milwaukee Protocol), was bitten by a bat. The other rabies survivors were bitten by rabid dogs. Among them there were two patients who survived without any post-exposure prophylactic treatment. The other patients were mismanaged in a sense that immunoglobulin was not administered, and the full course of the post-exposure prophylactic treatment was not completed (Zeiler and Jackson 2016: 46).

## **2.5 RECOMMENDED TREATMENT OF RABIES IN HUMANS**

The WHO advocates pre and post-exposure prophylaxis, which is recommended in particular for individuals whose careers involve working with animals. Pre-exposure consists of administering a total of three doses of anti-rabies vaccine in the deltoid muscle on day zero, day seven and day twenty-one or twenty-eight (Bishop *et al* 2010: 33). For post-exposure prophylaxis, firstly, the bite site or wound is categorised to one, two or three, and the treatment is given according to wound category (Bishop *et al* 2010: 36).

The wound is cleaned preferably with soap and running water, this is done in order to reduce the number of viruses that may enter the body. Neither suturing nor dressing is permissible because the rabies virus is anaerobic so covering

the wound would make matters worse (Bishop *et al* 2010: 37). A dose of anti-tetanus toxoid is administered as a precaution. Passive immunisation is acquired by administration of Human rabies immunoglobulin (HRIG), which is administered around the wound site within seven days of the bite. HRIG may not be able to neutralise the virus once it reaches the nerve cells, which is believed to take up to seven days after the bite (Bishop *et al* 2010: 37).

Active immunisation is acquired as a result of administration of the anti-rabies vaccine. The anti-rabies vaccine is administered in the deltoid muscle on day zero, day three, day seven and day twenty-one after the bite (Hendekli 2005: 1051). Initially, day twenty-eight was included in the treatment protocol, but after studies were conducted in the USA it was discovered that by day fourteen after receiving the immunoglobulin and anti-rabies vaccine, the body is able to produce rabies neutralising antibodies. The virus would have reached the brain before day twenty-eight anyway in the absence of treatment (Rupprecht *et al.* 2010: 3).

## **2.6 DIAGNOSING RABIES IN HUMANS**

There are two ways to diagnose rabies in humans: ante-mortem and post-mortem (Bishop *et al* 2010: 42).

### **2.6.1 Ante-mortem**

History taking is very important in diagnosing rabies. The patient must have a history of contact with a rabid animal. Contact may involve feeding, nursing or playing, which may result in contact with infected saliva from the infected animal. An aggressive encounter may involve being scratched or bitten by a rabid animal (Bishop *et al* 2010: 42). There are cardinal signs and symptoms of rabies in humans which include, pain, paraesthesia or itchiness at the bite site, which at this stage is a scar, because it would have healed (Bishop *et al* 2010: 42).

As the disease progresses, in the first four to five days there will be early onset of general body malaise, fever, headache, and gastrointestinal symptoms, which are nonspecific. Following these initial signs and symptoms is a period where neurological signs and behavioural symptoms manifest, such as irritability, agitation and restlessness, depression, anxiety and insomnia (Bishop *et al* 2010: 42).

As the disease progresses, more neurological signs manifest: incoherent speech episodic terror, hallucinations, manic behaviour, or nonspecific generalised convulsions. Terminally there is progressive loss of neurological function. The patient experience inability to swallow, fear of drinking water because the swallowing reflex is malfunctioning, and hyper-salivation. As the patient deteriorates neurologically, there will be frequent muscular spasms and convulsions. The patient becomes disorientated, with increased hallucinations and confusion, followed by coma. Demise may follow as soon as five days after the onset of the signs and symptoms (Bishop *et al* 2010: 42).

Various methods are used to collect a specimen for testing which include the following:

- Saliva is collected daily for three consecutive days using a sputum container with about 1 ml being collected (Department of Health 2016: 7).
- Lumbar puncture is performed, and 0.5 ml of cerebrospinal fluid is collected (Department of Health 2016: 7).
- Nuchal biopsy is conducted by harvesting tissue which contains hair follicles at the nape of the neck. The sample should be 5mm or 6mm in diameter and 5mm thick (Department of Health 2016: 7).

## **2.6.2 Post-mortem**

If rabies was suspected and not diagnosed while the patient was still alive, a post-mortem is conducted to confirm the diagnosis. The whole or half the patient's brain is collected for testing by a forensic pathologist. The specimen collection and storage procedures should be adhered to. Specimens should be

labelled, stored in a sealable container and not in formalin and kept at 4°C. The specimen should be sent to the National Institute for Communicable Diseases (NICD), (Department of Health 2016: 8).

## **2.7 PREVENTION OF RABIES**

Several scholars agree on mass vaccination of pets and pre- and post-exposure prophylaxis (Pye, 2014: 56-57; Rupprecht *et al.*, 2010: 5; Smith 2015b: 3; Meltzer and Rupprecht 1998: 490; Hendekli, 2005: 1050). Moreover, Pye (2014: 56) recommends that travellers should seek advice from their health care department 4 to 8 weeks before departure, and are advised to avoid animal bites by:

- Avoiding physical encounters or contact with stray animals even if they are pets.
- Treat wild, free-roaming or captive animals with caution.
- Avoid bats, especially from caves.
- Be cautious of dogs that may chase mobile modes of transport especially bicycles.
- Information, educational and campaign material should be made available at strategic points to benefit travellers, especially children.

## **2.8 GLOBAL PERSPECTIVES ON RABIES**

Marinozzi *et al.* (2016: 374) assert that rabies was first discussed during the 18<sup>th</sup> century and there were a number of theories that emerged as causal factors. After a period of trial and error, in the late 18<sup>th</sup> century, rabies was associated with bites from poisonous dogs. This was the first linkage of rabies to animals. The 19<sup>th</sup> century saw initial attempts at treating rabies.

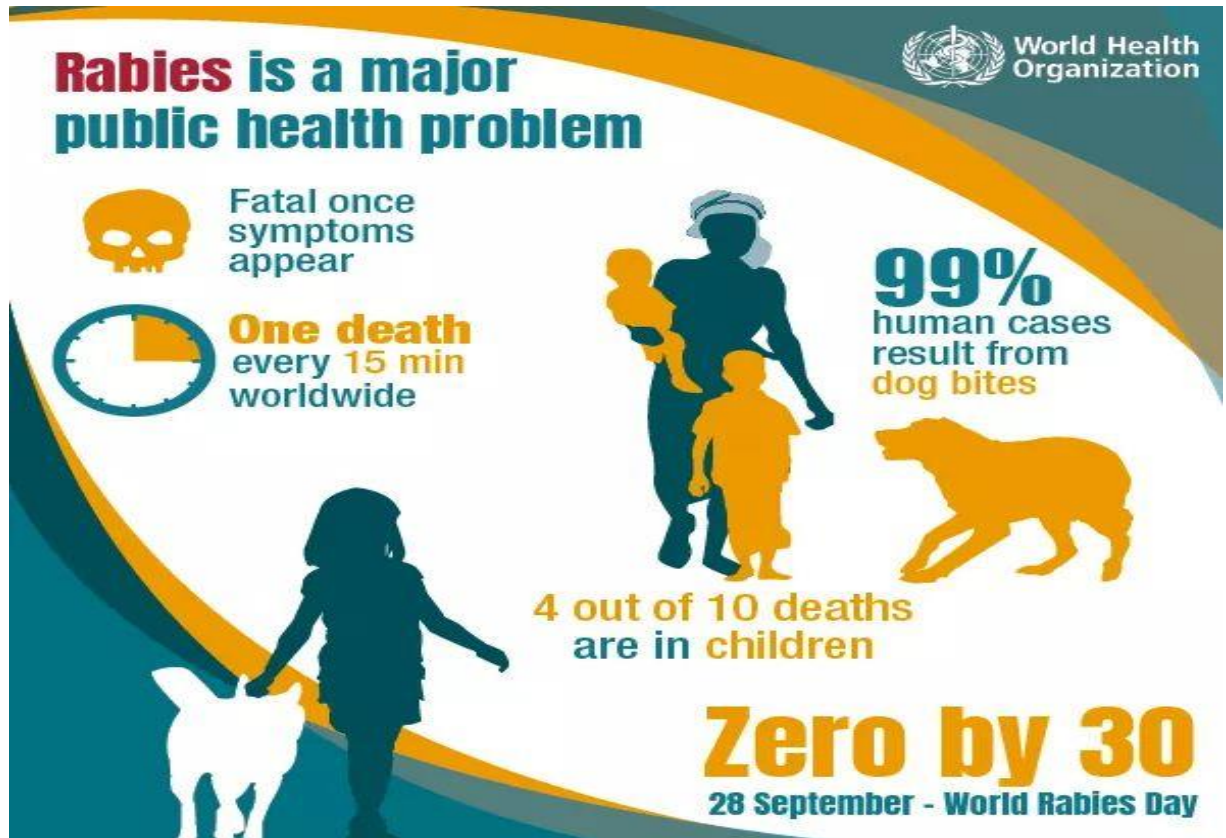
Although rabies is a global scourge, it was listed as one of the neglected tropical diseases in the WHO Report (WHO 2013a: 4). Some countries are rabies free for example, islands and some peninsulas while, India, China, and some parts of Africa remain the leaders in the rabies incidence (Smith 2015a: 1). The contributing factor to the disease being out of control in areas such as India is

the usage of out dated vaccines, but this has improved in the last 10 years. Another strategy that has helped is control of the dog population by the introduction of animal birth control programmes (WHO 2013a: 32). Many countries have strategies in place to reduce the incidence of rabies and eradicate it, with South East Asia aiming to eradicate the disease by 2020 (WHO 2013a: 31).

Rabies is responsible for 55 000 annual deaths globally (Matibag *et al.* 2009). However, Hendekli (2005: 1047) argues that if one includes unreported cases, the actual number is likely to be more than 60 000 deaths. The estimation is that about 327 000 individuals would die of rabies annually if rabies treatment was not available in areas like Asia and Africa (WHO 2010: 310). The actual incidence of rabies worldwide may not be accurate due to the fact that rabies is sometimes misdiagnosed and the victims die before the disease is suspected and in the absence of post-mortems the disease may never be confirmed (Carrara *et al.* 2013: 4; Marinozzi *et al.* 2016: 378).

According to Mudiyansele *et al.* (2016: 1), due to its long incubation period rabies can be misdiagnosed, and health service providers may suspect other tropical diseases like malaria until the history of dog bite surfaces, which in some instances is after the demise of the patient. In their findings of a study conducted in Asia, Kakkar *et al.* (2012: 6) reported problems such as ineffective intersectoral coordination, focus on rabies control in urban areas and not other areas, ineffective dog population management, and weak diagnostic capacity. These problems contributed to India being one of the leading countries for human fatalities from rabies. Matibag *et al.* (2009: 58-59) state that information on rabies is available on media platforms like radio, print media and television. Some information comes from sources like teachers in schools, and health outreach campaigns. They found that information on rabies did not alter the participants in their study's health practices related to rabies although the information was deemed useful.

Globally, Rabies Day is commemorated annually on the 28<sup>th</sup> September. This date was chosen to honour Louis Pasteur who was the founder of the anti-rabies vaccine and many other vaccines (WHO, 2017). He died on this day. Rabies was earmarked for elimination in 2015, however the goal was not achieved, hence the 2017 slogan is 'Zero by 30' (WHO 2017). Below is the 2017 poster of rabies and the slogan (Figure 2.1).



**Figure 2.1: 2017 Rabies Poster**  
Source: World Health Organization (2017)

## 2.9 CONTEXT IN AFRICA OF RABIES DISEASE

The WHO asserts that rabies remains uncontrolled in Africa, however, in countries like Morocco, Tunisia, Tanzania and South Africa, there are large scale national pet vaccination programmes that are being conducted to control the rabies scourge (WHO 2013a: 310). Africa is responsible for 24 000 human deaths from rabies annually. The continent is second after Asia, which is responsible for 31 000 human deaths annually. These statistics constitute 99%

of global rabies statistics with regards to human deaths (Ekanem *et al.* 2013: 1170).

There are a number of contributing factors for why rabies remains uncontrolled in Africa. In countries like Nigeria, people are very mobile, they move to rabies endemic areas without knowing that the area has rabid animals. Reasons thereof could be lack of knowledge by travellers, underreporting of animal bites, or animal bites are not being taken seriously. Other reasons are lack of proper rabies surveillance systems and laboratory diagnostic systems in the area, and lack of motivation in the relevant personnel regarding rabies control (Adedeji *et al.* 2010: 1295).

Modupeoluwa *et al.* (2014: 619) affirm that the number of human dog bites studied during their study in Nigeria, did not tally with the number of individuals who presented themselves to health facilities during the same period. This could be attributed to the fact that people weighed their options first, and if there were no news about the dog in terms of suspicious behaviour, they would not worry. They only went to the health facility if the dog was observed to be behaving suspiciously.

In Africa, pets like dogs are kept for different reasons such as home protection or hunting wild animals for meat (Adedeji *et al.* 2010: 1295). Poverty may also contribute to African people keeping dogs to generate money from hunting animals and selling meat. Hunting terrains are often not healthy. The interaction between dogs and wild animals exposes them to the potential to get rabies, and then humans are exposed to their dogs.

Abubakar and Bakari (2012: 109) state that dog bites affect children in Africa more than other age groups. This could be because the children sometimes provoke animals and they are defenceless during attacks. A boy child is more likely to be affected than a girl child.

In some African countries like Tanzania, dog vaccinations need to be paid for and most dog owners cannot afford to vaccinate their dogs. Alternatively, the owners could be unwilling to part with their cash to vaccinate their pets (Jibat *et al.* 2015: 10). This perpetuates the existence of high numbers of rabid animals, thus putting the community in jeopardy. Jibat *et al.* (2015: 6) affirm that in countries where there is a choice of free versus charged for dog vaccination, the number of pet owners who paid for their pet vaccination was less than those who opted for the free pet vaccination route. This can be interpreted as free pet vaccination service yielding better results than a paid for service.

The main approach in rabies prevention in Africa remains the mass vaccination of pets in a short period of time (Adedeji *et al.* 2010: 1302; Jibat *et al.* 2015: 8). Post vaccination, a certificate confirming vaccination of a pet is issued by the service provider to act as proof of vaccination (Abubakar and Bakari 2012: 109). Control of rabies among stray or ownerless animals remains a challenge in most African regions. This challenge can be due to inaccessibility to these animals in large numbers at a given moment (Bishop *et al.* 2010: 2-3). The reason for animals becoming stray dogs can be various. Among such reasons could be the fact that they were once owned and for different reasons abandoned. Poverty, death of the owner, wars, migration are among the reasons stray dogs exist (Bishop *et al.* 2010: 2-3).

Stray animals, especially dogs, form packs and live together for survival in the wild and they reproduce and grow in numbers. Their population can become uncontrollable, and because they remain unvaccinated, they pose a danger to other animals like livestock and domestic animals (Nel *et al.* 2009: 63).

## **2.10 CONTEXT IN SOUTH AFRICA OF RABIES DISEASE**

South Africa is a third world country with rural, semi-urban and urban areas, and in all these areas dogs and cats can be found being kept as pets or in the wild (Bishop *et al.* 2010: 9). South Africa has a veterinary service that falls under the Department of Agriculture. They are responsible for the mass vaccination



campaigns around South Africa and are supported by partners like the South African Society for Prevention of Cruelty to Animals (SPCA). There are also a number of private veterinary services around the country. In her presentation, Dr Vivien Essel at One Health Action Group Meeting Cedara College, KZN (10 June 2016) stated that between 2013 and 2016 there have been 21 confirmed human rabies cases in South Africa and the disease is endemic in KZN, Eastern Cape, Limpopo and Mpumalanga.

The disease was identified in dogs for the first time in South Africa in 1893 and the first recorded human case was in 1928 (Bishop *et al* 2010: 2). In South Africa there have been sporadic rabies outbreaks throughout the years: 1950 in Limpopo, 1961 and 1976 in KZN, with the latter rabies outbreak in KZN spreading to Mpumalanga and Eastern Cape.

There is a long list of animals associated with rabies in South Africa: mongooses, jackals, foxes, wolf, wild, cats, badgers and squirrels (Bishop *et al* 2010: 3). Rabies accounted for 322 human deaths in South Africa between 1986 and 2007 (Bishop *et al* 2010: 33) as outlined in Table 2.1.

Table 2.1: Statics of deaths due to rabies

Province	Number of cases
KZN	255
Eastern Cape	27
Mpumalanga	3
Northern Cape	4
Free State	4
North West	4
Limpompo	29
Western cape	0
Gauteng	1

The statics as outlined in Table 2.1 reveal that KZN was the most affected province and Western Cape was the least affected. However, this could also mean that KZN's rabies surveillance systems were the most effective and yielded more results in identifying rabies cases.

## 2.11 EXTENT OF RABIES IN KWAZULU NATAL

KZN has 11 districts; as noted in Table 2.1 it is the province most affected by rabies. Although KZN is leading with rabies cases, it is the only province in South Africa that has a living rabies survivor who was exposed to a confirmed rabid dog in 2012 while he was 4 years old, and had the onset of rabies symptoms a month later and ended up with neurological complications (Weyer 2016 *et al.* 1 ).

KZN has had confirmed human cases annually except 2011 which has been the only year without any human rabies cases. However, 2012 was the year in which KZN lost 12 confirmed human rabies cases (WHO 2013b: 1). In 2013, there was one confirmed human case, and in 2014, there were no cases. In 2016, there was one confirmed human case (Essel 2016: 11-12). Nofemele of *The Mercury* (07 June 2012) reported an unfortunate story of a canoeist from Underberg whose family had to endure the pain of switching off the life support machine at the Pietermaritzburg hospital where the canoeist was lying brain dead because of rabies he contracted from a bite from a stray dog.

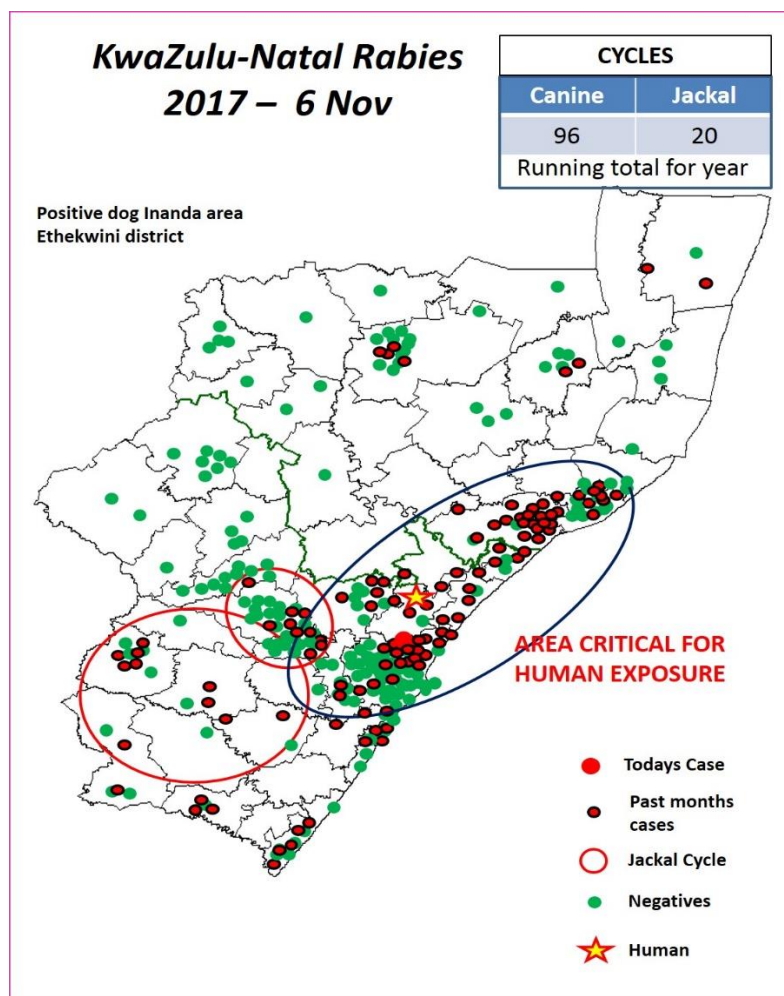
Horner (2013) reported in the Witness news a story of a man from Shongweni who was bitten by a rabid donkey and almost lost his thumb. Rabies prophylactic treatment was administered, and he survived. A story by Ngema in *The Daily News* dated 15 September 2017 reported the death of a two-year-old child from iLembe district. He died after reportedly being bitten by a rabid dog from the area. Massive animal vaccination campaigns were conducted in iLembe and surrounding districts.

The 2017 rabies statistics depicts that the number of dogs who are diagnosed with rabies is higher compared to the same period in 2016 (Table 2.2) (eThekweni Health Statistics 2017b).

**Table 2.1: Comparison of the distribution of rabid animals from 2015, 2016 and 2017**

January – October 2015	January – October 2016	January – October 2017
4	3	19

From the statistics, it can be deduced that there was rabies outbreak among animals at eThekweni district in 2017b. Mass animal vaccination campaigns have been conducted to control the outbreak in animals, and collaborative meetings with the stakeholders have been convened to discuss the outbreak control measures, most of the rabid dogs are from the North sub-district, and there were no human cases reported.



**Figure 2.2: Distribution of rabid animals in KwaZulu-Natal as of the 6<sup>th</sup> of November 2017**

Source: KwaZulu-Natal Department of Agriculture and Rural Development (2017: 1)

The mapping of the rabid animals in KZN indicates that disease surveillance is in place and that should be applauded (Figure 2.2). The dogs are exposed to the wild animals like jackals whose population is not easy to control in terms of vaccination because they are not pets and the jackals that are found are those who are already infected with rabies. The presence of stray dogs and jackals make the control of rabies in animals a difficult task. McKenna (2013: 3) asserts that in the USA there are projects that are designed to control animal populations that include spreading of food pellets laced with vaccines, and in some instances, food laced with sterilising contraception to control the animal population. This practice was conducted to control rabies among the racoon population in USA. Similar control measures could be employed in South Africa to control rabies in wild and stray animals.

A report from the KwaZulu-Natal Department of Agriculture and Rural Development (n.d.) labelled *Jackal rabies in the KwaZulu-Natal midlands* stated that “Jackal rabies constituted 62% of the rabies in KZN, while overall dog rabies had been reduced by 93%”. The report concludes that no one should die from rabies because that constitutes a health system failure, in terms of community awareness (health promotion and disease prevention) and case management.

## **2.12 CONCLUSION**

The chapter dealt with the existing literature on the rabies topic. The extent of the rabies problem globally and the interventions including the progress made to curb or minimise the risk of future rabies outbreaks, was presented. The existing literature assisted the researcher with guidance on what has been done already on the rabies subject and the existing recommendations in order to avoid repetition. Notes from different scholars were compared to strengthen the argument for and against some issues on the rabies subject.

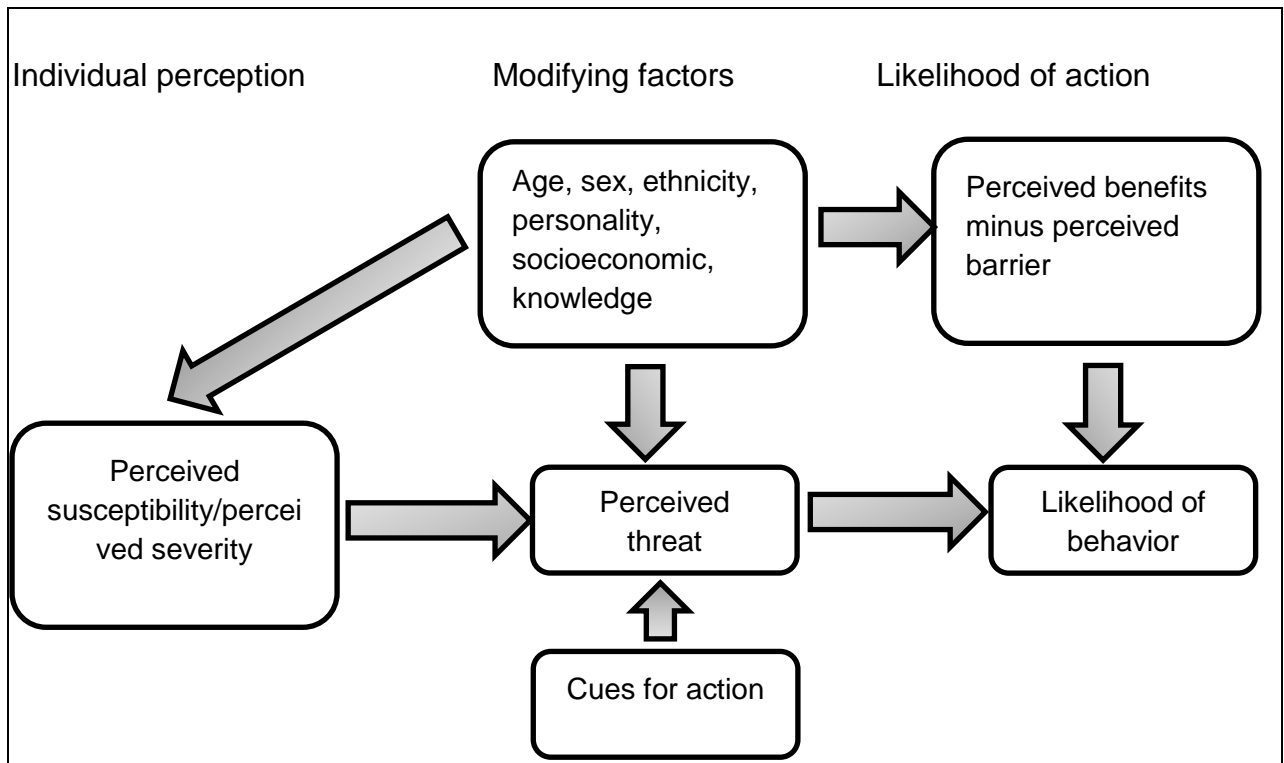
## **CHAPTER 3: THEORETICAL FRAMEWORK**

### **3.1 INTRODUCTION**

This chapter will explain the building blocks that underpin the study. The chapter explains the correlation between the study and the existing theories in terms of explaining, guiding, envisioning and putting into perspective the behaviour of the individuals in the community that influence the existence of a given phenomenon. In some instances, theories refute the existing knowledge about the phenomenon (Polit and Beck 2012: 128).

### **3.2 THEORETICAL FRAMEWORK USED AS A GUIDE**

The theoretical framework used to guide the study was the Health Belief Model (HBM) (Figure 3.1). The HBM came into existence during the 1950's. It was developed by social psychologists who were working in USA Public Health Services. The model sought to address the issue of TB screening failure in the USA. This model focuses on the prevention of diseases. The underlying concept is that health behaviour is determined by personal beliefs or perceptions about a disease, and the strategies that are available to decrease its occurrence. The HBM is based on the following theoretical constructs: perceived seriousness, perceived susceptibility, perceived benefits, perceived barriers, modifying factors, cue for action, and self-efficacy (Figure 3.1) (Janz and Becker 1984: 2; Jones and Bartlett. n.d.: 31). For the current study, the HBM model that is preventative in approach is appropriate because there is no cure for rabies. The HBM focusses on the following elements: perceived seriousness, perceived susceptibility, perceived benefits, perceived barriers, modifying factors, cue for action and self-efficacy.



**Figure 3.1: The Health Belief Model**

Source: Adapted from Janz and Becker (1984), Stretcher and Rosenstock (1997, cited by Jones and Bartlett. n.d)

### 3.2.1 Perceived seriousness

Perceived seriousness refers to an individual’s belief regarding the severity of a disease (Jones and Bartlett. n.d.: 31). The perception is based on medical information and knowledge (Janz and Becker 1984: 2; Jones and Bartlett n.d.: 31). One may believe that a dog bite is only a minor threat to health, like a superficial bite. The victim may have seen a person being bitten by a dog and survive following normal wound care being performed at home. Individuals who have never seen or heard of a rabid human may be doubtful of the danger rabies can pose, having been exposed to people who were dog bite victims without any fatal consequences.

### 3.2.2 Perceived susceptibility

Perceived susceptibility is based on the individual’s sensitivities to the threat to health (Jones and Bartlett n.d.: 32). It is a powerful perception to encourage

people to adopt healthier behaviours (Janz and Becker 1984: 2). The greater the perceived risk, the greater the chance of adopting behaviours to minimise the risk. In this study, the questions that could be asked include: what kind of a health threat is the individual likely to be exposed to? Furthermore, what kind of measures are in place, for example what are the signs that may reveal that an animal is rabid? This may help to avoid encounters with such animals or to take proper actions (Tarkang and Zotor 2015: 5). When susceptibility is combined with seriousness, this results in perceived threat. Behaviour usually changes when there is a perceived threat (Janz and Becker 1984: 2).

### **3.2.3 Perceived benefits**

Perceived benefits is based on the individual weighing the pros and cons about the information received and the benefits of changing his or her behaviour in line with prevention of the health threat (Hay Jones and Bartlett n.d.: 32). In this study, this would involve vaccination of susceptible animals periodically to prevent them from being rabid thus protecting themselves and the community from rabies (Tarkang and Zotor 2015: 5).

### **3.2.4 Perceived barriers**

Perceived barriers are based on the individual's belief that adopting a new behaviour has the potential of moving him or her from their comfort zone, and the benefits of changing the behaviour should prevail over the status quo (Janz and Becker 1984: 3; Jones and Bartlett n.d.: 33). This is the most significant construct in determining behaviour change. In order for new behaviour to be adopted by an individual, there has to be a belief that the new behaviour will outweigh the consequences of the old behaviour (Janz and Becker 1984: 2). This belief overcomes barriers. For example, for each dog bite any individual should visit the health facility for assessment treatment and care. Some individuals have to walk long distances or take transport to the health facility which costs them money that may be budgeted for other things, but the knowledge of what may happen to them should the dog be rabid may outweigh the need to be economical with money (Tarkang and Zotor 2015: 5).

### **3.2.5 Modifying factors**

The modifying factors are personal factors that determine whether the new behaviour will be adopted. These include culture, educational level, past experiences, skill and motivation (Janz and Becker 1984: 3; Jones and Bartlett n.d: 33). These factors influence an individual's approach towards a phenomenon or health threat, for example, training somebody to assess and report abnormal dog behaviour who has a long history of keeping dogs and has developed a special way in dealing with his/her animals can prove to be a challenge (Tarkang and Zotor 2015: 5).

### **3.2.6 Cues for action**

Cues for action are based on the idea that there are phenomena that move individuals from their positions to start taking actions against the health threat (Janz and Becker 1984: 3; Jones and Bartlett n.d: 33). In this study, this may entail seeing someone who has rabies, or hearing about somebody who is known to them who became a victim of rabies and died. These experiences will motivate the community take precautions or warn others about the potential dangers of animal bites and rabies (Tarkang and Zotor 2015: 5).

### **3.2.7 Self-efficacy**

Self-efficacy is based on the individual's empowerment and belief that they can take action, using the knowledge at hand. Individuals should be empowered to take the first step to change their behaviour and accept change for their own benefit (Janz and Becker 1984: 3; Jones and Bartlett n.d.: 34). Rabies is an incurable disease, but it is preventable; the HBM is relevant because it was designed to prevent diseases. Community members need to believe that they are capable of protecting themselves from being infected with rabies (Tarkang and Zotor 2015: 5).



### **3.3 CONCLUSION**

The main constructs of HBM include perceived susceptibility, perceived severity, perceived barriers and perceived benefits. The emphasis is on self-care behaviour. Helping patients appreciate the relationship between their self-management behaviours and their health HBM comprises individual perceptions, modifying factors and likelihood for action. This assists in understanding in what context individuals perceive diseases, including rabies, and because there is no cure for rabies, emphasis should be placed on prevention. The next chapter will present the research design and methodology that guided the study.

# **CHAPTER 4: RESEARCH DESIGN AND METHODOLOGY**

## **4.1 INTRODUCTION**

In this chapter, the research design and the methodology used in the study are explained, including the population, the sample selection, and how the data was collected. Ethical considerations and trustworthiness of the study are also described.

## **4.2 DESIGN**

Jolley (2013: 252) defines design as a plan for the study. Research design is an overall plan for addressing a research question, including specifications for enhancing the study's integrity (Polit and Beck 2012: 741). This study was guided by a qualitative, exploratory, descriptive design.

### **4.2.1 Qualitative design**

Qualitative research emanates from the school of thought whose paradigm is based on the fact that not everything is objective and measurable. Instead the truth can be a perception of something that exists and can differ from person to person (Jolley 2013: 16). Qualitative research explores the world from the perspective of participants. It is characterised by an emphasis on understanding the other person's perspectives and their experiences as well as the interpretation they bring and give to events or situations (Jolley 2013: 16). This design was chosen because this study explored the individual's experiences as well as the subjective information of this population regarding rabies and the effects it has posed to their families.

#### **4.2.2 Exploratory design**

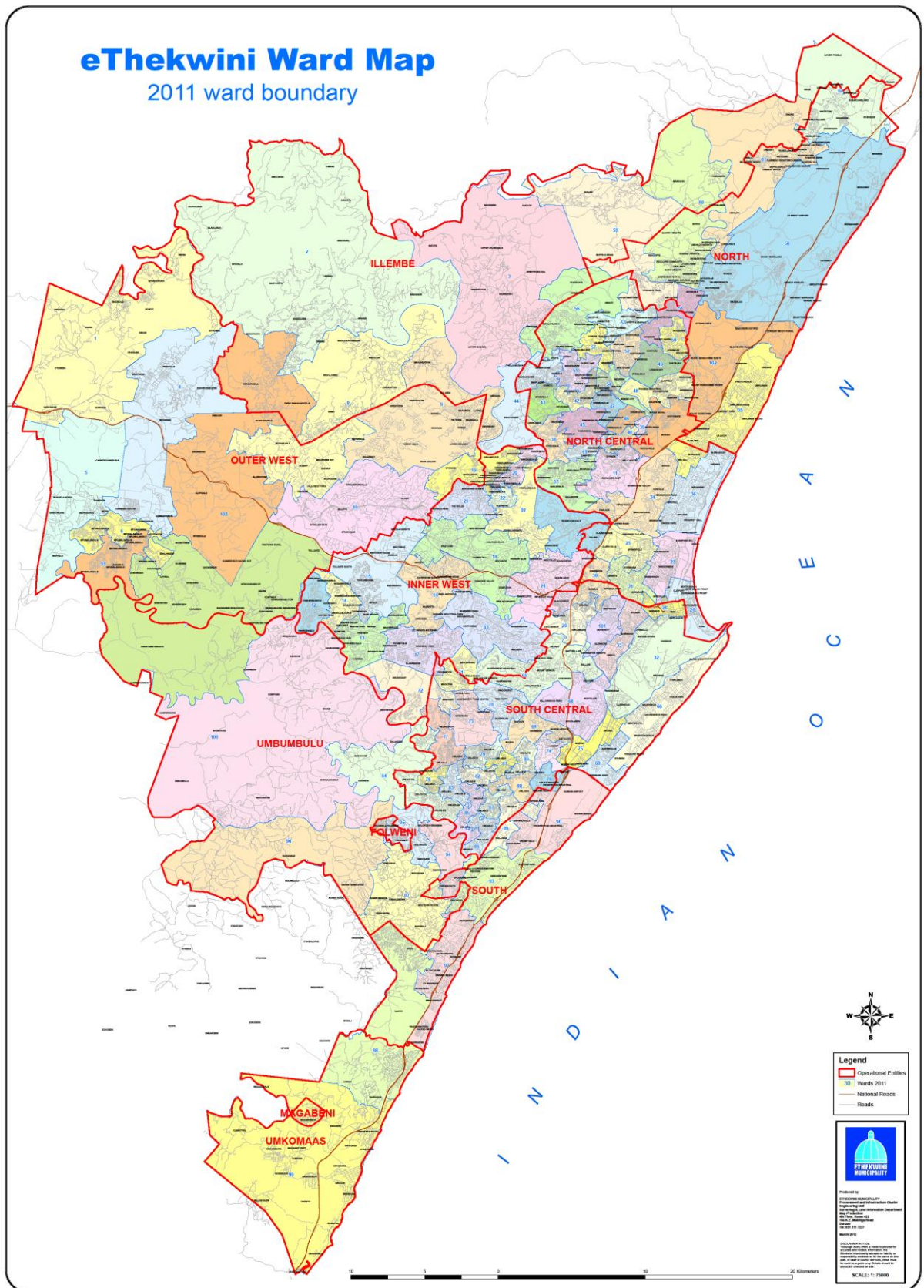
An exploratory design explores the dimensions of a phenomenon or develops or refines hypotheses about relationships between phenomena (Polit and Beck 2012: 727). The exploratory design was used to explore the experiences of the individuals and their families who are affected by rabies.

#### **4.2.3 Descriptive design**

Descriptive studies provide an accurate picture about the characteristics and a step-by-step sequence of events with regards to a given real-life situation (UNISA 2010: 95). Polit and Beck (2012: 725) define descriptive research as the research that typically has as its main objective the accurate portrayal of people's characteristics or circumstances and/or the frequency with which certain phenomena occur. The descriptive research design was used to describe the experiences of the people who are affected by rabies.

### **4.3 SETTING**

Research setting refers to the specific place or physical location as well as conditions where the data would be collected by the researcher (Brink, van der Walt and van Rensburg 2012: 59). The study was conducted in eThekweni district. EThekweni is a Metro that is north of uGu district, south of iLembe District and east of uMgungundlovu district. It is divided into three sub-districts namely North, West and South. According to the eThekweni 5 Year Integrated Development Plan (IDP), the estimated population size of eThekweni for 2017 is 3,723,435 (eThekweni Municipality IDP 2017a: 38). It comprises urban, semi-urban and rural areas, and is governed by municipal bylaws and common laws (Figure 4.1). People of eThekweni keep pets like cats and dogs for various reasons. For example, in rural areas dogs are kept for hunting whereas in urban and semi-urban areas dogs are kept for security reasons.



**Figure 4.1: Map of eThekweni district**  
Source: Msibi (2011)

#### **4.4 STUDY POPULATION**

A population is a group of individuals who share common traits that are of interest in a study (Polit and Beck 2012: 59). In this study, the target population is all adult individuals who reside in eThekwini and have been affected by rabies.

#### **4.5 SAMPLING PROCESS**

Sampling is the selection of a group of participants who fit the inclusion and exclusion criteria of the chosen research problem. In qualitative research, there are no prescribed sample sizes. Sample size is guided by data saturation (Polit and Beck 2012: 515). Data saturation is the point at which data collection becomes redundant with no new information emerging (Jolley 2013: 192). The main aim of qualitative researcher is to contextualise the meaning of human experience rather than generalisability (Polit and Beck 2012: 524). Sampling were purposeful, which is the selection by the researcher of cases that will highly be beneficiary to the study (Polit and Beck 2012: 517). Meyer *et al.* (2009: 381) assert that this is a deliberate exercise by the researcher to select participants based on similar characteristics, representation or typical qualities. The snowballing technique is a technique where participants refer the researcher to prospective participant who meet the inclusion criteria (UNISA 2010: 162). This approach was used where necessary. Apart from interviews, sources of data were hospital records, statistics and reports from local authorities and the CDC. Data saturation determined the sample size (Jolley 2013: 192). Data saturation was reached after 12 interviews when no new information emerged. The researcher concluded that the possibility of new information with more interviews was very slim and interviews were halted.

##### **4.5.1 Inclusion criteria**

- Individuals exposed to rabies disease and who were victims from eThekwini district.
- Mentally healthy individuals affected by rabies in eThekwini district.

- Family member of individuals who were exposed to and were affected by rabies.
- Rabies exposure from 2011 onwards.
- Individuals who are 18 years and above.

#### **4.5.2 Exclusion criteria**

- Individuals who were never exposed to rabies.
- Individuals who are not mentally healthy.
- Families who were never exposed to or affected by rabies.
- Individuals who are less than 18 years old.

#### **4.6 DATA COLLECTION PROCESS**

The researcher used a semi-structured interview guide to conduct in-depth interviews with the participants (Appendices 3a and 3b). A semi-structured interview is an interview with an interview guide with a set of pre-set open-ended questions, with allowance for additional probing questions during the interview (Silva and Fraga 2012: 66). The interview guide was translated into isiZulu for use with those participants not familiar with English (Appendices 4a and 4b). An interview guide is a list of questions used by the interviewer, mainly as a memory aide during the interview (Hennink *et al.* 2011: 112).

The question posed was, “What are your experiences with regards to being affected by rabies?” Probing questions were used to facilitate the in-depth interview. An in-depth interview is a one-to-one method of data collection that involves an interviewer and an interviewee discussing specific topics in depth. In-depth interviews are used when seeking information on individual, personal experiences from people about a specific issue (Hennink *et al.* 2011: 109). Face-to-face interviews were conducted with the participants in the comfort of their home setting. Permission was sought from the participants to use a voice recorder during the interview sessions. Each session of the interview did not last for more than an hour.

## **4.7 DATA ANALYSIS**

Data was analysed by using Tesch's eight steps of thematic analysis as described in Creswell (2014: 186). These steps involved:

- Reading through all transcripts to get a general impression of the collected data.
- Writing down in the margin any thoughts that emerged from the data.
- Making a list of all topics. Clustering similar topics together. Preliminary organisation of the topics as major topics, unique topics and leftover topics.
- Abbreviating the topics as codes written next to the corresponding segments in the data. Any other topics or codes that emerged were written next to the appropriate segment of the text.
- The most descriptive wording for the topics were used and were then turned into sub-categories.
- Grouping together of the related topics and emerging list of categories.
- Preliminary analysis of data by assembling data that belong to each category from which themes emerged.
- Existing data was re-coded.

## **4.8 TRUSTWORTHINESS**

Truth-value is used to determine the researcher's confidence in the truthfulness of the findings within the context of the study. Jolley (2013:210) asserts that it is not easy to measure the truth. However, that does not mean that an attempt could not be made to evaluate the qualitative study. A number of terms have been developed in an endeavour to explain how qualitative studies can be evaluated for trustworthiness.

Lincoln and Guba (1985 cited in Polit and Beck 2012: 585) suggest there is an alternative to validity and reliability that would provide the evidence by means of a decision trail which can assure trustworthiness within qualitative research. Trustworthiness refers to the extent to which a research study is worth paying

attention to, worth taking note of and the extent to which others are convinced that the findings are to be trusted (Babbie and Mouton 2001: 276). Lincoln and Guba (1985 cited in Polit and Beck 2012: 585) suggest four criteria for developing the trustworthiness of a qualitative inquiry: credibility, dependability, confirmability and transferability.

#### **4.8.1 Credibility**

Jolley (2013: 210) defines credibility as the extent to which the data can be justified. Lincoln and Guba (1985 cited in Polit and Beck 2012: 585) assert that credibility is two pronged: firstly, the study should be conducted in such a manner that findings are believable. Secondly, research reports should have evidence of the data being credible. The researcher validated the data with the participants during and after the interview to avoid misquotes, and that the data was a true reflection of what transpired during the interview. The transcripts and voice recordings were compared and analysed with the supervisor and will be kept by the researcher for up to five years as a backup. To establish confidence in the truth of the findings, during report writing voice recordings were re-played repeatedly to ensure that all the information was transcribed. The researcher bracketed existing knowledge, pre-conceived ideas and personal views regarding the existing problems.

#### **4.8.2 Dependability**

Jolley (2013: 210) states that dependability is the extent to which the data is accurate. Lincoln and Guba (1985) cited in Polit and Beck (2012: 585) describe dependability as the proof that the study is believable, unchanging and can withstand the test of time. This seeks to give an impression about the study that the same conclusion can be arrived at if the study were to be repeated (Jolley 2013: 210). An audit trail was maintained through safekeeping of raw data of each interview for future reference. The audit involves a close scrutiny of the data collected by the supervisor. The study was subjected to peer debriefing and peer review to eliminate the researcher's biases.



### **4.8.3 Confirmability**

Lincoln and Guba (1985) cited in Polit and Beck (2012: 585) describe confirmability as the degree to which the researcher can demonstrate neutrality of the research interpretations. In qualitative research, confirmability focuses on the characteristics of the data gathered in the study by utilising an audit trail. Voice recordings were done to reflect the participant's voice. The researcher's interpretations were scrutinised by the research supervisor who acted as an independent coder. The themes and sub-themes identified by the researcher were contrasted with those identified by the supervisor. No major discrepancies were identified between the analyses of data.

### **4.8.4 Transferability**

Lincoln and Guba (1985) cited in Polit and Beck (2012: 585) define transferability as the extent to which the data can be generalised. To ensure transferability, there was rich and thorough description of the research setting, study participants and of the research processes. The limitation is that the findings in this study can only be applied in settings similar to the setting used in this study. The researcher collected data until data saturation so that if the settings are similar the findings can be transferable.

## **4.9 ETHICAL CONSIDERATIONS**

According to Burns and Grove (2009: 61), ethics is the part of philosophy that deals with morality. Polit and Beck (2012: 727) define ethics as a system of moral values where research procedures adhere to professional, legal and social obligations to the study participants. Moule and Goodman (2014: 402) assert that with a qualitative research approach issues such as confidentiality, anonymity, risk of harm and deception may arise, and these give rise to ethical considerations being an integral part of the researcher's study. The research commenced after full ethics clearance was granted by the Institutional Research Ethics Committee (IREC 118/17) (Appendix 1).

#### **4.9.1 Informed consent**

Informed consent was obtained in which the participants willfully agreed to participate in the study after an explanation about the content of the study was given (Appendix 2c). A letter of information was used to share with the participants the details of the study and they were informed that their participation was voluntary (Appendix 2b). They were also informed that they could withdraw at any stage of the research. The participants were assured of autonomy, and that no harm would be inflicted on them whether deliberate or not. An informed written consent was sought from them.

Any qualitative study, like all forms of research, is subject to a code of ethics and good practice for the protection of the participants (Polit and Beck 2012: 152). Ethical codes are based upon a few generally accepted moral values, namely, respect for individual beneficence, respect for human dignity, and justice. To ensure ethical consideration, the three broad principles on which standards of ethical conduct research are based were used (Polit and Beck 2012: 152). The three ethical principles that guided the researcher during the research process included a) beneficence, b) self-determination, and c) justice.

#### **4.9.2 Beneficence**

Flick (2009: 37) states that beneficence is the mutual benefit from the study for the researcher and the participants. The researcher benefits by obtaining the desirable data and in turn the participants benefit from the outcomes of research. To ensure beneficence, the researcher will share with the participants the study outcomes and the recommendations. The participants will be assured of the expediency of their contribution.

#### **4.9.3 Self-determination**

Autonomy or self-determination is defined by Flick (2009: 37) as an act of respecting the participant's values and decisions. To ensure self-determination, the researcher treated all the participants with respect by calling them with their

preferred titles or names. The researcher was willing to respect and accept any of the participant's decisions including a wish to pull out of the study.

#### **4.9.4 Justice**

Justice is equal treatment for all (Flick 2009: 37). To ensure justice, the researcher gave the participants equal treatment. Race, colour, creed, socio-economic status and level of education had no effect on the researcher's approach to participants. All participants were treated in a manner the researcher himself would have liked to be treated in a similar position.

#### **4.10 CONCLUSION**

In this chapter, the building blocks of the study were discussed, starting from the shape and form the study assumed to sampling, data analysis methods and the rigour and validity of the research including the ethical considerations. This gives an idea of the path and the guiding principles the study followed thus helping the researcher to plan accordingly. In the following chapter, the findings of the study will be presented.

## **CHAPTER 5: PRESENTATION OF FINDINGS**

### **5.1 INTRODUCTION**

This chapter presents the findings of the study, highlighting the themes and sub-themes that emerged from the interviews with people affected by rabies in eThekweni district.

### **5.2 SAMPLE REALISATION**

A total of 12 interviews were conducted in December 2017. Data saturation was reached during the tenth interview. An additional two interviews were conducted to confirm data saturation. Data were collected from individuals who were directly affected by rabies (having been bitten by a rabid animal) and individuals who were indirectly affected by rabies (caregivers or parents of the individual who was bitten by a rabid animal). Eight interviews were conducted with participants who were indirectly affected individuals and four with directly affected individuals.

### **5.3 DEMOGRAPHIC DATA OF THE PARTICIPANTS**

Participants comprised individuals from semi-rural areas, and sub-urban areas in eThekweni district. Some participants were isiZulu-speaking while other participants were using English as their first language. Most of the isiZulu-speaking participants were semi-literate, while the participants who used English as a first language were literate (Table 5.1).

**Table 5.1: Participant's demographic data**

Participant		Home language	Race	Educational status	Employment status	Residential area	Age
P1	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	51
P2	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	49
P3	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	21
P4	(Victim)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	24
P5	(Victim)	IsiZulu	African	Literate	Employed	Suburban	30
P6	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Suburban	45
P7	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Suburban	42
P8	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	47
P9	(Victim)	English	White	Literate	Unemployed	Suburban	72
P10	(Care giver)	IsiZulu	African	Semi-literate	Unemployed	Semi-rural	29
P11	(Care giver)	English	White	Literate	Employed	Suburban	33
P12	(Victim)	English	White	Literate	Employed	Suburban	42

## 5.4 THEMES AND SUB-THEMES THAT EMERGED FROM THE DATA

During the process of data analysis, voice recordings were transcribed. The transcripts were read individually many times. The researcher organised the data by classifying and indexing it. The data was grouped into manageable chunks. The categories or themes that emerged were coded. Ugarriza (2000: 362) cited in Polit and Beck (2012: 562) defines a theme as is an intellectual unit that puts the participant's experience into context and gives it an identity.

From the data major themes were identified and listed as they emerged. Five major themes were identified as listed below:

- **Theme 1:** Family background and support.
- **Theme 2:** Predisposing factors and risky practices.
- **Theme 3:** Hindrances to seek for assistance.
- **Theme 4:** Knowledge about rabies and expectations from officials.
- **Theme 5:** Effect of rabies to the individuals.

**Table 5.2: Emerged themes and sub-themes**

Major Theme	Subtheme
1. Family background and support.	1.1 Socio economic status. 1.2 Social beliefs.
2. Predisposing factors and risky practices.	2.1 Social misconceptions. 2.2 Unsafe gestures and practices. 2.3 Abandoning animals.
3. Hindrances to seek for assistance.	3.1 Lack of income. 3.2 Attitudes towards animal bites. 3.3 Unavailability of resources.
4. Knowledge about rabies and expectations from officials.	4.1 Role played by the officials. 4.2 Availability of health support resources.
5. Effect of rabies to the individuals.	5.1 Expression of inner feelings. 5.2 Periods of uncertainty and anxious moments. 5.3 Coping with rabies. 5.4 Awareness of rabies and rabies control measures.

## 5.5 PRESENTATION OF STUDY FINDINGS

The study findings are presented according to the major themes and sub-themes.

### 5.6 THEME 1: FAMILY BACKGROUND AND SUPPORT

This theme in the study emerged as a result of participants stating their experiences with regards to the effect of rabies illness on their family circumstances.

#### 5.6.1 Socio economic status

Participants communicated the socio economic status of their families, as stated below:

*“The situation puts me in a difficult position because normally, I would find jobs and earn a living, and now if I were to get a job, I cannot take it because I need to take care of him. If I have to go somewhere I have to ask for assistance from somebody to be his guardian.” (P1)*

The participant lost her husband who was a breadwinner after it was evident that their child was permanently disabled as a result of being infected with rabies. For her, rabies took a husband and disabled her child. She was could be a breadwinner but she could not go out and find work because she had to take care of her child. She ended up owing loan sharks from whom she borrowed money to go to hospital. The family survives through the monthly grant she gets for the patient and his siblings.

Other participants were also struggling to make ends meet as gathered from the excerpts below:

*“We were really affected because we are all unemployed in this house, but we managed to send the child for all the scheduled vaccines.” (P6)*

*“This was something unexpected, and were financially affected because some of the monies we used were borrowed, and we were at the hospital overnight.”*  
(P7)

One of the participants had a different experience, reporting that he was not financially affected by rabies, as noted in the following excerpt:

*“I don’t think I was financially affected.”* (P4)

He loved his animals so much that, even if he was unemployed, he kept himself busy with hunting. Even though penniless, he did not see it as an extra expense to get help for his dog and himself.

Another participant preferred private institutions over public ones even if they were expensive. He made the following statement:

*“Well it was quite an expensive experience. I went to a private hospital, which is not cheap. I do believe you can go a government hospital and get treatment free of charge. Personally, my choice is that I go and pay at the hospital because it is just around the corner. There are no other hospitals nearby. At the end it cost me nearly R4000 for the series of injection, stitching, treatment and all the other things.”* (P9)

### **5.6.2 Social beliefs**

The study highlighted the fact that community members observe certain unwritten rules. These rules are there for the welfare of society. Contravening these rules may subject an individual to a tribal court. The rule is that an individual or a family is responsible for the misfortunes caused by a family member or their livestock or pets. Responsibility comes in the form of paying damages or assisting the victim financially. In some instances, negotiations between families take place and a reasonable agreement is reached especially if the damage is seen to be minor.



These practices have an impact on individual decision-making. A participant gave the following account of their experience:

*“I think one of the reasons my mother did not go to the clinic to seek medical help is that here at eNgoyameni we have a rule that say if one’s animal cause damages on another family’s property or family member, the owner of the animal should take responsibility. My mother went to the dog owner’s house, and it was disputed that the dog was responsible for biting her. No responsibility was attached to the dog owner at the end.” (P3).*

Other social beliefs include fallacies. The study gathered that some hunters were not keen to vaccinate their animals because there was a belief that vaccinated dogs become less sharp in hunting than unvaccinated dogs. That was confirmed in the excerpt below:

*“They have a belief that their dogs will not hunt as well as a dog that is not inoculated, and unfortunately these dogs are chasing wild animals, so it is a very risky scenario.” (P9)*

## **5.7 THEME 2: PREDISPOSING FACTORS AND RISKY PRACTICES**

Some of the participants expressed concern some common practices among community members have the potential of putting the individuals at risk of contracting rabies.

### **5.7.1 Social misconceptions**

The following statements from two of the participants illustrate the theme that some community members engage in risky practices which put them at risk:

*“... community belief that if one has shortness of breath and drink water after the dog, the shortness of breath gets cured ... Last time I heard of it was before my mother passed on. People were still drinking water that was initially drank by the dog to heal shortness of breath.” (P3)*

*“People have a belief that a dog bite would can be treated by burning dog hair and rub it on the wound and that bring fast relief, people should stop doing that and seek medical help if bitten by dogs.” (P8)*

The origin of such beliefs and practices are not known, but those who practise them are confident and say with conviction that they yield the desired results.

### **5.7.2 Unsafe gestures and practices**

Other community members are so kind to animals that in some instances they put their own lives in danger. Picking up or attempting to help a stray sick animal could have fatal consequences. An observation by a participant included the excerpt below:

*“I think the problem is people generally, and I am talking about everybody. They do not know enough about rabies. They certainly do not know that if you are not treated you will die. They think if I get sick, I will go to the doctor that would be too late, if you get rabies, you are dead. I think that many people do not understand how serious it is, and they pick stray dogs on the side of the road, and they think they are doing everybody a big favour whereas they are putting their families at risk. They need to know that rabies is a very serious thing that can be solved inoculating all the animals ....” (P9)*

Other participants reported the following risky practice:

*“We have a neighbour who have a tendency of not vaccinating her dogs. She has a number of them; they scratch her, lick her and sometimes bite. She never went to the clinic to be checked up; we even suspect she is rabid herself. Some of her dogs have died after being involved in a fight with other dogs.” (P6)*

*“Not everybody sends their pets for vaccination when there is a call for that, and it may happen that those unvaccinated pets may attack someone in the family or one of the neighbours and the disease spread that way, and at eNkonyameni we may have another human rabies death.” (P3)*

### 5.7.3 Abandoning animals

Participants raised concerns about the animals that were roaming around and were unknown to the community members. These animals posed a threat to their wellbeing as is evident in the following excerpts.

*“We are now on high alert; we watch our dogs’ condition daily we do not want strange dogs to come into contact with our dogs although it is not an easy task but we are trying ... once the dog does a damage it is disowned and no one want to take responsibility.” (P5)*

*“Initially it appeared that the havoc was caused by a stray dog, however later it was discovered that it was a dog from the neighbourhood and the owner was known. During the time of the incidence no one took responsibility.” (P7)*

*“Rabies control measures are not enough. The example I can make is that the dog that bit my father remains unknown. No one came forward and took responsibility to state that they owned the dog. My father killed the dog and came back with the dog’s neckband. No one come forward and claimed to know the dog.” (P9)*

*“Unfortunately, one still encounter animals especially cats that are ownerless. They roam around the streets and dogs recently killed one of them. That is unacceptable. Not all animal owners respond to the call for vaccination, some deliberately ignore such call, and because we are minding our own business no one take time to ask the reason why the vaccination calls are ignored.” (P7)*

## **5.8 THEME 3: HINDRANCES TO SEEKING ASSISTANCE**

The study revealed that there are instances where it was a struggle for the community members and participants to seek medical intervention.

### **5.8.1 Lack of income**

Unemployment and lack of financial support are factors which possibly contribute to community members' reluctance to seek medical help.

The following participants shared their experiences with regards to the economic status of their families:

*"We were really affected because we are all unemployed in this house, but we managed to send the child for all the scheduled vaccines." (P6).*

*"This was something unexpected, and were financially affected because some of the monies we used were borrowed, and we were at the hospital overnight." (P7).*

*"My mother ended up not going to the clinic because it would have been the responsibility of the dog owner to offer travelling fees to my mother." (P3)*

*"... my father lost the urge to proceed with the treatment schedule, because he was referred to hospital which is far away and according to his judgement the dog bite was a minor thing ... hospital was too far to be consulted for such a minor thing, and for him going to the clinic, would have been without any taxi fare costs." (P10)*

### **5.8.2 Attitude towards animal bites**

The results of this study indicate that some participants did not take dog bites seriously. Self-medication was given preference over professional health care. The following statement alludes to this fact:

*“My father took it very lightly, because it was a small wound on the arm. He stated that he was going to use herbal concoction on the wound and he will be fine. He also stated that if there were any toxins, they would have been washed away by the time he washed the wound under running water.” (P10)*

*“I have never seen anyone affected by the disease (rabies); however, I have seen dogs with the disease.” (P4)*

Such statements indicate that some individuals may not seek medical help.

### **5.8.3 Unavailability of resources**

From the participants' point of view, there should always be stock of resources like rabies medication because the lack of stock causes inconvenience and possibly even death. The two excerpts below illustrate this:

*“... we sent the child to hospital and we were told that she was supposed to get two injections .... One was out of stock and only one was administered, we were then sent home to continue with the scheduled injections at our local clinic. The rest of the scheduled vaccines were received at the local clinic .... The health facilities should have stock of all necessary treatment at all times because I believe that if my child received all the necessary treatment when we visited the health facility she was not going to pass on.” (P8)*

*“I strongly believe that my father would still be alive if the necessary treatment was available at the health facility, for him, hospital was too far to be consulted for such a minor thing ....” (P10)*

## **5.9 THEME 4: KNOWLEDGE ABOUT RABIES AND EXPECTATIONS FROM OFFICIALS**

Participants expressed their feeling of dissatisfaction with the promises made by health officials during the rabies outbreak.

### **5.9.1 Role played by officials**

During outbreaks, health officials feed information to the health authorities who speak on behalf of the Department. Visits to places where outbreaks occur are conducted. Interaction between the community members and the Department of Health representatives takes place. The following statements were gathered from the participants:

*“We were promised a fully furnished house but all we got was a house, we had to fend for the furnisher .... I wish that the issue of painting a good picture by the government departments while taking advantage of people who need help must end. A lot of empty promises were made.” (P3)*

*“I have never had an encounter of dog vaccination campaign in this area for the whole seven years I have stayed here not a single encounter. So in my opinion, vaccination teams should come and for me the experience about my father’s death was an eye opener, about the danger rabies can pose.” (P10)*

*“I do not think the rabies control measures are adequate, animals should be vaccinated every month as far as I am concerned, and a lot of areas should be covered so that we will have peace of mind. Before the rabies ordeal, we were aware of the rabies disease but it was something we had never seen before and we were not aware of rabies control programmes, however now knowing that there are such programmes I would say they are not enough because the dogs reproduce constantly, and the relevant department should at least vaccinate monthly.” (P8)*

### 5.9.2 Availability of health support resources

Participants had opinions about the availability of resources, and they also suggested time frames for some of the resources in terms of how soon or how often these resources should be available. The following statements are in support of this observation:

*“We were fortunate that we got the tests results after euthanising the donkey within an hour. The hospital was amazed that we got the results within an hour they told us that they normally wait for three weeks. They treat people while waiting for the results. They treat them anyway and that is expensive treatment that could have been unnecessary. I think it is more important that they are able to get test results quickly, because that will save a lot of money. You are not treating people for rabies that do not have not have rabies, and you will treat the people with rabies more effectively. I think it is very important to get the test results quickly. I was just lucky that I knew who to contact. I own a guest house I made friends with the local Vet people from the Department of Agriculture who used my facility while doing mass vaccination in the area, so we have contact numbers of the guy who is in charge of the rabies programme that is how things were a lot quicker.” (P9)*

*“We wish that the health facilities should have all the medications available at all times, so that people will get help quicker and efficiently .... We strongly recommend that the clinics should always have rabies treatment on stock.” (P10)*

*“The health facilities should have stock of all necessary treatment at all times because I believe that if my child received all the necessary treatment when we visited the health facility she was not going to pass on.” (P8)*

*“I think there should be a shift from the normal practice because it seems the current control measures are not powerful enough. I wish the vaccines should be made stronger so that it last longer in the animal’s system, however the vaccine should not have fatal side effects.” (P4)*

## 5.10 THEME 5: EFFECT OF RABIES ON THE INDIVIDUALS

Participants gave accounts of how rabies affected their lives; for some of the participants their normal routines changed.

### 5.10.1 Expression of inner feelings

Participants expressed their experiences emanating from the effects of the rabies disease in their lives. The participants were either directly affected (directly bitten by a rabid dog) or indirectly affected (being close to the individual who was bitten by a rabid dog). From the experiences shared by the participants, it was determined that there were elements of desperation and pain. One participant referring to the rabies survivor she was caring for stated:

*“It is very painful because as it is he is bedridden and cannot do anything for himself. He cannot go to school, he is missing out, and his peers are progressing he cannot do anything .... He is like a disabled individual .... The situation put me in a difficult position. Normally I would find jobs and earn a living, and now if I were to get a job, I cannot take it because I need to take care of him. If I have to go somewhere I have to ask for assistance from somebody to be his guardian.” (P1)*

*“I felt the pain, because I had to live with the knowledge that he cannot do anything for himself. His milestones would have progressed but because of rabies he is not able to progress and that affects me .... The family was adversely affected psychologically, because since the child was diagnosed with rabies there was no improvement in his condition, he was never cured of rabies.” (P2)*

One participant verbalised memories of the scenes from when her mother who died of rabies acted in a very peculiar manner. She stated that her mother behaved almost like a dog. At the time none of the family understood or knew what was wrong with her. Her mother was diagnosed post-mortem. She stated:



*“... she howled like a dog, she would bite on people and she ripped her clothes apart, she would act like a playful dog to the visitors who came, and in her mind she was welcoming them, not realising that she was acting like a dog .... We realised after she passed on that she had rabies.” (P3)*

Not all participants were worried about their lives, and some participants raised concerns about the welfare of the animals. One participant stated that he felt bad for the dog, after it was put down and diagnosed with rabies. He stated that it was his animal and he loved it as noted in the excerpt below:

*“I had worst fears for the dog, but I could not just abandon my dog like that.” (P4)*

One participant stated that although it came as a shock that he almost lost a finger from a bite from a donkey, it was not its fault. He stated:

*“... he did not bite me intentionally, it happened because of me trying to help him because he appeared ill.” (P9).*

Some participants verbalised fear of dogs. The researcher gathered that these participants would not keep dogs, and they would change direction when a dog was approaching or sometimes had an urge to harm dogs. Participants stated:

*“I hate dogs and cats, if I see a dog it is as if I am seeing rabies .... When the dog approach, I am always tempted to throw a stone at it.” (P10)*

*“We developed fear of dogs and cats, I am scared to go to my neighbour because she is keeping dogs, and here at home we would never keep any dog or cat. Before the incident I did not have anything against the dogs and cats and that all changed after the incident.” (P8)*

*“We are now very scared of dogs and cats, because whatever actions they display become suspicious to us and this is because the community do not take care to vaccinate their dogs and cats.” (P6)*

### 5.10.2 Periods of uncertainty and anxious moments

Participants demonstrated the rabies disease brought about confusion in and inability to comprehend the situation of not understanding the illnesses their family members suffered from prior diagnosis. Participants, after a period of waiting for a confirmation of diagnosis, stated:

*“... the child was admitted for about 10 days, injections and drips were administered however the child passed on during that period, from then on I feared rabies because my first encounter with it resulted in a death.”* (P8).

This participant was only made aware of the diagnosis after the child died.

One participant reported that initially her mother was diagnosed with joint pains and rabies was diagnosed after her death as noted below:

*“The doctor we consulted initially before we knew the diagnosis, stated that she was suffering from joint pains .... The worst part is that we were not aware of what she was suffering from, rabies was only diagnosed after she passed on, and looking back, then we realised why she acted the way she did, it was because of rabies”.* (P3)

Some of the participants went through a period of seeking answers, their family members were ill, and it looked serious and there was even a display of strange symptoms by their ill family member. Participants verbalised:

*“It was scary because we did not know whether the child would be diagnosed with rabies. However, we were assured at the health facility that if medical help was sought sooner here would be lesser damage.”* (P6)

It is during these anxious moments that the participants would have flooding of mixed emotions, fearing for their loved ones and hating the perpetrator animal at the same time. Participants stated.

*“... I even wish that the dog would die the same day because it attacked and mauled many children in its path of destruction, about four that we knew of and I wished that to stop.” (P6)*

*“... if the damage was not done by my neighbour’s dogs, I swear something in a form of retaliation would have happened to their family by now.” (P1)*

The study noted that the peculiarity of the signs and symptoms of rabies brought anxiety to the participants. This is supported by the comments from the participants who made the following statements:

*“After two or three months, we realised that the disease was affecting him inside, but before that no one noticed anything because the wound healed and he was his normal self. He complained of pain on the arm that was bitten, it could be possible that as a man he had ego and concealed the pain.” (P10)*

*“The dog bite happened in April and the wound healed without her going to the clinic, then at the end of May she started complaining of sore arm the same one that was bitten and three days later she got ill and passed on.” (P3)*

*“... my child was bitten on the foot and arm, it was around March 2013, we sent the child to hospital and we were told that she was supposed to get two injections however one was out of stock and only one was administered, we were then sent home to continue with the scheduled injections at our local clinic. The rest of the scheduled vaccines were received at the local clinic. Towards the end of March, the child started complaining about pains on the sites that were bitten, the arm and the leg.” (P8)*

### **5.10.3 Coping with rabies**

Participants gave accounts of the aftermath of rabies. They indicated that there were challenges in their lives that can be attributed to rabies:

*“I even failed at my second term grade at school (term ending in June). Memories would come back like a picture film, and the realisation that all that happened was because of a rabid dog, affected me adversely.” (P3)*

*“It was very painful because we lost a breadwinner; he did everything for the family. After he passed on many negative occurrences happened, even the family was divided. It is never the same without him.” (P10)*

### **5.10.4 Awareness about rabies and rabies control measures**

The study revealed that the participants' experiences made them aware of the rabies disease. Participants stated:

*“We think we could have lost the child if we approached traditional healer.” (P2)*

*“... this was the first episode we have ever heard of person passing on because of rabies, we learnt that the dog could be rabid and rabies could kill. So everybody was wondering as looking back at the time the dog attacked my mother to the time she got ill, and realising that rabies has strong toxins.” (P3)*

*“I think the focus should be on animals, since rabies is acquired through, they should be managed in such a manner that they do not acquire rabies, or if they do acquire the disease, it does not cause problems. In my opinion the rabies control measures are not enough because these dogs are vaccinated ... but rabies still affect them.” (P4)*

*“... before the ordeal we were aware of the rabies disease but it was something we had never seen before and we were not aware of rabies control programmes, however now knowing that there are such programmes I would*

*say they are not enough because the dogs reproduce constantly and the relevant department should at least vaccinate monthly.” (P8)*

*“The impact is that my family knows that if there is another rabid dog on the property, I am the one that can go and catch it because I am immune now. I am protected whereas they are not. We do have a safeguard and they are all aware now far more knowledge and knowledge is powerful .... All our pets have always been inoculated. All our domestic pets, dogs and cats. The donkey was not inoculated because he was difficult to control or get hold of it. He lived on a hill side over there, but we do get our horses now all inoculated .... I am far more aware of the consequences, so I am knowledgeable. I know what to do, when to do it and what not to do, I am far more educated.” (P9)*

*“We had no idea of what rabies was about. We were only informed of rabies after we were alerted that the dog we came into contact with was diagnosed with rabies.” (P5)*

*“We think the rabies control measures that are in place are enough, it is up to the community members to take advantage of such initiatives.” (P6)*

*“Rabies control programme does exist however I don’t think people are hundred percent aware of such.” (P3)*

## **5.11 CONCLUSION**

It was evident that the community members were affected by rabies in different ways. Those who kept the animals as pets or livestock should take responsibility for them. Individuals who were bitten by animals should take responsibility for their own lives. The health facilities should take responsibility for health care provision of health including educating the community and make sure that the medication is available at all times. In the next chapter, the results of the study will be discussed.

# **CHAPTER 6: DISCUSSION OF FINDINGS**

## **6.1 INTRODUCTION**

Findings of the study were presented in the previous chapter. In this chapter, the research results will be discussed. The guiding principle is the research question; what are the experiences of the people affected by rabies in eThekweni district? The theoretical framework that underpinned the study was applied to put the research findings into context. The research findings were also compared to the available literature from previous scholars.

## **6.2 DISCUSSION OF THE FINDINGS**

Five major themes were identified and presented in the previous chapter.

The five major themes were as follows:

- Theme 1: Family background and support.
- Theme 2: Predisposing factors and risky behaviours.
- Theme 3: Barriers to seeking help.
- Theme 4: Expectations from the Department of Health.
- Theme 5: Effect of rabies on individuals.

### 6.3 DISCUSSION OF THE RESULTS IN REFERENCE TO HBM

Table 6.1 illustrates the application of the Health Belief Model to the study, putting into context the themes that emerged in the study.

**Table 6.1: Application of the Health Belief Model to the study**

<b>HBM ELEMENT</b>	<b>THEME</b>	<b>DISCUSSION</b>
<b>Perceived seriousness</b>	<b>Family background and support.</b> Sub-themes: <ul style="list-style-type: none"> <li>• Socio economic status.</li> <li>• Social beliefs.</li> </ul>	Some participants viewed dog bites as a minor concern and the family members were unaware of the gravity of the situation until it was too late.
<b>Perceived susceptibility</b>	<b>Predisposing factors and risky behaviours.</b> Sub-themes: <ul style="list-style-type: none"> <li>• Social misconceptions.</li> <li>• Unsafe gestures and practices.</li> </ul>	Participants were aware of the threat unvaccinated animals posed and some of them tried to persuade ignorant owners to vaccinate.
<b>Perceived benefits</b>	<b>Knowledge about rabies and expectations from officials.</b> Sub-themes: <ul style="list-style-type: none"> <li>• Role played by the officials.</li> <li>• Availability of health support resources.</li> </ul>	Participants became aware of the benefits of animal vaccination; hence, there were some expectations from the Health Department.
<b>Perceived barriers</b>	<b>Hindrances to seek help.</b> Sub-themes: <ul style="list-style-type: none"> <li>• Lack of income.</li> <li>• Attitudes towards animal bites.</li> <li>• Unavailability of resources.</li> </ul>	Some participants had financial challenges to seek help and they ended up being infected by rabies.
<b>Modifying factors</b>	<b>Effect of rabies to the individuals.</b> Sub-themes: <ul style="list-style-type: none"> <li>• Expression of inner feelings.</li> <li>• Periods of uncertainty and anxious moments.</li> </ul>	Participants who experienced caring for patients with rabies are the best teachers for people who do not understand rabies.
<b>Cue for action</b>	Sub-theme: <ul style="list-style-type: none"> <li>• Coping with rabies situation.</li> </ul>	Some participants started using the rabies experience to their family's advantage. They were ready to assist with knowledge using their own experiences.
<b>Self-efficacy</b>	Sub-theme: <ul style="list-style-type: none"> <li>• Awareness about rabies and rabies control measures.</li> </ul>	Some participants started educating others on the dangers that rabies could pose and the preventative methods.

## **6.4 PERCEIVED SERIOUSNESS**

Individuals have to perceive a disease as a threat and have serious consequences and impact to their social and physical lives, for them to consider taking preventative measures against it (Tarkang and Zotor 2015: 5). In the study, this statement applies in the theme family background and support.

### **6.4.1 Family background and support**

The study revealed that the perception of the seriousness of rabies was diluted for some participants with a lower socio economic status. Their decision-making and perception of the disease process was influenced by what they could afford. Durrheim *et al.* (2001: 12) assert that in Africa the human population growth is concurrent with the accelerated dog population growth. The high rates of urbanisation and migration due to unrest also contributes to communities with low income. This is supported by the eThekwini IDP (eThekwini Municipality 2017a: 6) which stated that eThekwini was experiencing low economic growth, high rates of unemployment, and high levels of poverty and the status quo remains since 2014. Some participants who were from low socio-economic background, relied on the support from the family or the community to seek health care intervention in the form of travelling costs. The absence of monetary support determined the fate of the participant. More than 99% of all human rabies deaths occur in the poorest developing countries Durrheim *et al.* (2001: 12)

It also emerged in the study that the collective understanding of rabies among the participants' families was lacking before the families were affected by rabies. This was supported by the eThekwini IDP, which states that among other things there are low levels of skill development and literacy (eThekwini Municipality IDP 2017a: 22). Some individuals were allowed by members of the community to treat dog bites as a minor concern and only later found out that the dogs were rabid. Abubakar and Bakari (2012: 11) confirm that individuals exposed to dogs suspected to be rabid and who have sustained injuries should



receive complete post-exposure prophylaxis and human rabies immunoglobulin.

Edmonds *et al.* (2012: 29) classified perception of seriousness as high, moderate and low. This study yielded conflicting messages from the participants. For some their perception of seriousness was low while for others it was high. Some participants' families allowed the situation of the lack of monetary support to take precedence over getting health care intervention. This decision proved to be fatal because some participants' family members died after not attending the health care centres (Perception of seriousness is low). However, other participants, under trying circumstances, managed to send their family members to the health facilities until all the necessary doses were administered (Perception of seriousness is high). Lembo *et al.* (2010: 3) assert that the main contributing factor to a low prioritisation of rabies control has been the lack of information about the magnitude of the burden and the impact the disease has on the lives of the general public.

Low socio-economic status of the participants' families exposed them to taking decisions that were at the level of their financial affordability. If the family member went to the health facility and was referred to hospital, they would resort to affordable available means to sort out the health problem (dog bite) by using herbal concoctions. Only when it was too late and the disease had progressed would they reconsider going back to the health facility. This type of decision-making can lead to a preventable loss of a life. Adedeji *et al.* (2010: 1294) cited ignorance as a contributory factor to rabies outbreak.

Some participants' family members relied on obedience by community members to community common law (or rulings thereof) for financial support after animal attacks. When the common law ruling failed them that sealed their fate. They ended up not visiting the health facility and consequences were fatal. Poverty was also a contributor to the scourge of rabies (Adedeji *et al.* 2010: 1294).

## **6.5 PERCEIVED SUSCEPTIBILITY**

Tarkang and Zotor (2015: 5) define perceived susceptibility, as individuals' beliefs about the risks of being exposed to a health condition. The higher the risk, the more the individual feels vulnerable. Eventually the individual feels inclined to take preventative action against a health condition. An example of this change is an individual who engages in sexual activity and uses a condom to curb vulnerability to HIV. The study yielded information about the participants' perceived susceptibility under the following theme:

### **6.5.1 Predisposing factors and risky behaviours**

It was evident in the study that some community members had a low perception of susceptibility to rabies. They were committing risky acts. These acts included a deliberate move not to vaccinate animals like dogs. These findings agree with Lembo *et al.* (2010: 6). Their study concluded that there was unwillingness/inability by the community members to bring dogs for vaccination. The dog owners stated they could not catch their dogs. This study revealed that the reason for not vaccinating was the belief that dogs become less sharp in hunting if they are vaccinated. One of the participants observed this action and he got involved in trying to correct it.

Another kind of risky behaviour by the community members was the tendency to pick up stray animals. In most cases, the intention is to help the animal. Stray animals are a big risk for rabies because they are ownerless, which means they are likely to not be vaccinated (P 9). The findings of this study also concur with Pye (2014: 56) who made the following recommendations for overseas travellers in her study:

- Avoid contact with free-roaming animals, especially dogs and cats.
- Avoid contact with wild, free-roaming or captive animals.
- Be aware that dogs may chase bicycles and motorcycles.

Adedeji *et al.* (2010: 1302) concur with Pye (2014: 56), stating that individuals should avoid engaging with animals they are not familiar with no matter how friendly they may seem.

Some of the reasons the animals end up being stray is the uncaring nature of their owners who abandon them. These abandoned animals end up fending for themselves. Nel (2009: 63) asserts that HIV and AIDS have fuelled rabies expansion. In some parts of KZN, the HIV rate is 60% to 80%. When a dog owner dies, the family often abandons the dog. During this period, their animal instinct kicks in and they form packs. Bishop *et al* (2010: 2) concurs with (Nel 2009: 63), stating that one of the reasons for emergence of rabies in 1976 because of immigrants from neighbouring countries who migrated due to socio-political reasons and came with unvaccinated animals or abandoned them to fend for themselves.

The emergence of HIV/AIDS has also resulted in ownerless animals after the owners have died. The abandoned animals form feral packs to survive. Abubakar and Bakari (2012: 110) asserts that stray dogs were the major contributor to dog bites in the communities, with most dog owners being irresponsible and did not putting their animals on a leash, which meant they were wandering around.

Other evidence of low perception of susceptibility evident from the study are statements that some community members drink water from the same water that the dog has been drinking from. The risk is that infected dog's saliva harbours rabies. Drinking water which has traces of dog's saliva could introduce rabies to humans because the rabies virus can be absorbed through the mucosa and enter the blood stream. Modupeoluwa *et al.* (2014: 617) stated that rabies could be transmitted by means of rabies virus introduction through the mucous membrane. The reason for this behaviour, as stated by one of the participants, was to treat shortness of breath, for example asthma attacks. Another participant said that that dog bite wounds were not taken to health

facilities; instead, the dog's hair was burned and the ash would be rubbed on the wound to bring relief.

Ekanem *et al.* (2013: 1171) confirms the presence of misconceptions in the communities by stating that the dealers in the dog trade related to dog meat consumption were cognisant of rabies. The dealers believed that there was an organ within the dog's abdomen which serves as a prophylaxis against rabies when consumed, but they kept this knowledge secret. These practices although they are not widespread in eThekweni, remain a danger to society and should be addressed.

## **6.6 PERCEIVED BENEFITS**

Perceived benefits refers to an individual's opinion of the worth of a new behaviour in preventing the risk of exposure to a disease. Adoption of healthier behaviour depends on the individual's perception of the usefulness of the new behaviour (Jones and Bartlett n.d.: 32). The theme below refers to the perceived benefits the participants mentioned.

### **6.6.1 Knowledge about rabies and expectations from officials**

The study yielded information which indicated that after the participants and their families had experienced rabies they became educated about rabies which led to the realisation that there was a need for health intervention for prevention of rabies. The more the participants knew about rabies, the more they had opinions about it. The families developed expectations from the health authorities in this regard (P8).

Some participants indicated that they believed in conventional medicine more than traditional medicine when it came to rabies, because there was no known history of a traditional healer who successfully treated rabies. Adedeji *et al.* (2010: 1291) found that traditional medicine is commonly used but unfortunately it alters the clinical signs of rabies and so can delay proper diagnosis and treatment. It is evident from this study that some participants welcomed and

were satisfied by the health interventions that were brought by the health officials during outbreaks, while other participants complained about the promises that were made by politicians during outbreaks which were not met. Adedeji *et al.* (2010: 1294) concurs by stating that some policy makers use deception and manipulation during campaigns for their own benefit. Participants were vocal about the necessity and availability of health resources. They were of the opinion that for a preventable disease like rabies, no lives should be lost. Rupprecht *et al.* (2010: 3) assert that post-exposure prophylactic treatment is effective when administered appropriately and on time.

Globally, individuals who succumb to rabies have either received incomplete vaccination (especially anti-rabies vaccines without immunoglobulin), or experience delays in receiving the full treatment or there has been a deviation from the rabies management guidelines, or patients have not received any anti-rabies treatment at all. Post-exposure prophylaxis without immunoglobulin was identified as one of the main reasons for rabies fatalities (Weyer *et al.* 2016: 3). The Department of Health through the National Core standards assert that: "Stock and suppliers are efficiently managed to ensure supplies meet planned service needs at all times." (Department of Health 2011: 39).

Participants indicated that diagnostic tests for suspected rabid animals should be readily available, test samples collected should be tested within a reasonable period and results turnaround time should be quicker so that lives can be saved. Adedeji *et al.* (2010: 1302) supports this statement in their study they identified a need for well-equipped laboratories. Participants in this study said that there should be no lack of stock of anti-rabies medication. Adedeji *et al.* (2010: 1297) concur; in their study they identified the unavailability of WHO recommended immunoglobulin as one of the challenges.

## **6.7 PERCEIVED BARRIERS**

Perceived barriers refer to an individual's own evaluation and weighing of pros and cons in adopting a new health behaviour.

### **6.7.1 Barriers to seeking assistance**

During the study, it was apparent that participants and community members faced various challenges which influenced their health care seeking behaviour. The challenges included the fact that the low socio-economic class is mostly unemployed and in some instances, the family depended on social and disability grants for income. The high rate of unemployment was stated as being one of the social development challenges in the eThekweni IDP, (eThekweni Municipality IDP 2017a: 22). Scourges like rabies bring about choices such as using the available money for home maintenance or using it for travelling to a health care facility. Nel (2009: 63) states that due to poverty some dog owners cannot afford to maintain their animals. Lack of money is perceived as a barrier to some community members seeking help. Some participants complained that they had to borrow money from loan sharks to travel to the health facility. Lembo *et al.* (2010: 4) asserts that poor families cannot not afford rabies prophylactic measures. This is made worse by the fact that multiple visits have to be made to the health facility. Obviously, the loan shark would require interest on the borrowed money. An overwhelming 62% of Nigerians exposed to dog bites did not visit health facilities for medical intervention (Adedeji *et al.* 2010: 1286).

One participant said that the barrier for the family member affected, besides lack of taxi fares, was the trust in herbal concoctions. The family member thought wound cleaning and rubbing in of the herbal concoction was enough. That is how his fate was sealed. Adedeji *et al.* (2010: 1286) found in their study that 8.7% of the community in their selected setting believed that herbs could treat rabies infection.

## **6.8 MODIFYING FACTORS**

Demographic factors such as social structure, race, gender, level of education, past experience, peers, culture, and skills are motivators and can influence individuals' perception regarding health related matters one way or the other (Tarkang and Zotor 2015: 5). For example, an individual who is exposed to dog bites will usually be cautious around dogs because of that experience. The theme below refers to the modifying factors that influenced decision making of the study participants and their families.

### **6.8.1 Effects of rabies on the individuals**

The study revealed that the family hierarchical structure also influenced the kind of support the family member received. Most family structures were patriarchal. The modifying factor is that the head of the house has the last word. In such households opposing opinions are either unstated, or else if they are stated they are overridden, even if the final decision leads to a fatality. Rao *et al.* (2009: 301) in their study conducted in India, gives the example of an individual who ignored a bite by a puppy because the family structure did not take it seriously, so did not receive any prophylactic treatment. She later developed prodromal symptoms of rabies and eventually rabies was diagnosed.

Most scholars place great emphasis on prophylactic treatment for rabies prevention, as well as health education at community level (Abubakar and Bukari 2012: 111; Ekanem *et al.* 2013: 1172; and Carrara *et al.* 2013: 4). Adedeji *et al.* (2010: 1289) stated in their study the factors contributing to the continued rabies outbreak in Nigeria included poor health seeking behaviour by the community members. The study also observed poor health seeking behaviour in all the subjects that participated. Ekanem *et al.* (2013: 1173) agrees with Adedeji *et al.* stating that six of the ten cases in Calabar Southern Nigeria reportedly made no effort to visit health care facility after animal bites.

Social structures where there are Chiefs, headmen and headwomen, also act as a modifying factor. Judgements made by these prominent figures are respected and can influence an individual's decision. These community structures failed one of the participant's family members. Damages were not paid after a dog attack. The family member ended up not visiting the health facility because she hoped damages would cover her taxi fare. Lack of adequate public awareness is one of the reasons that perpetuated rabies in Nigeria (Adedeji *et al.* 2010: 1290). Public health education is an essential component of rabies prevention and control including ongoing public education.

Exposure to human rabies, and experiencing the horrifying symptoms and inevitable fatal result, can bring about a long-lasting trauma to individuals, families and health care workers (Lembo *et al.* 2010: 4). Some participants stated they had eerie feelings towards unknown or strange animals in their vicinity. Lembo *et al.* (2010: 4) agree with these findings by stating that, individuals who have been previously exposed to rabies often develop fear of dogs. Their fear is brought about by their experiences with rabid animals that wandered around aimlessly. For these participants, any unknown animal is a potential threat.

Sharing of information individuals who have been exposed to rabies is a good way to raise better rabies awareness among community members. From the study, it emerged that some participant's family members were initially misdiagnosed and rabies was diagnosed at a later stage. According to Bishop *et al* (2010: 24), other medical conditions exists that can cause encephalitis and confusion which means that rabies is not always thought of.

## **6.9 CUE FOR ACTION**

Cue for action refers to a situation where an individual feels capacitated and ready to take the necessary action (Tarkang and Zotor 2015: 5).



### 6.9.1 Coping with rabies situation

One participant stated that she failed her grade because she was going through a mourning period because of rabies. She stated that later when she was volunteering as a mentor at a local primary school, she used her experiences from the being affected by rabies to motivate the pupils about challenges in life. Eighty four percent of rabies deaths occur in remote rural communities where control measures have not been fully implemented (Salisbury *et al.* 2013 cited in Pye 2014: 55).

Rabies education also involves teaching children to be aware of strange behaviour by animals especially dogs and that they should be wary of unknown or stray animals in their area (Pye 2014: 55). Stray animals should be avoided at all cost due to the possibility of rabies. Abubakar and Bakari (2012: 110) report that rabies affects mostly children especially males because of their adventurous nature. Cifton (2007) cited in (Adedeji *et al.* 2010: 1288) supports Abubakar and Bakari's assertion that 100 children are killed daily by rabies globally.

Participant's indicated that their rabies experiences taught them to take note of the disease because it has a slow start but moves quickly as soon as the symptoms manifest themselves. Adedeji *et al.* (2010: 1301) state that rabies preventative measures should include community participation in public health education and sharing of experiences. Participants were aware that animal vaccination was the key preventative method to curb rabies and three of them stated that they were constantly making enquiries of their neighbours who are animal owners about the state of their animal vaccination, even to the point of nagging them to have it done. Adedeji *et al.* (2010: 1290) state that when community members compare animal borne diseases to other diseases, they generally consider the risks posed by animal borne diseases as being unimportant. The WHO (2018: 72) states that there had been little success in formal educational campaigns aimed at community mobilisation to limit animal bites.

## **6.10 SELF EFFICACY**

Self-efficacy refers to one's ability to successfully take action and be strong enough to deal with any associated obstacles or setbacks (Tarkang and Zotor 2015: 5).

### **6.10.1 Awareness regarding rabies and rabies control measures**

Participants said that they were introduced to rabies control programmes through their experiences with rabies. They were aware of animal vaccination, but some of them were not aware of the prophylactic treatment that was administered to humans after animal bites. They only became aware of this information after their encounter with rabies. Lembo *et al.* (2010: 3) state that there is a marked lack of knowledge on the issue of human rabies globally, which supports these findings.

Two participants from the study voiced dissatisfaction with the rabies control programme awareness campaigns in their areas. They were in agreement that the existence of the rabies control programme was known. However, they believed it was not enough. This is supported by Lembo *et al.* (2010: 6) who reported that ineffective campaigns coupled with demoralised veterinary staff yielded poor results in rabies preventative measures. One participant stated that she since she moved into a new area seven years previously, no rabies control programme personnel had been visible in the area, unlike the area where she used to stay. When resources are sparingly distributed, there is bound to be only low coverage achieved which can lead to large-scale failure (Lembo *et al.* 2010: 6). In contrast, two participants believed that rabies control program were sufficient and community members were taking full advantage of them.

It worth mentioning that the rabies control programme most participants were aware of was the animal vaccination program. Only two participants were partially aware of what happens to humans who have been victims of animal bites when they reach the hospital. Their knowledge emanated from reading or

being friends with personnel from rabies control programmes. In support of this statement, Adedeji *et al.* (2010: 1301) assert that civil administrative authorities should conduct local meetings to raise awareness on rabies because very little is happening at community level.

This study showed that being exposed to rabies and experiencing the consequences brought about knowledge and confidence to families who were affected. This knowledge would prepare them better for future encounters. Nel (2009: 65) concurs with these findings by stating that education and advocacy plays a pivotal role in the rabies control programme in KZN and in Africa. There is evidence in the study that one participant knew the do's and don'ts during animal attacks. It was also evident in the study that the misconceptions about animal attacks were treated with caution and not all community members subscribed to these misconceptions.

Nel (2009: 65) asserts that international interest and support in KZN has uplifted the state of readiness for rabies control in terms of intersectoral collaboration. The researcher can conclude that self-efficacy was realised among the participants and their families. This is supported by the fact that health education was conducted and the experience they went through enlightened them. Intersectoral approaches for sustainable preventative programmes are needed to establish rabies-free areas (Adedeji *et al.* 2010: 1301).

## **6.11 CONCLUSION**

The chapter discussed the themes that emerged from the study in relation to the theoretical framework underpinning it, and a response to the research question, "What are the experiences of the people affected by rabies in eThekweni district?" It was evident that participants in this study agreed on some issues and differed on some other issues. This is natural because people's perceptions on any given matter will not always be the same. The discussion on the findings of this study leads to the conclusion of the study including limitations and recommendations, which is the next chapter.

# **CHAPTER 7: CONCLUSION, LIMITATIONS AND RECOMMENDATIONS OF THE STUDY**

## **7.1 INTRODUCTION**

In the previous chapter, the study findings were discussed in relation to theoretical framework of the study. This is the last chapter of the study, which consists of a conclusion and a discussion of the study limitations and puts forward recommendations.

## **7.2 CONCLUSION OF THE STUDY**

In this study, it emerged that it is highly possible that after every three years there will be a rabies outbreak. The study also revealed that most people who were exposed to rabies only gained more knowledge or information after exposure. The health systems appeared to be reactive rather than proactive with regards to rabies.

Participants' experiences with rabies were explored and described in this study. It emerged that the participants went through challenging times during their rabies exposure. Some participants went through a period of uncertainty, not comprehending what was happening to their family members because of lack of knowledge. Some participants are still caring for the rabies affected and facing challenges every day, because of lack of support. Some participants projected negative feelings to animals. It also emerged in the study that there were irresponsible animal owners who ignored the safety protocols of animal vaccination.

In this study the information surfaced that acts of kindness in attempting to help stray animals can have fatal consequences. Animals become stray when their owners disown them once they learn that they have caused damage.

The irresponsibility of owners starts with not conforming to eThekweni bylaws regarding animal keeping, the mostly violated one being fencing of the yard and keeping animals like dogs on a leash when they are outside the yard.

The rabies control programme is not sufficient because plans are in place to control rabies among the human owned animal population, but pets are exposed to wild and stray animals whose rabies is not under control. The animal vaccination cycle is three years under normal circumstances and annually during outbreaks. The researcher is of the view that this should be reviewed. The main circumstance surrounding the demise of some of the participants' family members was lack of knowledge about rabies, which led to decisions not to visit health facilities. Three participants from different families had similar challenges of unavailability of sufficient anti-rabies treatment at health facilities. Consequences were fatal for two of the family members and there were serious health problems for the other.

### **7.3 LIMITATIONS OF THE STUDY**

Limitations are barriers or constraints that weaken or decrease the credibility of the study results. These could be the research design, sample of the study or research methods (Botma, *et al.* 2010: 107; Burns and Grove 2011: 48). The study sample was limited to eThekweni. The study cannot be generalised to other settings, regionally provincially, nationally or globally. The study was limited to individuals affected by rabies.

### **7.4 RECOMMENDATIONS**

The following recommendations based on the findings of the study are made with special reference to a health dialogue with stakeholders, review of the animal vaccination schedule, rabies control measures at community level, and further research.

#### **7.4.1 Health dialogue with stakeholders**

A dialogue and mass health education campaign involving all stakeholders (Department of Health, Traditional and Faith healers, Department of Agriculture, state and private veterinarians, SPCA, NGO's, public figures and community leaders) should be conducted.

#### **7.4.2 Review of animal vaccination schedule**

Because of a potential of a rabies outbreak in a three-year cycle, an annual review of animal vaccination schedules is recommended. A plan should be developed to control rabies among wild animals.

#### **7.4.3 Rabies control measures at community level**

Bylaws should be strictly enforced with steep penalties for individuals who contravene them, for example fencing of premises by animal keepers, putting dogs on a leash as prescribed, caring for animals and not abandoning them, and vaccination of animals at regular intervals.

#### **7.4.4 Further research**

The researcher suggests further research on this topic on a wider scale. This study is limited in its generalizability due to a small sample size. Therefore, it is suggested that a larger study be conducted to ascertain the management of rabies in the province of KZN.

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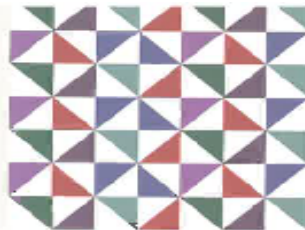
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# APPENDICES



## Appendix 1: DUT Ethics clearance



**Institutional Research Ethics Committee**  
Research and Programme Support Directorate  
2nd Floor, Barway Court  
Campus 1, Simon Dikho Campus  
Durban University of Technology

P.O. Box 1324, Durban, South Africa, 4001

Tel: 031 373 2375

Email: [ethics@dut.ac.za](mailto:ethics@dut.ac.za)

http://www.dut.ac.za/research/institutional\_research\_ethics

[www.dut.ac.za](http://www.dut.ac.za)

24 October 2017

IREC Reference Number: **REC 118/17**

Mr J M Hadebe  
108 Sunnyside Park  
Adams Mission  
Amanzimtoti

Dear Mr Hadebe

**Experiences of people affected by rabies in eThekweni district.**

I am pleased to inform you that Full Approval has been granted to your proposal REC 118/17.

The Proposal has been allocated the following Ethical Clearance number **IREC 094/17**. Please use this number in all communication with this office.

Approval has been granted for a period of two years, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely



Professor J K Adam  
Chairperson: IREC



## Appendix 2a: Letter of information for the rabies victims in English



Thank you for agreeing to participate in this study.

**Title of the Research Study:** Experiences of people affected by rabies in eThekweni district.

**Principal Investigator/s/researcher:** Mr JM Hadebe, MHS: Nursing.

**Co-Investigator/s/supervisor/s:** Prof MN Sibiyi, D Tech: Nursing.

**Brief Introduction and Purpose of the Study:** The study is looking at the experiences of the rabies victims and their families, so that more people can be made aware of the dangers rabies can pose. The recommendations made can necessitate policy change and improve the approach by authorities with regards to rabies. The study aims to explore the experiences of people affected by rabies who reside in eThekweni district.

**Outline of the Procedures:** You will be interviewed by the researcher. The interview will take place in the comfort of your home and familiar environment. A permission is requested to voice record the interview which will not take more than an hour.

**Risks or Discomforts to the Participant:** There is no foreseeable risks or discomfort for participating in the study.

**Benefits:** The research will benefit you indirectly because the recommendations from the study may be adopted by the Department of Health in improving management of rabies in South Africa.

**Reason/s why the Participant May Be Withdrawn from the Study:** You have all the right to withdraw from the study without any penalty.

**Remuneration:** This study does not offer any kind of remuneration to the participants, participation is out of free will.

**Costs of the Study:** There are no costs for participating in the study.

**Confidentiality:** During the study, your identities will be concealed, and codes will be used instead to ensure confidentiality. The records of this study will be kept safe by myself as a researcher in my archives and it will be deleted and shredded after five years.

**Research-related Injury:** No injuries are foreseen during the research period.

**Persons to Contact in the Event of Any Problems or Queries:** Please contact the researcher, Mr JM Hadebe at 072 379 9099 (tel no.), my supervisor Prof MN Sibiya at 031-373 2704 (tel no.) or the Institutional Research Ethics Administrator on 031-373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031-373 2577 or moyos@dut.ac.za

## Appendix 2b: Letter of information for the rabies victim's family in English



Thank you for agreeing to participate in this study.

**Title of the Research Study:** Experiences of people affected by rabies in eThekweni district.

**Principal Investigator/s/researcher:** Mr JM Hadebe, MHS: Nursing.

**Co-Investigator/s/supervisor/s:** Prof MN Sibiyi, D Tech: Nursing.

**Brief Introduction and Purpose of the Study:** The study is looking at the experiences of the rabies victims and their families, so that more people can be made aware of the dangers rabies can pose. The recommendations made can necessitate policy change and improve the approach by authorities with regards to rabies. The study aims to explore the experiences of people affected by rabies who reside in eThekweni district.

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**Benefits:** The research will benefit you indirectly because the recommendations from the study may be adopted by the Department of Health in improving management of rabies in South Africa.

**Reason/s why the Participant May Be Withdrawn from the Study:** You have all the right to withdraw from the study without any penalty.

**Remuneration:** This study does not offer any kind of remuneration to the participants; participation is out of free will.

**Costs of the Study:** There are no costs for participating in the study.

**Confidentiality:** During the study, your identities will be concealed, and codes will be used instead to ensure confidentiality. The records of this study will be kept safe by myself as a researcher in my archives and it will be deleted and shredded after five years.

**Research-related Injury:** No injuries are foreseen during the research period.

**Persons to Contact in the Event of Any Problems or Queries:** Please contact the researcher, Mr JM Hadebe at 072 379 9099 (tel no.), my supervisor Prof MN Sibiya at 031-373 2704 (tel no.) or the Institutional Research Ethics Administrator on 031-373 2375. Complaints can be reported to the Director: Research and Postgraduate Support, Prof S Moyo on 031-373 2577 or moyos@dut.ac.za

## Appendix 2c: Consent in English



### Statement of Agreement to Participate in the Research Study:

- I hereby confirm that I have been informed by the researcher, Mr JM Hadebe about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: \_\_\_\_\_,
- I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.
- I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.
- In view of the requirements of research, I agree that the data collected during this study can be processed in a computerised 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.

\_\_\_\_\_

<b>Full Name of Participant</b>	<b>Date</b>	<b>Time</b>	<b>Signature / Right Thumbprint</b>
---------------------------------	-------------	-------------	-------------------------------------

I, \_\_\_\_\_ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

\_\_\_\_\_

<b>Full Name of Researcher</b>	<b>Date</b>	<b>Signature</b>
--------------------------------	-------------	------------------

\_\_\_\_\_

<b>Full Name of Witness (If applicable)</b>	<b>Date</b>	<b>Signature</b>
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\_\_\_\_\_

<b>Full Name of Legal Guardian (If applicable)</b>	<b>Date</b>	<b>Signature</b>
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### Appendix 3a: Letter of information for the rabies victims in isiZulu



Ngiyabonga ngokuthola imvume yokuthi ube yingxenye yalolu cwaningo.

**Isihloko socwaningo:** Imizwa yabantu abahaqwe isifo samarabi abahlala eThekwini.

**Umcwaningi omkhulu:** Mnu. JM Hadebe owenza iziqu seMastazi emkhakheni wezempilo.

**Owengamele ucwaningo:** USolwazi MN Sibiya oneziqu zobuDokotela emkhakheni wobuhlelengikazi.

**Injongo yocwaningo ngamafuphi:** Ucwaningo lubheka imizwa yezisulu zesifo amarabi kanye nemindeni yabo ukuze izehlo zabo zikwazi ukusiza abanye uma kukhulunywa ngobungozi besifo samarabi. Izincomo eziyoqhamuka siyosiza ekutheni abasemagunyeni baphucule indlela abenza ngayo ukuvikela umphakathi kulesifo samarabi.

**Umkhombandlela ngohlelo:** Njengomuntu ozobamba iqhaza kucwaningo, kunemibuzo olindeleke ukuba uyiphendule. Lemibuzo uzobuzwa yona usekhaya, umcwaningi uye uzoza kuwe. Ngabantu asebekhulile nabathithekayo ngandlela thile kulesifo samarabi abalindeleke ukuphendula imibuzo, okungaba abalunywa yinja enamarabi noma abasondelene nalowo owalunywa yinja enamarabi. Umcwaningi udinga imvume yakho akuqopha ngesiqopha-mazwi inkulumo, okuyothatha cishe imizuzu engaphansi kwengamashumi ayisithupha. Okulindelekile nje ukuthi njengomuntu oneqhaza kulolucwaningo, uphendule imibuzo ngendlela ecacile neqondile.

**Izimo ezinobucayi kobambe iqhaza:** Akukho okulindelekile okungakubeka esimweni sibucayi noma kukuhlumeze ngesikhathi ubambe iqhaza.

**Okungazuzwa:** Ngokubamba iqhaza uyobe ulekelela ukusiza ohlelweni lokusiza amanye amalunga omphakathi. Oyokuphosa esivivaneni kuyasiza ngisho nezingane zakho enkathini ezayo.

**Okungenza ungathandi ukubamba iqhaza kucwano:** Unelungelo eligcwele lokuhoxa kulolucwano noma nini uma sewuzizwa kuthi yeka, akukho kucwaseka nokuncane oyohlangabezana nako.

**Imivuzo:** Umcwano alunamivuzo eyinkokhelo kobambe iqhaza, ukuba yingxenyeyocwano kusuka othandweni.

**Izindleko zoncwano:** Akulindelekile ukuthi ucwano lukudalele izindleko zanoma yiluphi uhlobo.

**Ubudlelwano bemfihlo:** Ngesikhathi socwano, akunamagama ababambe iqhaza ayodalulwa, kunaloko kuyosetshenziswa uhlelo lwezombolo ukucacisa obambe iqhaza, imiqingqo yemibiko iyobekwa endaweni ephaphile yimi uqobo, bese iyashatshaliswa emva kweminyaka emihlanu.

**Ukulimala okweyamaniswa nocwano:** Akunakulimala kwanoma yiluphi uhlobo okulindelekile ngesikhathi sokuqhubeka kocwano.

**Abantu ongabathinta uma kunemizo nengcaciso edingakalayo:** Umcwano JM Hadebe inombolo yocingo 031-311-3592 noma 072 379 9099. Owengamele ucwano uSolwazi MN Sibiya at 031-373 2704. Ungaxhumana futhi nomnyango wezocwano nobulungiswa, kulombolo 031-373 2375. Izikalazo zingaqondiswa kumqondisi wezocwano nohlaka lwemfundo ephakeme, uSolwazi uMoyo on 031-373 2577 noma moyos@dut.ac.za



## Appendix 3b: Letter of information for the rabies victim's family in isiZulu



Ngiyabonga ngokuthola imvume yokuthi ube yingxenye yalolu cwaningo.

**Isihloko socwaningo:** Imizwa yabantu abahaqwe isifo samarabi abahlala eThekwini.

**Umcwaningi omkhulu:** Mnu. JM Hadebe owenza iziqu seMastazi emkhakheni wezempilo.

**Owengamele ucwaningo: Usolwazi:** USolwazi MN Sibiya ogogode iziqu zobuDokotela emkhakheni wobuhlengikazi.

**Injongo yocwaningo ngamafuphi:** Ucwaningo lubheka imizwa yezisulu zesifo amarabi kanye nemindeni yabo ukuze izehlo zabo zikwazi ukusiza abanye uma kukhulunywa ngobungozi besifo samarabi. Izincomo eziyoqhamuka siyosiza ekutheni abasemagunyeni baphucule indlela abenza ngayo ukuvikela umphakathi kulesifo samarabi.

**Umkhombandlela ngohlelo:** Njengomuntu ozobamba iqhaza kucwaningo, kunemibuzo olindeleke ukuba uyiphendule. Lemibuzo uzobuzwa yona usekhaya, umcwaningi uye uzoza kuwe. Ngabantu asebekhulile nabathithekayo ngandlela thile kulesifo samarabi abalindeleke ukuphendula imibuzo, okungaba abalunywa yinja enamarabi noma abasondelene nalowo owalunywa yinja enamarabi. Umcwaningi udinga imvume yakho akuqopha ngesiqopha-mazwi inkulumo, okuyothatha cishe imizuzu engaphansi kwengamashumi ayisithupha. Okulindelekile nje ukuthi njengomuntu oneqhaza kulolucwaningo, uphendule imibuzo ngendlela ecacile neqondile.

**Izimo ezinobucayi kobambe iqhaza:** Akukho okulindelekile okungakubeka esimweni sibucayi noma kukuhlumeze ngesikhathi ubambe iqhaza.

**Okungazuzwa:** Ngokubamba iqhaza uyobe ulekelela ukusiza ohlelweni lokusiza amanye amalunga omphakathi. Oyokuphosa esivivaneni kungasiza uMnyango weZempilo ukwenza ngcono izinhlelo zamarabi ezweni jikelele.

**Okungenza ungathandi ukubamba iqhaza kucwaningo:** Unelungelo eligcwele lokuhoxa kulolucwaningo noma nini uma sewuzizwa kuthi yeka, akukho kucwaseka nokuncane oyohlangabezana nako.

**Imivuzo:** Umcwaningo alunamivuzo eyinkokhelo kobambe iqhaza, ukuba yingxenye yocwaningo kusuka othandweni.

**Izindleko zoncwanongo:** Akulindelekile ukuthi ucwaningo lukudalele izindleko zanoma yiluphi uhlobo.

**Ubudlelwano bemfihlo:** Ngesikhathi socwaningo, akunamagama ababambe iqhaza ayodalulwa, kunaloko kuyosetshenziswa uhlelo lwezombolo ukucacisa obambe iqhaza, imiqingqo yemibiko iyobekwa endaweni ephaphile yimi uqobo, bese iyashatshaliswa emva kweminyaka emihlanu.

**Ukulimala okweyamaniswa nocwaningo:** Akunakulimala kwanoma yiluphi uhlobo okulindelekile ngesikhathi sokuqhubeka kocwaningo.

**Abantu ongabathinta uma kunemizo nengcaciso edngakalayo:** Umcwaningi JM Hadebe inombolo yocingo 031-311-3592 noma 072 379 9099. Owengamele ucwaningo uSolwazi MN Sibiya at 031-373 2704. Ungaxhumana futhi nomnyango wezocwaningo nobulungiswa, kulenombolo 031-373 2375. Izikhalazo zingaqondiswa kumqondisi wezocwaningo nohlaka lwemfundo ephakemme, uSolwazi uMoyo on 031-373 2577 noma moyos@dut.ac.za

### Appendix 3c: Consent in isiZulu



#### Isitatimende sesivumelwano sokuba yingxenywe yocwaningo:

- Ngियाqinisekisa ukuthi ngazisiwe ngumcwaningi, JM Hadebe ngobunjalo ukuphathwa, inzuzo nokungaba yingozi ngalolucwaningo-inombolo ye Research Ethics Clearance\_\_\_\_\_.
- Ngiyitholile, ngayifunda ngaqonda ngokubhalwe ngenhla (Encwadini yolwazi) maqondana nocwaningo.
- Ngiyazi ukuthi imiphumela yocwaningo neminingwane yami mayelana nobulili, ubudala, usuku lokuzalwa, iziqalo zamagama ami nesifo esingiphethe angeke kuvezwe kumbiko wocwaningo.
- Ngenxa yezidingo zocwaningo, ngiyavuma ukuthi ulwazi oluqoqwe ngumcwaningi kulolucwaningo angalusebenzisa nge computer.
- Ngingayihoxisa imvume nokuba yingxenywe yokuba yingxenywe yalolucwaningo ngaphandle kokucwaswa.
- Ngibe nethuba elanele ukubuza imibuzo ngakho ke ngiyavuma ukuthi ngikulungele ukuba yingxenywe yalolucwaningo.
- Ngियाqonda ukuthi ngiyokwaziswa ngokusha okutholakele kulolucwaningo ngenxa yokuzibandakanya kwami nalo.

\_\_\_\_\_

**Igama eliphelele loyingxenywe yocwaningo  
Sayina/ Isithupha sangasokudla**

\_\_\_\_\_

**Usuku**

\_\_\_\_\_

**Isikhathi**

Mina Mduduzi Hadebe ngियाqinisekisa ukuthi lona obhalwe ngasenhla oyingxenywe yocwaningo wazisiwe ngobunjalo, ukuphatha nokungaba yingozi obuphathelene nalolu- cwaningo.

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**Igama lomcwaningi**

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**Usuku**

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**Sayina**

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**Igama lofakazi  
(Uma kusesidingo)**

\_\_\_\_\_

**Usuku**

\_\_\_\_\_

**Sayina**

## Appendix 4a: Interview guide for the for the rabies victims in English

Participant Code:

Date of interview: \_\_\_\_\_

### RESEARCH QUESTION(s)

#### Grand tour question:

- What are your experiences with regards to being affected by rabies?

#### Probing questions:

- How did the rabies condition psychologically affect you?
- How did the rabies condition financially affect you?
- What impact did the rabies have on your family?
- What kind of feelings and attitude do you have towards pets especially dogs after the incident?
- How do you feel about the rabies control measures?
- What practices could have contributed to the rabies problem?
- In rabies management, is there anything that could have been done differently, according to you?

## Appendix 4b: Interview guide for the rabies victim's family in English

Participant Code:

Date of interview: \_\_\_\_\_

### RESEARCH QUESTION(s)

#### Grand tour question:

- What are your experiences with regards to your family member(s) being affected by rabies?

#### Probing questions:

- How did the rabies condition psychologically affect the family?
- How did the rabies condition financially affect the family?
- What impact did the rabies have on the family?
- What kind of feelings and attitude does the family have towards pets especially dogs after the incident?
- How does the family feel about the rabies control measures?
- What practices could have contributed to the rabies problem?
- In rabies management, is there anything that could have been done differently, according to you as a family member?

## Appendix 5a: Interview guide for the rabies victims in isiZulu

Inombolo yobambe iqhaza:

Date of interview: \_\_\_\_\_

### IMIBUZO YOCWANINGO

#### Umbuzo omkhulu:

- Ithini imizwa yakho mayelana nokuhaqwa isifo samarabi?

#### Imibuzo ecacisayo:

- Asiphazamisa ndlelani isimo sakho sengqondo amarabi?
- Asiphazamisa ndlelani isimo sakho sezimali amarabi?
- Hlobo luni lokuthinteka olwenziwa amarabi kuwe nasemndenini?
- Indlela ozizwa ngayo yathinteka kanjani uma kukhulunywa ngezilwane ezifuywayo njenge zinja emva emva kewesehlo samarabi?
- Ngokwakho, kwanele okwenziwa yiziphathimandla ukubhekela isimo samarabi?
- Uzizwa kanjani ngezindlela ezibekiwe zokunqanda amarabi?
- Ikhona mhlawumbe imikhuba ocabanga ukuthi iyathazisela kulolubhubhane?
- Ehlelweni lokwelashwa kwesifiso samarabi kukhona ocabanga ukuthi kwakungenziwa ngendlela ehlukile, ubona kanjani?

## Appendix 5b: Interview guide for the rabies victim's family in isiZulu

Inombolo yobambe iqhaza:

Date of interview: \_\_\_\_\_

### IMIBUZO YOCWANINGO

#### Umbuzo omkhulu:

- Ithini imizwa yakho mayelana nokuhqwa isifo samarabi kwelinye lamalungu omndeni wakho?

#### Imibuzo ecacisayo:

- Asiphazamisa ndlelani isimo somndeni sengqondo amarabi?
- Asiphazamisa ndlelani isimo sezimali emndenini amarabi?
- Hlobo luni lokuthinteka olwenziwa amarabi emndenini?
- Indlela umndeni ozizwa ngayo yathinteka kanjani uma kukhulunywa ngezilwane ezifuywayo njenge zinja emva emva kewesehlo samarabi?
- Ngokomndeni, kwanele okwenziwa yiziphathimandla ukubhekela isimo samarabi?
- Umndeni uzizwa kanjani ngezindlela ezibekiwe zokunqanda amarabi?
- Ikhona mhlawumbe imikhuba ocabanga ukuthi iyathazisela kulolubhubhane?
- Ohlelweni lokwelashwa kwesifiso samarabi, kukhona yini ocabanga ukuthi kwakungenziwa ngendlela ehlukile?

## Appendix 6: Sample of a transcript

### Participant number 9's transcript

Line	Transcript	Coding
1	Re: What are your experiences with regards to you being affected	
2	by rabies?	
3	<i>P9: My initial experiences was rather shock, because I know the</i>	
4	<i>consequences are quite severe, however my experience have given</i>	
5	<i>me far more information as to what can be done to prevent it what</i>	
6	<i>you need to do in case of whatever happens, I have got a lot more</i>	
7	<i>information in my hands hat I can pass on to family and friends and</i>	
8	<i>people I know, it was a positive outcome.</i>	
8	Re: How did the rabies condition psychologically affect you?	
9	<i>P9: Well we only fund out the donkey was rabid after, because we</i>	
10	<i>took the precaution of testing the donkey to see, because it is an</i>	
11	<i>unusual circumstance to bite and he did not bite me intentionally, it</i>	
12	<i>happened in a cause of me trying to trying to help him because he</i>	
13	<i>appeared to be ill so the consequences were we had to euthanise</i>	
14	<i>him and he was tested. It was a bit distressing because he was a pet,</i>	
15	<i>having said that we did the right thing, it had to be done. The</i>	
16	<i>knowledge of being bitten by a rabid donkey did not bother me too</i>	
17	<i>much because I worked out why he had contracted rabies, because</i>	
18	<i>donkeys and dogs don't like each other and I had put down a dog</i>	
19	<i>that I had caught on my property about a month or so before the</i>	
20	<i>incident and I sent that for testing and he tested positive for rabies,</i>	
21	<i>so I realised that that dog had been on the same area on the farm</i>	
22	<i>where my donkey was and the donkey and him must have had a</i>	
23	<i>fight and he got infected from that and I knew where he had</i>	
24	<i>contracted it, so I understood. The dog was not known to me it was</i>	
25	<i>a stray dog and I shot the dog sent it off to under support and got</i>	
26	<i>the test back that he was rabid. It was only a month later when the</i>	
27	<i>donkey got sick, I didn't know it was rabies, I thought it had colic,</i>	
28	<i>which is what affect donkeys and horses and I was treating him and</i>	
29	<i>fortunately he bit me, because I could have contracted rabies and</i>	
30	<i>not known it but he bit me forcing me to go to hospital and get</i>	
31	<i>treated, so it was actually a fortunate occurrence that I got bitten,</i>	
32	<i>but I was bitten not in anger, it was a mistake.</i>	
32	Re: How did the rabies condition financially affect you?	
33	<i>P9: Well it was quite an expensive experience, I went to a private</i>	
34	<i>hospital which is not cheap, but I do believe you can go a</i>	
35	<i>government hospital and you get treated for free, but personally my</i>	
36	<i>choice is that I go and pay at the hospital because it is just around</i>	
37	<i>the corner, there are no other hospitals nearby, but at the end it cost</i>	
38	<i>me nearly R4000 for the series of injection, stitching, treatment and</i>	
39	<i>all the other things.</i>	
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43	Re: Even after knowing that you can get it free from the government facilities, you still chose to go to private hospital.	
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45	<i>P9: The government facilities are quite far away from here, so it was convenient, because the hospital is only less than 2 minutes from here.</i>	
46		
47		
48	Re: What impact did the rabies have on your family?	
49	<i>P9: The impact is that my family knows that if there is another rabid dog on the property, I am the one that can go and catch it because I am immune now I am protected whereas they are not, so we do have a safe guard and they are all aware now far more knowledge, and knowledge is powerful.</i>	
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55	Re: What kind of feelings and attitudes do you have towards pets especially dogs after the incident?	
56	<i>P9: All our pets have always been inoculated, all of them all our domestic pets, dogs and cats, the donkey was not inoculated because he was difficult to control or get hold of, he lived on a hill side over there, but we do get our horses now all inoculated.</i>	
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60	Re: Your approach now after the incidence is it a cautious approach or you just approach as you would have before the incidence.	
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62	<i>P9: I am far more aware of the consequences, so I am knowledgeable, I know what to do, when to do it and what not to do, I am far more educated.</i>	
63		
64		
65	Re: How do you feel about the rabies control measures?	
66	<i>P9: I do believe that that they have to do a lot more work in the area where we have a problem in our community here they use their dogs for hunting, it is a popular sport in the community, I have no guarantee this is a fact but I have been told that a lot of them do not like inoculating their dogs against rabies, because they have a belief that their dogs will not hunt as well as a dog that is not inoculated, and unfortunately these dogs are chasing wild animals, so it is a very risky scenario and I think a lot of education should be done in that scenario, in that being inoculated against rabies will not affect the hunting capabilities of the dog, because they are at a higher risk of contracting rabies if they are hunting bucks that could be infected it have quite serious ramifications, particularly if the dog get affected and they take it home to the family.</i>	
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79	Re: What practices could have contributed to the rabies problem?	
80	<i>P9: I think the problem is people generally, and I am talking about everybody, do not know enough about rabies, they certainly do not know that if you do not get treated you will die, they think if I get sick I will go to the Doctor and that would be too late, if you get rabies, you are dead, that is it. I think a lot of people do not understand how serious it is, and they pick stray dogs on the side of the road, and they think they are doing everybody a big favour whereas they are putting their families at risk. They need to know that rabies is a very serious thing that can be solved inoculating all the animals. We do not need to have a problem but people do not</i>	
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91	listen. They always think problems happen to other people, never	
92	to themselves	
93	Re: In rabies management, is there anything that could have been	
94	done differently, according to you?	
95	<i>P9: We were fortunate that we got the tests results after</i>	
96	<i>euthanising the donkey within an hour, even the hospital was</i>	
97	<i>amazed that we got the results within an hour they told us that they</i>	
98	<i>normally wait for three weeks, they treat people while waiting for</i>	
99	<i>the results, they treat them anyway and that is expensive treatment</i>	
100	<i>that could have been unnecessary. I think it is more important that</i> <i>they are able to get test results quickly, because that will save a lot</i> <i>of money, because you are not treating people for rabies that do not</i> <i>have not have rabies, and you will treat the people with rabies more</i> <i>effectively, I think it is very important to get the test results quickly.</i> <i>I was just lucky that I knew who to contact. I own a guest house I</i> <i>made friends with the local Vet people from the Department of</i> <i>Agriculture who used my facility while doing mass vaccination in the</i> <i>area, so we have contact numbers of the guy who is in charge of the</i> <i>rabies programme that is how things were a lot quicker. They</i> <i>shared information about the people that were bitten by one dog at</i> <i>the kwaNdengezi area about 17 of them and not all of them went</i> <i>to the clinic and hat is a problem, and around that time, there was</i> <i>a lot of rabies around, cases were reported at Amanzimtoti,</i> <i>Umhlanga rocks, and I was one of those. This was all over the</i> <i>newspapers, we got more publicity and we made people aware of</i> <i>it, what they should be doing and what they should not be doing.</i> <i>Re: We have come to an end of our interview, thank you for your</i> <i>time</i>	

## Appendix 7: Certificate from the professional editor

### **DR RICHARD STEELE**

BA, HDE, MTech(Hom)  
**HOMEOPATH**  
Registration No. A07309 HM  
Practice No. 0807524  
**Freelance academic editor**  
Associate member: Professional Editors'  
Guild, South Africa

110 Cato Road  
Glenwood, Durban 4001  
031-201-6508/082-928-6208  
Fax 031-201-4989  
Postal: P.O. Box 30043, Mayville 4058  
Email: rsteele@telkomsa.net

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### **EDITING CERTIFICATE**

Re: **Jeffrey Mduduzi Hadebe**

Master's dissertation: **EXPERIENCES OF PEOPLE AFFECTED BY  
RABIES IN ETHEKWINI DISTRICT**

I confirm that I have edited this dissertation and the references for clarity, language and layout. I am a freelance editor specialising in proofreading and editing academic documents. I returned the document to the student with track changes so correct implementation of the changes in the text and references is the responsibility of the student. My original tertiary degree which I obtained at the University of Cape Town was a B.A. with English as a major and I went on to complete an H.D.E. (P.G.) Sec. with English as my teaching subject. I obtained a distinction for my M.Tech. dissertation in the Department of Homeopathy at Technikon Natal in 1999 (now the Durban University of Technology). During my 13 years as a part-time lecturer in the Department of Homoeopathy at the Durban University of Technology I supervised numerous Master's degree dissertations.

Dr Richard Steele  
**16 May 2018**  
*per email*