UNIVERSITY OF KWAZULU-NATAL

INYUVESI YAKWAZULU-NATALI

Understanding women's perceptions of the acceptability of vaginal health product use: Towards inclusion of women in HIV prevention research.

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DECLARATION

I, **Nqobile, Simthandile Lungelo Ngubane**, declare that the research reported in this dissertation, except where otherwise indicated, is my original work. This dissertation has not been submitted for any degree or examination at any other university. This dissertation does not contain other person's data, pictures or other information unless specifically acknowledged as sources from other persons. This dissertation does not contain other person's writing unless specifically acknowledged as being from other researchers. Where other sources have been quoted;

i. Their words have been re-written but retain the meaning and are referenced;

ii. Where their exact words have been used, they have been placed in quotation marks and referenced.

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ABSTRACT

HIV/AIDS has been a global pandemic for the past decades. Major global health organisations have made great efforts to eradicate the negative consequences of the pandemic, especially in the most negatively affected parts of the globe, such as sub-Saharan Africa. There have been numerous significant successful attempts to prevent the spread of HIV/AIDS in these parts of the world. However, a specific population segment remains at a high risk of infection and continues to experience a rise in new cases of infection. This population is particularly women, specifically in South Africa. KwaZulu Natal, a province in South Africa, records the highest number of HIV-positive individuals, placing women at even higher risk in this region. Research further suggests that biological factors increase the risk of HIV infection in women.

This study sought to understand women's perceptions of the acceptability of vaginal health product use. A total of five half-day workshops were conducted utilising participatory methodologies to gain insight into women's perception of the acceptability of vaginal health product use. Participatory methods such as journey mapping, reflexive journaling, and focus group discussions were adopted during the study to encourage the active engagement of the research participants. A purposeful sampling method was used to understand the women's perceptions better. The culture-centred approach was employed within this research to understand the topic better. The study benefited from the participation of 40 women who were interviewed.

The main research findings showed that women in KZN use various vaginal products, mostly for male sexual pleasure and hygiene. These included various products, such as homemade concoctions and traditional herbs. The results showed that the women's application preferences varied, with some choosing to use ingestible vaginal products while others preferred the directly applied products. The women's perceptions of the acceptability of using vaginal products were mainly influenced by male sexual pleasure over prioritising safe sex. This is a significant concern to health organisations and communities as women remain at the infection centre. Prioritising male sexual pleasure over protection against HIV is one of the driving factors to the spread of HIV within these communities. It serves as a deterrence to health interventions put into place to fight the spread of HIV in women, such as microbicides.

Keywords: Bacterial vaginosis, Microbicides, vaginal products, HIV, Prevention, Perceptions.

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“Praise be to the LORD, who has not let their teeth tear us. We have escaped like a bird from the fowler's snare; the snare has been broken, and we have escaped. Our help is in the name of the LORD, the Maker of heaven and earth” psalm 124.

Jehovah, you know my heart's words are not enough to thank you.

Apart from you, I am nothing. You are the vine, and I the branches.

DEDICATION

I dedicate this work to

My great grandfather, Bobby Hezekiah Penistone Mkhwanazi. My sweet grand Mother, Mariam Penistone Mkhwanazi. My loving mother, Zandile Zenneth Penistone Mkhwanazi. My amazing uncle Bongumisa Penistone Mkhwanazi, my loving father and King Sifiso Ngubane, and my amazing baby sister Uluthando Hlongwane your huge sacrifices, love, and support have carried me through this master's journey. You may be absent physically, but you certainly live on, and your works follow you to this day. Ngiyabonga Nkwaliyenkosi wena Popini khokho wami nakuwe gogo wami Thembinkosi. Somahhashi, Nzobane, Nomafu, Zikode elimhlophe, Nomasikisiki,nyon'esindwaisisilasayo, Ndoda kaNyamazane, Vathu oluphezulu ngoba oluphansi olwabafokazane. Ngiyabonga baba wami Sifiso noma yize wena wawungafundile, you invested in my education, which is why I'm master of social sciences today.

I also dedicate this work to my father in the lord prophet Temitope Balogun Joshua. The lord used you immensely to inspire me to academic excellence and hard work, teaching me that in all that I face, "*Better is not good enough; the best is yet to come!*" teaching me hard work and prayer, stating that "*The beginner* is *not the owner but the finisher"* encouraging me always to finish what I have started listening to your sound words of guidance and advise has to lead me to victory.

Emmanuel!!!! Good Morning, and win today.

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ACRONYMS AND ABBREVIATIONS

AGYW	Adolescent girls and young women
AIDS	Acquired Immunodeficiency Syndrome
ART	Antiretroviral Therapy
CAPRISA	Centre for the AIDS Programme of Research in South Africa
CCA	Culture-Centred Approach
DOH	Department of Health
HIV	Human Immunodeficiency Virus
KZN	KwaZulu Natal
MMC	Medical Male Circumcision
NGO	Non-Governmental Organisation
PrEP	Pre-Exposure Prophylaxis
SA	South Africa
STI	Sexually transmitted infection
UN	United Nations
UNAIDS	Joint United Nations Programme on HIV and AIDS
WHO	World Health Organisation

TRANSLATION TABLE

Name of the product.	**Participant description of the product.**	**The scientific name for the product.**
Umhlonyane	Traditional herbs	*Artemisia afra* is commonly called African wormwood (Burring and Van der Walt, 2006).
Ibovu	Red clay is used as sunscreen in rural African communities.	Orange clay.
Umxovo	refers to a mixture or combination of certain products dependent upon the user.	
Alarm/itshe lomgodi		Alum/ Aluminum sulphate
Isnemfu/ insu / isijindane / ugwayi wamakhala	Snuff tobacco	Snuff tobacco
Isidleke safari	herbal concoction	
Idepo	Depo Provera injection	Depo Provera injection
Umame	A round-shaped sweet sold on the streets, it is also available in brown powder.	
inhliziyo kabhanana		Banana aborted seeds
Mabhebeza/ ubabes wodumo		Kombucha AKA Amoeba
Pin code	A rough crystal-like substance that is ground into powder. The powder is usually mixed with water and consumed for sexual pleasure. It is purchased at Focus (shop) in Pietermaritzburg.	
Holy ash		According to (Raman, 2020), In Hinduism, Sacred ash is made from burnt dried wood, burnt cow dung, or cremated bodies used in Agamic rituals.

Isinama	Tree roots	Beggarweed/ Desmodium incanum
Umlilo abacaxi	A liquid substance that is more like water drunk for sexual pleasure.	
Idliso loans	A powdered substance generally condensed with Stoney, warm water or juice is consumed for sexual pleasure.	
Isilonda / Isela	A medical condition where a patient experiences lower back pain excruciatingly and persistently.	

CHAPTER 2: INTRODUCTION

2.1 Introduction

The study on women's perceptions of the acceptability of vaginal health product use: towards the inclusion of women in HIV prevention research was conducted in KwaZulu Natal. The investigation benefited from the extensive use of primary and secondary data sources. Primary data was gathered by interviewing various categories of participants. Secondary data were obtained from archival sources and published literature online. The primary data was then used to provide empirical evidence on women's perceptions of vaginal health product use. Secondary data was used to justify where the researcher could not get access to answers from the research participants. In a nutshell, the study investigated the perceptions of women from KwaZulu Natal. In this chapter, attention is given to presenting the orientation of the study developing from the problem statement and knowledge background of the study.

2.2 Background of study and problem statement

Women remain at the centre of HIV infections, especially young women between the ages of 15 and 24, being the most vulnerable to HIV infections (Dellar et al., 2015). It is worth noting that the persistence of HIV infections in South African communities has occurred despite the availability of a variety of HIV prevention methods, such as the introduction of both female and male condoms, increased HIV counselling and testing, medical male circumcision and treatment programmes (Bokolo, 2019). Women remain more vulnerable to HIV infection, with limited HIV prevention alternatives tailored for women who negotiate their sexual health choices within a cultural influence. In South Africa, particularly in the KZN province, women have been recorded to have vaginal practices and products that they regularly use that form part of their culture and traditions; these vaginal products have been used for hygiene purposes or male sexual pleasure; however, these vaginal practices and products may not achieve the broader aim of vaginal health that may lead to HIV prevention in women (Humphries et al., 2009: Devjee, 2015: Nsereko, 2021).

2.3 Problem statement

Women remain disproportionately affected by HIV in Sub-Saharan Africa, constituting 25% of all new infections worldwide (UNAIDS, 2020). South Africa records one of the world's largest numbers of HIV-positive people (UNAIDS, 2019). Research further reveals that adolescent girls and young women are at a higher risk of contracting HIV than their male counterparts (Baxter & Karim, 2016). Women remain more vulnerable to HIV infection, with limited HIV prevention alternatives. This is due to the biological make-up of the vaginal tract and social and cultural factors such as being unable to negotiate sex with their male counterparts for cultural and religious reasons (Young, 2002). Although efforts have been made to reduce the spread of HIV infections through the adoption and implementation of various

HIV prevention strategies, only minor results have been obtained, particularly among women who continue to be at the centre of new HIV infections (Baxter & Karim, 2016). The persistent infection rates among women highlight the need to examine additional prevention methods that are more systematically focused on women granting them freedom and agency to control their sexual health and well-being, given that many of the first prevention methods need negotiation and co-use with partners and hence have proven ineffective in situations where women's voices are stifled (Matthews and Harrison, 2006: Roxo et al., 2019: Lanigan, 2022: Klaman, Lorvick and Jones, 2019).

Despite the high vulnerability of women to HIV, their low uptake and adherence to HIV prevention interventions are a cause for concern (Koss et al., 2020; Were et al., 2020). The vulnerability of women is exacerbated by a variety of factors, including the possibility that women who are unaware of their HIV status could spread the infection to others because they cannot access the necessary HIV preventive measures they need to be healthy and prevent HIV from potentially infecting their partners (Ramjee and Daniels, 2013: Bayigga et al., 2019). Some women might not wear a condom or employ HIV prevention interventions because they are uninformed of their male partner's risk factors for the disease, such as injecting drugs or having intercourse with men; This is one of the variables that is most often cited as increasing female vulnerability to HIV (Sherman et al., 2019: Mannell et al., 2019: Saul et al., 2019).

Several biomedical innovations have been researched and undergone clinical trials over the last decade. To date, only oral PrEP has offered hope for reducing HIV risk for women. In addition, future research into the vaginal tract of women suggests that bacterial vaginosis can increase the risk of HIV infection among women (Danielsson et al., 2011: Janes et al., 2018: Celum et al., 2015). Developing a probiotic will assist women in maintaining healthy vaginal health. However, these clinical products are often developed in isolation without women’s inclusivity, creating a gap when new products are developed and need to be promoted for uptake.

2.4 Rationale of study

This study aimed to actively engage women to understand their perceptions of the acceptability of vaginal products. This study found it crucial to comprehend how women view the acceptability of vaginal products and to involve women in clinical research towards HIV prevention actively. In addition, HIV prevention research for introducing new vaginal products must be socially and culturally acceptable while achieving broader public health agendas, such as reducing the risk of HIV infection. Owing to the absence of women from clinical research, women are more likely to experience negative side effects from health interventions (Pratt, 2020). Consequently, as part of the study, the study sought to culturally explore women’s perceptions around the acceptability of vaginal health and understand

their willingness to adapt and adopt new biomedical innovations to prevent HIV infection (Lazarus et al., 2019).

Public health scholars have recognized the importance of integrating end-user participation in all stages of new product development to ensure product acceptance, product uptake and tailored demand creation strategies for product promotion (Mensch et al., 2012; Brady & Tolley, 2014; Guthrie et al., 2018; Swain et al., 2019). Introducing new biomedical innovations for HIV prevention necessitates end-user product acceptability and active participation in all product development and testing stages before product formulation (Govender et al., 2017). End-user participation in biomedical product creation has proven highly beneficial, including enhanced patient safety, increased user satisfaction, and reduced development costs while restricting redesign (Hani and de Marcellis-warin, 2016). The need for and value of end-user participation in creating women's vaginal products at all levels of development has proven to be vital as it will ensure user acceptance and adherence to HIV prevention intervention.

In response to the challenges of low uptake and adherence to HIV prevention interventions, there is a need for participatory research that engages end-users in developing biomedical interventions (Payne, 2019: Baggaley et al., 2018: Taylor et al., 2021: Julg et al., 2019). A lack of research explores the inclusion of women in developing clinical products. This study sought to Understand women's perceptions of the acceptability of vaginal health product use in KwaZulu-Natal from a participatory engagement perspective to ensure product acceptance and uptake towards reducing the spread of HIV infection in women.

2.5 The research aims and objectives

Paramount to this study is health communication as it is the field in which it was conducted and mobilized the culture-centred approach. The study sought to understand the women and their perceptions to determine their preference for vaginal products for HIV prevention in women. In addition to the above, the aims and objectives of the study were to:

- Understand women's perceptions of the acceptability of vaginal products in selected rural, peri-urban and urban areas of KwaZulu-Natal.
- To explore the cultural influences that contribute to perceptions of the acceptability of vaginal products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal.
- To understand the benefit of inclusion of women in HIV prevention research towards culturally acceptable vaginal health product development.

The study was guided by key research questions that were used for the enquiry:

- What are the perceptions of women towards vaginal products in selected rural, peri-urban and urban areas of KwaZulu-Natal?
- What cultural influences contribute to perceptions of the acceptability of vaginal products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal?
- How can including women through communication for participatory development processes facilitate participation/increased participation in biomedical research?

2.6 Structure of thesis

The first chapter of the thesis is a brief background of the study that highlights the epidemic of HIV and AIDS, especially amongst adolescent girls and young women in South Africa over the years. This section discusses female HIV vulnerability and the scarcity of female-initiated HIV prevention methods.

This chapter contextualizes the relevance and need for microbicides, emphasizing the importance of critical research on women's perceptions toward the acceptability of microbicides for potential HIV prevention.

The second chapter contains a review of the literature for the study. This section provides an overview of HIV and AIDS. The socio-cultural and economic factors that promote or sustain the spread of HIV/AIDS in southern Africa, particularly among adolescent girls and women, are examined. This section of the study delves further into HIV prevention methods and strategies that have been implemented and communicated in the past within SA, as well as HIV prevention methods that are currently available for women, after presenting evidence of factors that may contribute to women's disproportionate burden of HIV prevalence rates. Microbicides and recommendations from organizations specializing in health message communication, such as the WHO and UNIAIDS, are mentioned and presented as possible ways for women to protect themselves from HIV and AIDS. Literature on the exclusion of women from research is also reviewed.

The theoretical perspective that underpins the study is presented in the third chapter. In this study, it was critical to recognize the context in which health communication will occur. Therefore, the study used the culture-centred approach to health communication because it deemed it necessary to acknowledge the context in which health communication will transpire. Utilizing the culture-centred approach in the study was done to explain and authenticate the study's premise. Placing culture at the centre of the research is emphasized as critical to communicating health and health initiatives, such as possibly introducing an HIV preventive product, such as a vaginal health product (microbicide). This cannot happen in cultural isolation, viewed as the study's starting point.

The fourth chapter of the study concentrated on the study's methodological approach. This section of the study delves into the research paradigm, which serves as the lens through which the study is viewed. This chapter examines the research design, sampling frame, data collection, and data analysis

procedures. This section of the study explains how the study was planned and carried out before, during, and after the fieldwork for data collection. Finally, this chapter examined the validity, reliability, and ethical issues raised by this research study.

Chapter five presents and analyses the qualitative data collected using the study's various research instruments. The journey maps are presented in the order in which they were collected, and data from the focus group discussion is presented following the established themes. Data from the reflexive journals are also presented in direct quotations that indicate where the data came from.

Finally, Chapter Six highlights the research based on the study's Discussion of findings and

2.7 Conclusion.

In conclusion, this introductory chapter has given the background and introduced the study. Furthermore, the problem statement and study rationale have been explained in this chapter. In this chapter, the study's aims and objectives have been highlighted. The study questions that form this research have been highlighted, as well as the structure of this thesis.

CHAPTER 3: LITERATURE REVIEW

3.1 Introduction

This chapter analyses primary and secondary sources that relate to women's perceptions toward using vaginal products and the cultural factors that affect and influence these perceptions among women in KZN. The literature review is a crucial component of the study since it summarises earlier investigations, current discussions, and arguments on the issue or phenomenon under investigation (Paul and Criado, 2020). The following headings will be used to categorise this literature review: a review of key concepts, the concept of vaginal microbicide products/vaginal products, the concept of adolescent girls and young women (AGYW), empirical review, perceptions of (AGYW) on vaginal microbicide products in rural and urban areas, acceptability of vaginal microbicide products by (AGYW), influencing behaviour on vaginal microbicides for adolescent girls, cultural influences on perceptions of vaginal products, the participation of women towards the development and use of vaginal microbicide products, empirical findings on the vaginal, ways in which women can be included in biomedical research, and exclusion of women in HIV research.

3.2 Review of key concepts

The conceptual review section critically reviews the key concepts used in this study and how they have been applied in related research. The various ways these concepts were applied in other studies will be used to identify the main gap and justification for this current study.

3.2.1 The concept of vaginal microbicide products/vaginal health products

According to (Mogharbel et al., 2022), "Microbicides are chemical substances that can be used topically in the vagina or rectum as a single agent or as part of a multi-component strategy of self-administered preventive agents." They are among the most promising technologies currently being developed to lower the risk of contracting HIV through sexual contact (Levy et al., 2022). Their goal is to prevent, or at the very least greatly minimise, the development and spread of HIV (and possibly other STDs) at the vaginal opening, gastrointestinal (rectal) mucosa, or both (Gillies-Podgorecki et al., 2021).

In a study by (Karim and Baxter, 2012), vaginal microbicide products are defined as chemical products applied to the vagina to prevent the transmission of HIV sexually. They presented four classes of candidate vaginal microbicides which have been tested scientifically. The first includes those that facilitate the defence in a vagina aimed to inactivate HIV, second inactive HIV inside the vagina; third, those that prevent HIV from getting attached to host cells and fourth, those that prevent HIV from multiplying or replicating in the genital cells (genital tract host cells) (Miller et al., 2022). The study presented evidence suggesting efforts were being made to improve microbicides after the release of the CAPRISA 004 trial (Miller et al., 2021). Hence the study by Karim and Baxter (2012) is very important

because it provided a historical context to which the vaginal microbicides have evolved. In this study, the vaginal microbicides are contextualised concerning perceptions of adolescent girls and young women in rural and urban areas.

According to (Notario-Pérez et al., 2017), the increased risks associated with the spread of HIV/AIDS have negatively affected women in rural and urban areas. In their study, the spread of HIV was most felt in developing countries where healthcare institutions and facilities are still lagging. The development of vaginal microbicides was an innovation to help curtail the spread of HIV and its negative effects. It was noted from that study that, to protect women from the spread of HIV, the recent decades had witnessed major strides towards developing and adapting vaginal microbicides. According to (Notario-Pérez et al., 2017), early vaginal microbicides evaluated were formulated as gels for daily use. These gels contained various substances: acidifiers, surfactants and monoclonal antibodies. However, they failed to demonstrate efficacy in clinical tests and trials.

On the other hand, a gel which contained the reverse transcriptase, as noted by (Miller et al., 2020), showed protective efficacy in women. The vaginal ring loaded with dapivirine, which needs to be applied monthly and can limit the sexual transmission of HIV, emerged as a result of the search for dosage forms capable of releasing the active ingredient for extended periods due to patient non-adherence (Miller et al., 2020). Alternative dosage forms, nanosystems for drug release, and probiotics which have shown promise as vaginal microbicides but are still in the early phases of development will all be used in the future of vaginal microbicides. Therefore, protecting women with vaginal microbicide formulations would be a helpful strategy for preventing HIV transmission through sex (Notario-Pérez et al., 2017).

Over the decades, HIV/AIDS has been a major development issue in South Africa, although the country has a robust health communication industry (Rodés et al., 2022). The South African health communication industry has developed a variety of HIV tactics and interventions, from local projects to large-scale initiatives (Nuttall et al., 2007). In particular, social and behavioural communication interventions support some of South Africa's efforts to prevent the spread of HIV/AIDS (Were et al., 2020). Governmental and non-governmental organisations have broadly implemented several communication programs during the past 10 years to curb the spread of HIV throughout the country (Plummer et al., 2019).

However, because the rate of HIV transmission among young South African women is still increasing, research is still being done to identify the factors that increase women's biological and cultural susceptibility to HIV infection (Marimbula et al., 2015). As a result, this research examines women's perceptions of using vaginal products to understand better the kinds of products women are willing to

consider for HIV prevention. This exploratory project aims to advance understanding of women's preferences by enhancing the HIV prevention alternatives available to South African women.

3.2.2 The concept of adolescent girls and young women (AGYW)

Women are the most affected group when it comes to the impacts of HIV (Bevilacqua et al., 2022; George et al., 2022; Larsen et al., 2020a, 2020b; Selin et al., 2019; Were et al., 2020). The prevalence of HIV disproportionately affects adolescent girls and young women (AGYW), and they may encounter obstacles when trying to acquire, adopt, and implement HIV preventive strategies (Selin et al., 2019). Pre-exposure prophylaxis (PrEP) is a powerful HIV prevention strategy that some AGYW may find useful. The knowledge, opinions, and preferences of AGYW about PrEP, HIV prevention, and sexual and reproductive health and rights were more generally examined using qualitative, participatory and peer-led methods (Han et al., 2021).

Youth, adolescents and children deal with various difficulties essential to the developmental stage (Taggart et al., 2019). Adolescence is a time of mental, emotional, and physical development frequently marked by behavioural experimentation, confusion over one's identity and purpose, taking risks, developing romantic relationships, engaging in sexual behaviour, and abusing drugs (Guilamo-Ramos et al., 2019). Young individuals are more susceptible to STIs like HIV and unintended pregnancies. Teenagers and young adults lack adequate life skills, risk being forced into sexual relationships, and have insufficient access to health care services.

Young people have been described as the centre of the HIV epidemic and the "faultless storm" in sexually transmitted HIV (Kaida et al., 2018). Since an estimated 21 000 000 teenagers living with HIV worldwide, the quantity of currently available health research and information may not be beneficial to young people and is therefore not put into effect (Naar et al., 2019). The majority of adolescents and young adults who are sexually active find it challenging to receive medical treatment in developing nations (Bauman et al., 2020).

Most unmarried young people who engage in sexual activity frequently experience social rejection and criticism (Villarruel et al., 2006). Access to reproductive health treatments for young females and adolescents is a major concern. However, male and female teenagers are affected by concerns with reproductive health. It is more challenging for male adolescents to get Sexual Reproductive Health (SRH) assistance when their SRH requirements are disregarded (Villarruel et al., 2006). In addition, teens and young adults lack adequate knowledge of contraception. Consequently, this could lead to unintended pregnancies as well as acquiring sexually transmitted diseases like HIV/AIDS.

Barriers connected to service and service provider-associated characteristics were discovered in a study on adolescents' knowledge and attitudes toward SRH services in Nepal. Some obstacles to using SRH

services include a lack of knowledge about the services' availability, poor service accessibility, a lack of confidentiality, a lack of service providers, and the behaviour of young people (Villarruel et al., 2006). However, there was good infrastructure, equipment, amiable health professionals, and a favourable environment (Han et al.,2021). (Han et al., 2021), cited in Program for Appropriate Technology in Health, found that some young people and youths in China could not access reproductive health services because of insufficient healthcare services, a shortage of full-time health service professionals, inadequate publicity, and a sloppy referral system. According to (Selin et al., 2019), there are differences between boys and girls in how young people view the SRH services offered in terms of the method of service delivery. Young women seeking family planning (FP) and antenatal care (ANC) services at integrated facilities assessed the quality of the services as good. In contrast, boys said they felt uncomfortable receiving SRH treatments from integrated facilities because those programs were intended for women and children.

The term "culture" generally refers to social behaviour, institutions, and norms in human societies and the people that make up these groups and their knowledge, beliefs, and abilities. Culture is frequently said to have originated in or been influenced by a particular area or place (Warner, 2003). A population's traditional ways of living, including its beliefs and institutions, can be called its culture (Hart & Laher, 2015; Scorgie et al., 2009). The theory chapter of the study will detail the concept of culture. This study draws on the influence of culture to understand women's perceptions of using vaginal products for health benefits. It is crucial to recognise that culture significantly contributes to women's perceptions (Barry, 2004).

3.2.3 Perceptions of (AGYW) on vaginal microbicide products in rural and urban areas

This study aimed to understand the elements influencing women's perceptions of using vaginal products. How something is regarded, understood, or interpreted is called its perception (Collins, 2022). Being aware of things, relationships, and events through the senses is called perception, which includes actions like identifying and observing (Barry, 2004). The conscious interpretation of sensory data that serves as a foundation for comprehension, learning, and knowledge or as a catalyst for a particular action or reaction is another way to describe perception (Barry, 2004). What one observes first-hand affects one's perception, affecting how one interprets or gives meaning to the event (Barry, 2004). This means that what is perceived and how it is perceived might depend on what is already present in one's head or mind (Harwood et al., 2019). One of the critical determinants of one's perception of the world is said to be influenced by culture (Maimbolwa et al., 2015).

In a study conducted by Short et al. (2007), where 208 participants in Athens, Greece, were microbicide-like products that included vaginal lubricants, only 75% of the girls who took the lubricants managed to use them. The number of lifetime vaginal partners, the comparison to condoms subscale on the

perceptions of the microbicides scale, and the length of sexual experience independently predicted whether or not the user would ever use the product. Three subscales on the perceptions of microbicide scale the comparison to condoms subscale, the negative effects subscale, and the pleasure subscale—as well as the week of the study, age, the frequency of using condoms before the study, and these variables all independently predicted frequency of use. Most girls utilised the product, including those who did not use condoms for protection. Initial impressions of the product among girls predicted use and frequency (Short et al., 2007).

Maimbolwa et al. (2015) Examined how young women perceive STIs and if vaginal microbicides are acceptable. They found that, for nations with high rates of HIV and AIDS, the development of vaginal microbicides for sexually transmitted infections (STIs) is a welcome clinical and research intervention. These microbicides, which come in gels, creams, films, and suppositories, either create a physical barrier that prevents HIV and other pathogens from entering the target cells or strengthen the body's natural defences against vaginal microbes. The study's exploratory qualitative research methodology involved five focus groups held in Zambia's Kafue and Mumbwa districts between 2009 and 2010. Five key themes were found, Knowledge about HIV/AIDS, the usage of condoms, the options available to women and the difficulties in implementing current interventions, the use and acceptability of a placebo microbicide gel, and partner engagement. The participants showed a good understanding of HIV transmission and prevention methods. Most participants said that males decided to use condoms and that women often do not control current HIV prevention strategies. However, many women have little discretion over the method of contraception they choose, even though the availability and usage of microbicides would tremendously empower women to protect themselves and their partners.

By examining the perceptibility factors connected to prototype formulations, it was possible to learn more about how women initially saw long-acting vaginal gels as potential anti-HIV microbicides and how readily they anticipated accepting them in a study which was carried out by (Doggett et al., 2015). In the study, 29 women between 18 and above participated in four focus groups to discuss gel prototypes with various physicochemical and rheological qualities. The idea of using long-acting vaginal gels as microbicides received positive feedback from the participants. Different perspectives on product dosage, qualities, performance, and stated demands provide crucial information for product design. Potential users will have access to long-acting vaginal gels that can prevent HIV/STIs, with the dosing frequency being a crucial determinant of use.

One clear benefit of vaginal microbicide products is their potential to increase sexual pleasure for both men and women (Doggett et al., 2015). Due to the big gender differences in sexual satisfaction, men's pleasure frequently outweighs women's. This discrepancy has ramifications for the marketing of

microbicides and whether people combine the two ways or replace condoms with microbicides (Doggett et al., 2015).

Microbicides were more acceptable due to improved libido and increased sexual satisfaction from the additional lubrication in gel formulations. In most microbicide studies, it was discovered that the gel either improved or maintained sexual satisfaction (Doggett et al., 2015). This result was held for all study participants, including sex workers, women and men who had committed relationships, and HIV-positive and HIV-negative individuals. It should be noted that while both male and female sexual pleasure could sometimes influence acceptability, in some studies, the sexual pleasure of the male partner was a stronger predictor of acceptability, and women's experiences of sexual pleasure frequently referred to the absence of pain during coitus or to pleasing their partner (Shattock & Rosenberg, 2012). In research from South Africa, some women claimed that to persuade their partners to consent to their use of the substance and to lessen the likelihood of their partners' negative or violent reactions, they extolled the potential for improved sexual pleasure (Shattock & Rosenberg, 2012).

Many experts on HIV prevention are concerned that introducing microbicides may make individuals use condoms less frequently (Palmeira-de-Oliveira et al., 2015). Condoms give higher per-sex-act HIV protection and additional protection from other STIs and pregnancy and are probably less expensive than microbicides (Palmeira-de-Oliveira et al., 2015). Because a microbicide gel provides more sexual pleasure than condoms, several women and men in trials, surrogate studies, and theoretical studies believed it was preferable to those products (Nuttall et al., 2007). In other experiments where condoms and gel were both used, some male and female participants reported that the increased sexual pleasure provided by the gel countered the decreased sexual pleasure experienced with condom use, enabling the use of both condoms and gel at the same time (Nuttall et al., 2007). Furthermore, regular microbicide use may offer a woman longer-lasting HIV protection than irregular condom use (Nuttall et al., 2007). It appears that men make the majority of decisions regarding condom use, so it is unclear how the development of an effective microbicide would affect these power dynamics and choices (Montgomery et al., 2019). When women cannot negotiate condom use, public health professionals have discussed the potential for marketing microbicides for intimate partnerships or individual sex acts (Montgomery et al., 2019).

3.2.4 Acceptability of vaginal microbicide products by (AGYW)

The efficiency of microbicide is likely to be significantly influenced by how well-liked it is among women in a given demographic. Despite extensive progress toward creating an effective microbicide, its likely acceptability has only been assessed in a few contexts (Abdulai et al., 2012). Given that concerns about human sexuality are frequently influenced by a complex interplay of disease, pregnancy risk perceptions, culture, and gender conventions about sexual behaviours and relationship dynamics,

this might be a significant disadvantage (Abdulai et al., 2012). The final deployment of microbicide is likely to be laden with difficulties that could compromise its efficacy unless the acceptability of microbicide is assessed concurrently with attempts to produce a successful solution (Tanner, 2008).

Understanding how social processes, such as the sexual partner, medical professionals, and key opinion leaders, may affect the acceptability of microbicides among both women and men is necessary for evaluating the product's acceptability as promising barrier methods that will increase protection for females (Greene et al., 2010). A product's perceived acceptability, which includes contentment with its characteristics and a readiness to use it correctly and regularly or recommend it to someone, as well as actual usage of the device during sexual activity, are components of product acceptability (Vallely et al., 2012).

Different socio-cultural backgrounds and demography also affect acceptance among various ethnicities (Ramjee et al., 2001). While microbicides may provide women more control over their ability to protect themselves from acquiring HIV through sexual contact, their effectiveness may not be realised if the underlying issues contributing to microbicide acceptance are not recognised and addressed (Ramjee et al., 2001). In various study populations, the acceptability of microbicides has produced varying results. Evidence from earlier microbicide studies suggests that a variety of factors, including product preference, relationship dynamics, gender roles, vaginal practices, and social acceptance of product use, affect women's acceptance and adherence (Han et al., 2021; Miller et al., 2022; Mogharbel et al., 2022; Shattock & Rosenberg, 2012; Villarruel et al., 2006). The following topics are covered in terms of microbicide acceptance: (1) Perceived efficacy, (2) partner dynamics, (3) perception of danger, and (4) behaviour/lifestyle patterns. Each is examined with examples from various clinical trials with microbicides and qualitative studies (Woodsong & Alleman, 2008).

A person's opinion or perception of their capacity to achieve desired goals is called efficacy (Maddux & Gosselin, 2012). People's decisions, the amount of effort they put forth, and how long they will endure when faced with difficulties are all influenced by their self-perceptions (Maddux & Gosselin, 2012). Woodsong and Alleman (2008) state that a microbicide product must exhibit considerable efficacy in real-world settings. Nevertheless, evidence from clinical trials shows that adherence is difficult, suggesting a potential trend in contexts where microbes are present.

The efficacy of PrEP products varies depending on the person's acceptance and use (Mbewe, 2017). These preventative technologies are employed in a complicated social environment that includes unequal gender relations and other determining elements like sexual practices (douching and insertion), which could impact product efficacy. These characteristics must be investigated to comprehend those that lower women's efficacy, which may impact acceptability and adherence. For instance, participants

in the VOICE experiment were deterred from using microbicide treatments effectively due to low perceived efficacy (Mbewe, 2017).

According to a study on product acceptance conducted among female students at the University of KwaZulu-Natal in Durban, South Africa by (Mbewe, 2017), a product's qualities significantly impact its acceptability and attitudes toward it. Compared to the tenofovir gel in the study (Mbewe, 2017), the students showed a high level of acceptance of the dapivirine ring. The tenofovir gel's dosing regimen (BAT-24), which would make it challenging to administer for every sexual encounter, led to the perception that the dapivirine ring was more practical than the gel (Notario-Pérez et al., 2017). The VOICE-C trial indicated that women who lived with their partners had more trouble using the tenofovir gel consistently than those who lived alone or with someone else, supporting the earlier finding (Greene et al., 2010). This was because sex between women who live with their partners is frequently spontaneous. In contrast, sex between women living alone is frequently anticipated, allowing sufficient gel application time.

In the ASPIRE and the Ring research, older women experienced higher levels of dapivirine ring efficacy than younger women (Mensch et al., 2019). These findings highlight the significance of understanding women's contexts when deciding whether to accept and use a prevention strategy. The same intervention can have different effects depending on the context because each context has different factors that affect HIV transmission (Mensch et al., 2019). It is clear that while adopting a new prevention strategy, women's ages, socioeconomic situations, and cultural backgrounds must be considered (Hartmann et al., 2019). To stop the sexual transmission of HIV, it is crucial to provide women with a selection of products (Pleasants et al., 2020).

When examining effectiveness further, there is ongoing debate concerning the partial protection provided by microbicides, which involves their partial efficacy against HIV acquisition (Enria & Lees, 2022; Gollub & Vaughan, 2022). Study participants are advised that the product delivered may or may not provide protection because of its unknown efficacy and that they may have been given a placebo instead (Roberts et al., 2022).

The participants in the iPrEx PrEP research who received oral Truvada without knowledge were hesitant to take it because they thought it was a useless placebo (Garcia-Cremades et al., 2022). According to this, people may engage in riskier sexual behaviour rather than practising healthy habits because they feel they have little control over their health (Garcia-Cremades et al., 2022). Furthermore, as shown in numerous studies, partial protection poses difficulties with properly using these products (Klasse & Moore, 2022; Roberts et al., 2022; Vishwanathan et al., 2022). This is because microbicide products must be used with condoms, which has led to misunderstanding and uncertainty about these products.

Additionally, Maimbolwa et al. (2015) claim that a person's view is a significant factor in determining whether they will embrace a new preventative strategy. As was previously said, long-term partners' erroneous perceptions of danger hinder the employment of barrier measures (Miller et al., 2021). Similar findings indicate that the adoption and use of microbicides are significantly influenced by reduced perceptions of danger (Mogharbel et al., 2022). According to research, microbicides are viewed as preventative measures only acceptable for single persons who date casually (Montgomery et al., 2019). According to the findings of a complementary research study on microbicides, some men thought that if a woman used a microbicide, she might be unfaithful.

Pre-exposure prophylaxis may also lose effectiveness due to psychosocial problems, such as internalised stigma (Rodés et al., 2022). (Rodés et al., 2022) contend that some women might not use these strategies since doing so in specific situations might be interpreted as an admission of risky sexual behaviour or HIV status (Rodés et al., 2022). Due to the association between ARVs and disease, which led partners and families of the women to believe they were HIV positive, everyday usage of ARV-based medications was challenging in the VOICE-C study (Bekker et al., 2022). Internal struggles of obtaining HIV therapy while healthy was made worse (Bekker et al., 2022).

3.2.5 Influencing behaviour on vaginal microbicides for adolescent girls

When evaluating the acceptability of a new preventative strategy, behavioural and lifestyle factors should also be considered; the danger of infection is increased by South Africa's high alcohol use rates (Mngadi et al., 2014). Additionally, this poses a risk to the effectiveness of emerging biomedical HIV prevention technologies like microbicides because using them correctly and consistently may be difficult. For instance, women in the VOICE-C study reported skipping doses on weekends to avoid taking them with alcohol. Understanding the epidemiological environment, described as "the current status and trends in the behavioural and biological elements that govern the dynamic behaviour of a given disease and the impact of a certain intervention", is crucial for this reason (Mngadi et al., 2014). As a result, research on socio-behavioural topics has become increasingly important in studying microbicides, with a particular emphasis on understanding these agents' behavioural and biological efficacy (Mensch et al., 2019).

3.2.6 Cultural influences on perceptions of vaginal products

According to (Braunstein and Wijgert, 2005), "clinical trials are now being conducted on vaginal microbicides, which have the potential to significantly reduce the spread of STIs such as the human immunodeficiency virus (HIV)". They are being promoted as woman-initiated preventive strategies that partners might employ secretly. However, because of the corresponding increase in vaginal lubrication, it is acknowledged that clandestine usage may be difficult. (Braunstein and Wijgert, 2005) Investigated variables that might affect vaginal microbicide acceptance and use in Ghana, a sub-Saharan West

African nation with a low HIV prevalence. In Accra, Ghana, ten employees who work in environments related to reproductive health underwent individual interviews, and young women between the ages of 24 and 28 participated in two focus groups (Braunstein & Wijgert, 2005). During the interviews and focus groups, three primary themes emerged: concerns about the contraceptive and preventative options currently available, opinions about the interest and acceptability of microbicides, and cultural impacts on microbicide usage and acceptance. Participants talked about difficulties related to the various contraceptive methods that can affect the use of microbicides. According to all respondents, Ghanaian women would likely be very interested in microbicides, with differing interest levels in formulations with various contraceptive and disease prevention qualities. Also mentioned were cultural aspects, frequently connected to gender and power dynamics, that may impact microbicides' use. Therefore, it will be necessary to evaluate cultural concerns and behavioural correlations as microbicides are created to assure acceptance and use. In microbicide education and social marketing, gendered negotiation power and the implications of clandestine use need to be addressed (Braunstein & Wijgert, 2005).

3.2.7 The participation of women towards the development and use of vaginal microbicide products

In a study by (Darroch and Frost, 1999) in the United States, an estimated 15 million new cases of STDs, including HIV, are reported each year. The measures for prevention are another factor that puts women at a disadvantage, in addition to their biological and societal predisposition. Telephone interviews were conducted with 1 000 women in the continental United States, aged 18 to 44, who had engaged in sexual activity with a man in the previous 12 months. Women's concerns about STDs, interest in vaginal microbicides, and predictors of these concerns have all been studied, along with their preferences for technique characteristics. A potential user base of microbicides in the US was estimated. According to (Darroch and Frost, 1999, p. 19), "a microbicidal product could currently be of interest to 21.3 million American women". As many as 6.0 million women concerned about contracting an STD would be very interested in the current usage of a microbicide, depending on the product's features and price. These women are likelier to be black or Hispanic, single, low-income, and non-college educated. They are also more likely to have visited a doctor for STD symptoms, to have cut back on their sexual activity as a result of STDs, to have a partner who has dated other people recently, to be single, and to have ever used condoms to avoid STDs. In the United States, many women worry about STDs and say they would use vaginal microbicides.

The study which saw women's participation in the development of vaginal microbicides can be cited using the case study of South Africa in KwaZulu Natal, Zambia, Uganda and Tanzania. In a study by (Nunn et al., 2009), three South African collaborators recruited HIV-uninfected women in poor urban neighbourhoods near Johannesburg and Durban and from local dwellers in KwaZulu Natal that is part of a demographic surveillance system. Initially, they were recruited from health centres and family

planning clinics. Later, they were found through word-of-mouth and community hotspots. These study populations largely represent at-risk women in these areas' general populations (Nunn et al., 2009). On a sugar farm close to the town of Mazabuka, the Zambian site enrolled women who received health care as a benefit of their employment or the employment of their partner, as well as women from Mazabuka itself. Women were chosen from two populations at higher risk because it is known that the remaining two locations in Tanzania and Uganda have lower overall HIV prevalence than the four sites mentioned above. The trial in Mwanza City, Tanzania, sought women who work in restaurants and bars, as well as local breweries and guesthouses. These occupational groups have a reputation for having a high risk of contracting HIV and other STIs because some women occasionally use transactional sex to supplement their income. Finally, the Masaka, Uganda trial included women in unsatisfactory relationships because their husbands or other regular male partners are known to have HIV (Nunn et al., 2009). According to the study findings, it became evident throughout the experiment that the data did not substantiate the initial worries supporting the adoption of a shorter follow-up after assessing adherence and follow-up rates in May 2008. Between weeks 40 and 52, there was little indication that follow-up dropped off, and at the 52-week visit, over 80% of predicted participants had been followed up at all research locations. Furthermore, throughout the follow-up period, gel use was reported at more than 85% of sex acts, indicating that gel adherence had remained high. Due to the advantages of longer-term follow-up and greater power with the increased woman-years, a change in time point for the primary analysis was considered.

Although male condoms offer excellent protection against HIV and other STIs, women may find it challenging to use them, necessitating the urgent need for female-controlled HIV preventive techniques (Vandebosch et al., 2004). Most of this field's study has focused on the potential impact of vaginal gels. These gels must be acceptable for them to be useful in real life. To gather evidence of acceptability in long-term use, a randomised, blinded phase II/III trial was conducted to compare the effectiveness of COL-1492. The gel contains an over-the-counter spermicide with in-vitro anti-HIV-1 efficacy, nonoxynol-9 (rINN, nonoxynol-9). This gel does not contain oxynol-9, with a placebo gel, in reducing HIV transmission (Vandebosch et al., 2004). Commercial sex workers were the studied populations in COL-1492 and earlier microbicide experiments. It was determined to target women who were less sexually active due to the worry that toxicity may have happened due to a very high frequency of sexual actions and, consequently, excessive usage of the microbicide product. The study targets women who are less sexually active.

3.2.8 Empirical findings on vaginal practices

The phrase "vaginal practices" refers to various interventions made in the vagina at various points in a woman's life and for various causes. They may involve alterations to the hymen, the vaginal labia minora or majora, the clitoris, or the vaginal region (incisions, elongation, removal). Other procedures

include administering or consuming various chemicals and medications and interventions on the vagina's size, temperature, lubrication, wetness, and consistency by steaming. According to (Plummer et al., 2019, p. 37), the motivations for these activities include but are not limited to the sexual satisfaction of one or both partners, personal hygiene, health and well-being, socialisation of a woman's body, and conception.

The acceptance and use of microbicides will probably be influenced by vaginal habits and attitudes regarding vaginal lubrication during sex. Vaginal practices entail the insertion or external application of a drug or material to influence sexual pleasure or satisfaction, hygiene, fertility, or reproductive health (Hilber et al., 2012). Traditional vaginal practices typically embody, to some extent, a culture's norms and ideals about the body and are taught to young women by their elder female relatives, female peers, or other women in the community. People who feel that sex should be "dry," for instance, might utilise products that dry out the vagina before sex.

Furthermore, although women often start vaginal practices without the help of their male partners, doing so is highly influenced by gender roles, interpersonal relationships, and communication within relationships (Plummer et al., 2019). Therefore, practising vaginal hygiene may not correspond to women's sexual needs. Women's perceptions of their bodies and sexuality, men's perceptions of women's bodies and sexuality, and individual and couples' sexual conduct are all influenced by cultural or religious norms and concepts that view women's bodies as polluted or unclean (Scorgie et al., 2009). Women may feel pressured to change or eliminate vaginal fluids before intercourse to show good personal hygiene and adherence to sociocultural norms if they believe that vaginal lubrication, discharge, or menstrual blood is "filthy" or "unclean" (Bagnol & Mariano, 2012). A survey of the research on vaginal practices shows that these activities are one way that prevailing sociocultural and sexual norms are reinforced. These ideals relate to gender, sexuality, the body, and concepts of "health" and "sickness" (Bagnol & Mariano, 2012).

3.2.9 Exclusion of women in HIV research

Although women are crucial to HIV discussions, HIV research has consistently disregarded them (Klasse & Moore, 2022). Women's limited participation is a crucial concern for clinical trials involving a larger range of infectious diseases, but the issue looks particularly significant with HIV (Were et al., 2020). (McLellan-Lemal et al., 2022) and empirical studies (Selin et al., 2019) have looked at clinical trials for ART treatments published in eight major medical journals to understand how women are continuously marginalised and excluded from HIV research. Three-time periods—1994–1997, 2001–2004, and 2008–2011—were chosen to examine trends in the inclusion of women participants in HIV research. Only 23% of respondents in 387 separate studies with 95,305 participants were women. In each study, the average share of women respondents was 19%. However, the percentage of women

working on HIV research has increased over time, rising from 9% in the middle of the 1990s to 22% in 2019 (Plummer et al., 2019). Natural and biological barriers to female participation in research include family and caregiver responsibilities that make time sacrifice difficult, financial inequality, low educational levels, and a failure to comprehend the purposes of trials (Mensch et al., 2019).

Women have historically been underrepresented in HIV research, as evidenced by the historical exclusion of women from HIV research. In the United States, early HIV studies on women of reproductive age were forbidden forty-four years ago (Nunn et al., 2009). This action directly responded to the thalidomide disaster in Europe in the late 1950s and early 1960s, which resulted in the congenital disabilities of thousands of infants. To help their mothers deal with morning sickness during pregnancy, doctors prescribed the sleeping medicine thalidomide (Nunn et al., 2009). Although the Food and Drug Administration (FDA) restriction formally only applied to women of childbearing age, it effectively prohibited all women from taking part in trials, including those who were unable to give birth, such as infertile, single, or homosexual women who were taking contraceptives (Were et al., 2020).

However, given the biological differences between men and women, scientists rapidly questioned whether findings from studies involving just men could be properly extrapolated to include women. Women may have differences in the pharmacodynamics or action of drugs due to differences in body mass, body fat percentage, menstrual cycles, and estrogen levels (Were et al., 2020). There are also differences in metabolism. A good illustration is aspirin. When used regularly in tiny doses, it has been shown to reduce the incidence of cardiovascular issues in men but not in women. The inadequate inclusion of women in trials pressured the US Congress to amend the law. The FDA overturned its ban and established guidelines for gender analysis of data by 1993 (Roberts et al., 2022). In situations where women were the sole respondents, specific HIV therapy and intervention discoveries have been made; these include goods like vaginal microbicides. When effective techniques are utilised, infection levels in mother-to-child transmission can be as low as 1% to 2% (Roberts et al., 2022).

As a result, this shows that although women are persistently excluded and disadvantaged from HIV research, their inclusion in clinical trial research is crucial since the products and services are designed with their needs in mind. Women must have a substantial role in HIV research, which is crucial. Studies solely using men as respondents will not produce meaningful findings. The importance of including women in HIV research is demonstrated, for instance, by the case of mother-to-child transmission clinical trials. This is because it was stated that certain biological conditions, such as breastfeeding an infant, can increase the transmission and that these concerns are specific to each woman (Rodés et al., 2022).

The scientific understanding of how HIV affects women differently is constrained due to the underrepresentation of women in HIV clinical trials (Pleasants et al., 2020). These variations may affect

the treatment's efficacy, safety, and the specific ways medications interact with female bodies (Nsereko et al., 2021). Since they are predicated on tests that are predominantly performed on a man, current antiretroviral (ARV) therapy recommendations do not include explicit instructions for women (Taggart et al., 2019). Women are not appropriately represented in HIV clinical trials, which makes it difficult for research to produce therapies and outcomes that fully account for women (Taggart et al., 2019). This suggests the necessity for gender-specific physical issues, focuses on men, and identifies important topics that need to be investigated about women.

Actively incorporating communities and combining their efforts with NGOs is another tactic that might be used. For morally acceptable and regionally appropriate HIV prevention research, there is a critical need for active community engagement in fruitful collaborations (Vishwanathan et al., 2022). This can be challenging in third-world nations without prior experience in this field. Communities are expected to work with Non-Governmental Groups and other knowledgeable organisations to raise awareness about HIV (Vishwanathan et al., 2022). Additionally, it is hoped that community involvement would significantly lessen these because HIV/AIDS research can be delicate and occasionally stigmatising. Eliminating stigma may change how women view and embrace items for vaginal health. Women's participation in research may raise the likelihood that a product will be accepted by the community in question and encourage future adoption, such as by women in KZN (Notario-Pérez et al., 2017).

3.3 Conclusion

The literature review chapter presented key selected texts considered for critical reviewing. As presented, the chapter was organised into two main sections that aimed to first review the main concepts of the study through a conceptual review and second through an empirical review of literature based on previous case studies. Scholars' various views and debates were used in identifying the knowledge gap, which resulted in the development of this current study. The literature was driven by global, regional and local views, providing diversity in knowledge and experiences related to the study objectives. The next chapter presents the methodology adapted throughout the study.

CHAPTER 4: CONCEPTUAL FRAMEWORK

4.1 Introduction

The culture-centred approach (CCA) to health communication is multidisciplinary because it draws from various disciplines, including cultural studies, critical theory, postcolonial studies, and subaltern studies (Dutta, 2008; Liu & Chen, 2010; Powley & Cameron, 2008; Dutta-Bergman, 2005). The Frankfurt School of European Marxist social theorists and philosophers believe that a theory is critical to the extent that it seeks human emancipation from slavery, acts as a liberating influence, and works to create a world that satisfies the needs and powers of human beings (Alvesson, 1992; Stanford, 2005; Bohman, 2005). Critical theory informs that power, ideology, hegemony, and control underpin culture-centred health communication scholarship, emphasising "the social constructions of knowledge and practices" (Dutta, 2018, p. 87).

Cultural studies are homogeneous to critical theory in focusing on power structures and how they are maintained communally or in a public setting. The CCA then draws on cultural studies, focusing on social communication constructions and the culturally situated nature of health narratives (Dutta, 2005; Du gay et al., 2013). Postcolonial theory contrasts European ascendancy manifested in socio-political dominance, political violence, racism and economic exploitation (San Juan Jr, 2002; Moore-Gilbert & Bart,1997). This means the postcolonial theory opposes European superiority manifested in the world's socio-political and economic matters. Therefore, the CCA to health communication investigates the contradictions of health communication between the first and third worlds and between the north and south to explore how these contradictions contribute to who gets to decide on health agendas (Dutta, 2011).

The essence of subaltern studies calls into question the stifling or silencing of marginalised and disadvantaged individuals' voices within society in health messages or communication (Ludden, 2002; Spivak, 2012). In correlation, the CCA investigates the lack of subaltern voices in health messages or communication by fostering dialogue with subaltern communities to co-create health narratives (Dutta,2011). In the past, failure to consider the cultural component in health communication resulted in neglecting community cultural voices, which were viewed as subjective in promoting health treatments (Dutta, 2008).

The theoretical lens through which this study was framed is the Culture-centered approach to health communication (Dutta, 2008). "The CCA examines the communicative processes through which marginalisation takes place and seeks to resist the marginalisation of the subaltern sectors through the foregrounding of opportunities for local grassroots" (Thompson, 2014, p. 285). The CCA is relevant to the study because culture plays a vital role in determining an individual's or community's level of health

(Airhihenbuwa & Webster, 2004). Cultural views about sexual activities directly impact HIV prevalence, making using the CCA relevant to the study (Airhihenbuwa & Webster, 2004).

4.2 Characteristics of the Culture-Centred Approach

The CCA follows a bottom-up approach to health communication, in contrast to the Eurocentric theories that silence disadvantaged voices when communicating health (Dutta, 2011). Traditional health communication theories have received criticism for having an individualistic bias, meaning that some of these traditional health communication theories take an individualistic approach, purporting that all health behaviour changes depend on the individual, implying that health communication is aimed at the individual (Dutta-Bergman, 2005). The CCA goes beyond the individualised approach to health communication and decision-making, stating that people live in spaces that necessitate collective decision-making and responsibility for sharing health concerns (Dutta, 2011).

The CCA holds a dominant narrative that states that health knowledge is generated communally, considering the dominant cultural influences that influence the people of a given community (Dutta, 2008). The CCA arose as a result of cultural ignorance in health communication. Traditional theories ignored the significance of integrating cultural beliefs and values when developing health communication theories that sought to understand human behaviours towards the acceptance of biomedical initiatives (Dutta, 2008; Dutta et al., 2012).

The CCA is also based on critical theory, which questions how knowledge is communicated and discussed (Dutta, 2008). The CCA investigates health-related knowledge-making processes within a given context. It investigates how this knowledge comes to serve the people and becomes the dominant paradigm in health communication. This can be viewed as examining mainstream beliefs (Dutta, 2004). According to this approach, knowledge claims are linked to the power position of those asserting health. Notably, the CCA analyses knowledge of the assertions made in dominant health communication approaches (Dutta, 2008). As derived from critical theory, the CCA examines the dominant values in healthcare systems that underpin how healthcare systems maintain control (Dutta, 2011). Considering this study, the CCA must be applied because one of the aims of this study is to obtain communal views and opinions based on women's understanding of the acceptability of vaginal health product use and the inclusion of women in HIV research. Within the CCA, individuals exist within cultural contexts that influence their decision-making abilities. In the context of this study, women are viewed as members of a cultural community that influences women's health decision-making abilities. This makes it critical for the study to delve deeper into the cultural influences that may obstruct or promote the use of vaginal products aimed at HIV prevention. The CCA prioritises culture in developing and evaluating health programmes (Dutta, 2008).

The CCA comprises three constructs: culture, structure, and agency. Health definitions within communities are established through the close interaction of the three constructs (Dutta, 2011).

4.2.1 Culture

Culture is comprehensive in that it can be defined as cultivated behaviour based on a person's learned and gathered experiences that are socially transmitted or behaviour gained through social learning (Hofstede, Hofstede and Minkov, 2005). Culture is generally considered to be traditions transmitted from one generation to the next. It can be seen as collective mental programming that differentiates members of one group from those of another (Grazian, 2018). However, this study adopted the definition of culture by (Dutta and Basu, 2008:561), which defined it as "a dynamic communicative process that leads to social, economic, and political structure characterised by a system of values that influence attitudes, perception, and communication behaviours".

The dynamic communicative perspective of culture is key to this study, as it positions culture as the primary communicative tool for conceptualizing and communicating health (Stead et al., 2009). Therefore, the study must focus on gaining a sociocultural understanding of the social and cultural factors that impact women's perceptions, beliefs, and values towards the acceptability of vaginal products and their use. In a study conducted in Bhutan, Pelzang (Hutchinson, 2017) discovered that cultural sensitivity is essential when conducting a qualitative study because observing culture creates a meaningful way for study participants to provide in-depth knowledge and understanding of the subject studied.

Culture comprises traditions passed down from generation to generation and changed by members actively participating in and adding to the meanings of a community (Dutta, 2008). As a result, this research must investigate the cultural changes brought about by members of society that can influence women to accept or reject the adoption and use of vaginal products. Prior studies on communicating health massages have frequently overlooked culture as an important factor to consider when communicating health massages, which often failed the health massages (Dutta, 2005).

This study explored how culture informs women’s decisions in utilizing HIV prevention interventions such as vaginal products. This is because culture immensely contributes to one’s health practices, as people are not all passive recipients of health messages. According to the CCA, people's day-to-day experiences as they come together to create their conceptions and discourse of disease and well-being shape cultural perspectives on health (Dutta, 2008). Culture should be a fundamental organizing principle in designing HIV education systems and evaluating their results (Cawyer and Smith-Dupre,1995). This is because the culture in health can influence how people perceive health education. If health education is culturally relevant, Thai can significantly impact people’s reception of the

provided information and willingness to use it (Thomas, Fine and Ibrahim, 2004). To achieve effective health communication and good clinical outcomes with people from different cultural backgrounds, one must be aware of the cultural perspective through which the people being communicated view the illness (Sperber, Devellis and Boehlecke, 1994). This is highly relevant to the context of this study, which seeks to understand women's perceptions of vaginal products and the cultural influences that inform perceptions of the acceptability of vaginal products among women in KZN. Jones and Lopez (2013) highlighted that if the health communication model includes cultural components recognizing and considering cultural factors, there is a better chance of achieving a positive health outcome. This demonstrates the importance of culture when attempting to communicate health to a specific audience, in this case, women from KZN.

4.2.2 Structure

In a political context, "structure" is generally defined as the institutions or groups and how they interact with one another. This includes the interactions between these institutions within the political system (Masson and Hare, 2020). Structure refers to a way for society to organise itself into manageable institutions or groups collaborating to achieve order and function within society (Galvin, 2020). However, in this study, Structure refers to the organisations, institutions and systems in society that "determine how society is organised as well as the rules on how people engage with each other and the structures around them" (Dutta, 2008:62). Institutions such as clinics or hospitals, as well as any primary health facility, are examples of structures. Structures may be policies or social networks that favour the health needs of some demographic groups while limiting access to vulnerable groups due to resource constraints (Dutta, 2011).

How institutions and systems operate within a structure can directly affect the health of the people living within that structure. Any dysfunction that may occur within a structure in society may disrupt even the health of the people within that society, making it critical to continuously observe the operations of the structures in which the people exist (Reale et al., 2018). A study in India confirms that structural barriers can cripple and interfere with people's health. As seen in India, these barriers can cause ill health in various ways. "Until the British invaded Midnapur, the Santals of India lived in close relationship with nature, practising horticulture, clearing new lands and allowing the old plots to grow into secondary forests"(Dutta-Bergman., 2004:1109). The disruption within the Santals' structures, caused by the British invasion, stripped them of the ability to produce their food, directly affecting their health and livelihood.

Due to a lack of appropriate structure within some communities, cultural members cannot seek healthy options and engage in appropriate health-related behaviour. The structure can be restricted because marginalised cultural members are limited by the healthcare resources available to them or not (Dutta,

2011). Consequently, this study must investigate the structural influences that may harm KZN women's acceptance and use of vaginal products. It is noteworthy to state that some of these structures can obstruct joint health in that, in facilities such as public clinics, women may be hesitant to seek HIV preventive interventions for the fear that they have personal relations with the health care providers. This personal relationship may engender fears of stigma, such as being considered promiscuous members of society (Sandelowski et al., 2004). The social realities that limit or allow people to make health decisions or adopt health behaviour changes are called structure (Dutta, 2012). Exploring these structures and their influence in informing women's decisions towards HIV prevention is critical, as these structures may hinder successful HIV prevention among vulnerable women.

On the other hand, the structure may be empowering because it allows cultural members to challenge how healthcare systems are built (Dutta, 2008; Dutta and Basu, 2011). In the past, the conventional wisdom was that health professionals needed to take a strictly authoritative stance. Still, as a developing field of practice, it is now understood that it is more effective to honour patients' subjectivity within the established medical structures (Cameron, 2008). To do so, one must cultivate cultural sensitivity and gain an understanding of the various world cultures in which one lives. By observing and acknowledging the element of culture in health, healthcare structures may achieve significant positive outcomes from the public, particularly the women of KZN (Dutta, 2008).

4.2.3 Agency

(Bandura, 2001) defines agency as the ability to initiate action. He viewed having "agency" as having a strong will to initiate action. The agency is defined as an individual's ability to wield power and resources to fulfil or reach their full potential (Mayr, 2011). Dutta (YEAR) attempts to expand the definition of agency by stating that the space generated for marginalised cultural groups to actively participate and make decisions about their health problems is called agency. Members of a cultural community can communicate with prevailing discourses of health communication and negotiate within their groups when they have agency (Dutta et al., 2016). Dutta (YEAR) argues that granting people agency empowers them to negotiate and communicate health messages within their various groups and communities. Within this study, it was observed that it is vital for cultural members to be given a chance to exercise agency by challenging structures that prevent them from obtaining healthcare resources such as vaginal products. Ideally, structures should also provide channels for women to exercise agency as purported by the CCA.

The CCA promotes the process that capitalises on the "ability of individuals and their communities to be active participants in determining health agendas and formulating solutions to a variety of health problems, as perceived by the community" (Dutta, 2011:7). Likewise, this study actively engaged the women of KZN as active members of a community in the process of determining the perceptions and

cultural influences that contribute to these perceptions of vaginal products and their use, as well as hindrances that may deter the women from adopting these products, hence promoting agency. The agency is ignited through meaningful dialogue with the relevant parties (Dutta, 2012). However, when vulnerable population groups participate in a study, they are more often subjected to the researcher's agenda (Horta and Santos, 2020). In this study, the researcher did not act as an expert, providing people with information about their social problems. Instead, as the CCA profess, the marginalised voices of women are more significant in searching for social concerns and viable solutions. This study aimed to involve women as active members of the change in developing solutions centred on using vaginal products as an HIV prevention method. This study emphasises the concept of marginalised population groups and thus supports the inclusion of women in the research of vaginal products as an HIV prevention method. Nevertheless, research with the marginalised population must be sensitive to culture and consider that this population group frequently experiences inequalities in their health experiences and health outcomes.

CHAPTER 5: RESEARCH METHODOLOGY

5.1 Introduction

This chapter discusses the methodology adopted to achieve this study's objectives. The methodology includes understanding the research methods and the reasoning behind their selection. A detailed examination of the methodology is presented, positioning the research paradigmatically. The discussion also includes the sampling criteria, explaining the data collection process, and outlining the techniques for data analysis. Lastly, the ethical considerations of conducting this research are discussed.

5.2 Positioning the research: Description of the research site

This study was conducted in KwaZulu-Natal in three sites; Umlazi (urban), Cato Crest (informal settlement) and Vulindlela (rural).

Umlazi is an urban township in Durban, KwaZulu-Natal. It is the second most populous township in South Africa, with an estimated more than 500 000 people (Statistics South Africa, 2011). Umlazi is situated within the eThekwini municipality, which records the highest number of people living with HIV in the country (Human Science Research Council, 2017). Cato Crest was selected as the urban location in KZN because Cato Crest is a densely populated, impoverished community with a high unemployment rate and poor socioeconomic conditions (KZN Health, 2013). It is a part of the wider Cato Manor area, which records a high rate of HIV infection coupled with drug activities, domestic violence cases, and a high rate of unemployment (Gray and Maharaj, 2014; Wagner, 2017). Cato Crest was selected as part of the study location to help the researcher gain an in-depth understanding of the factors that influence women's perceptions and acceptance of female vaginal products due to the high prevalence rate of HIV in the area. Vulindlela was selected as the rural location of the study in KZN. Vulindlela is a broad rural area in the Msunduzi sub-district of the UMgungundlovu District in KwaZulu Natal. Vulindlela is the second most populous municipality in Msunduzi, with about 150 000 people (Kharsany et al., 2016). Vulindlela is part of the five districts with the highest HIV infections in South Africa, where HIV prevalence exceeds 40% among pregnant women (De Oliveria et al., 2017). The Vulindlela population is at the epicentre of the national and global HIV epidemic (Frohlich et al., 2014).

5.3 Interpretivism philosophical paradigm

This study is grounded within the interpretivist philosophical paradigm to acquire a more profound insight into the perceptions and acceptability of vaginal products among women, the factors that influence acceptability, and to explore the acceptability and choice of vaginal products among rural, urban and peri-urban women in KwaZulu-Natal from a participatory engagement perspective to ensure product uptake towards reducing the spread of HIV infection in women.

According to (Alharahsheh and Pius, 2020:39), "The interpretive paradigm would enable researchers to gain further understanding through seeking experiences and perceptions of a particular social context." The interpretive philosophical belief is relevant to the study to understand better women's perceptions and acceptability of vaginal products. Framing this study within the interpretive philosophical belief assisted in achieving a more nuanced understanding of the complexities surrounding the choices that inform women's health, specifically for vaginal health and opportunities for improving HIV prevention strategies to empower women. Through this exploration process, this study sought to understand the influences that inform women's choices in vaginal health and their willingness to adopt new biomedical innovations, such as a potential probiotic, to reduce their risk of HIV exposure. Hopefully, this will contribute to the future of biomedical research with the ongoing inclusion of women's voices in research and product design to increase product acceptability and uptake.

The interpretivism paradigm, in light of the study objectives, reaffirms that it is impossible to have precise, systematic, and theoretical solutions to complex human problems without exploring the cultural and historical situation, necessitating analyses of varying contexts in which the research phenomena exist (Integrity, 2016), enabling for a dissection of the various complex factors that influence willingness to adopt innovations yet at the same time exploring this across age disparities (women ages 18 and above) and geospatial locations (rural, informal settlement and township). With a supporting theoretical framework of the culture-centred approach (CCA), the interpretivism paradigm expands opportunities for understanding the influences on women's vaginal health and product choices. Furthermore, the interpretive paradigm helps to understand the meanings women create due to their experiences with the environment. Additionally, the interpretive paradigm provides a framework for understanding the various, varied, and subjective meanings women ascribe to their encounters with things or objects (Thanh and Thanh, 2015).

5.4 Qualitative research design

This research used a qualitative approach to collect data to understand women’s perceptions of the acceptability of vaginal health product use to include women in HIV prevention research. “Qualitative research is primarily concerned with understanding human beings’ experiences in a humanistic, interpretive approach” (Jackson et al., 2007:21). This means that a naturalistic inquiry is used by qualitative researchers, who analyse real-world environments inductively to produce rich narrative accounts and case studies (Patton, 2005). A qualitative research methodology has four distinct goals: context, comprehension, intervention, and the creation of causal explanations (Maxwell, 1998: 75). However, not all studies need to meet all goals of qualitative research. This study aimed to achieve most of the goals by exploring the context, understanding women’s choices, and creatively engaging with women using a participatory workshop programme to gather rich qualitative data on their perceptions and acceptability of product use.

The essence of the qualitative research methodology is that the research participant's perspective should be prioritised, implying that the focus is on subjectivity rather than objectivity (Myers and Pope, 2019). Participant voices and opinions were highly valued in the study because this is critical when conducting a qualitative research methodology. It is through participant opinions that deep and rich data was extracted. Qualitative research is critical in providing a broader range of knowledge, data, and perspectives on the subject of study (Darlington and Scott, 2019). Data such as the women's choices, acceptance and preferences for vaginal products were investigated using qualitative research methods. The study participants demonstrated their own constructed knowledge and perspectives, which they were glad to share. Collecting this knowledge subjectively is highly recommended by qualitative research, which is what this study aimed to achieve. Within this study, the qualitative approach enabled the researcher to understand the perceptions and choices of women and the factors that influence the acceptance of these vaginal products. The emphasis on context distinguishes qualitative research methods from others. This research design is context-specific because situations and people are understood in their contexts, providing insight into their fears, attitudes, and perceptions of social issues in their surroundings (Mason, 2002).

5.4.1 Sampling

One of the most critical aspects of research studies is sampling, which is selecting a part, item, or personal representative of the entire population (Marshell, 1996). To answer the research questions, it is paramount that the researcher chooses the relevant participants to extract data from (Taherdoost, 2016). This means that the researcher can choose persons, groups, and environments for this process with a particular intent of understanding the underlying phenomenon. The main goal of choosing people is to see if they can provide precise data about the study (Rohe, 2019).

Sampling can be achieved using either a probability or a non-probability sampling technique, depending on the nature of the research design. The probability sampling technique refers to the participant selection method in which the likelihood of selecting each individual is the same or at least known so that it can be mathematically readjusted (Sharma, 2017:749). In contrast, non-probability sampling aims to find specific core characteristics of the persons investigated (Bottaglia, 2011).

Purposive sampling is a non-probability sampling process in which participants selected for the sample are chosen based on the researcher's decision (Dudovskiy, 2013). This research used a purposeful sampling method to obtain a deeper understanding of the women's product acceptability and end-user involvement of women at all stages of the biomedical production process for their preferred product of use to reduce HIV transmission among women. Purposive sampling was applied on two levels of the study: selecting the study locations and the women needed to get data from. The locations had to be urban, peri-urban and rural. Women were purposively selected in each site to fit into two specific age

stratifications, adolescent girls and young women between the ages of 18 and above. This sample is relevant to the research because it includes women in the key population of those at high risk of HIV infection (UNAIDS, 2018). It was essential for this study to utilise female participants as, according to Baxter and Karim (2016), adolescent girls and young women (AGYW) are at a higher risk of contracting HIV than their male counterparts.

5.4.2 Selection criteria

Purposive sampling allows the researcher to choose individuals to participate in the study. It also requires the deliberate selection of participants to be justified by their contribution to the study (Etikan Musa and Alkassim, 2016). Paramount to the study understanding women's perceptions of the acceptability of vaginal products, so the women were chosen based on whether or not they fall into the required age bracket and whether or not they live in the selected geographic area as these were the two main contributing factors to the women's eligibility to the study. Table 5.1 illustrates the inclusion and exclusion criteria of the women selected for the study.

Table 5.1: Table illustrating the Inclusion/exclusion criteria of the study

Inclusion criteria	**Exclusion criteria**
Female between the ages of 18 and above	Women aged below the required age range
Must be residing in the specified locations for research: Umlazi, Cato crest, and Vulindlela	Women who are not from the sample locations

5.4.3 Participant Recruitment

The recruitment of the women was facilitated by two NGOs, the AIDS Foundation of South Africa (AFSA) and COMOSAT. AFSA assisted in recruiting 19 women between the ages of 18 and above, 11 from Umlazi and 8 from Cato Crest. In comparison, COMOSAT assisted in recruiting 10 women between the ages of 18 and above from Vulindlela.

5.5 Data collection

During this study's data collection process, five half-day workshops were conducted utilizing participatory methodologies to gain insight into women’s vaginal health product perception, choice and acceptability. When the workshop programmes commenced, a segment was dedicated to introducing the participants to the research study and vaginal products. This was done to provide clarity to the participants to understand the study.

The workshop process comprised five sessions, a project opening and introduction and the purpose of the study project with a discussion, three key participatory sessions that informed the workshop programme and a closing/debriefing session. The three workshop sessions allowed women to reflect individually and collectively through a journey mapping session, a focus group discussion, and a reflexive journaling take-home activity to conclude the sessions. Data collection did not occur on the same day at each study site. Cato Crest data was collected on the 26th of August 2021, Umlazi data was collected on the 27th of August 2021, and Vulindlela data was collected on the 31st of August 2021. Table 5.2 is an illustration of the workshop program that was used during the data collection process.

Table 5.2: Table illustrating the programme of the day of the workshops of the study

Time	**Activity**
08:00 am	Participants arrive, receive refreshments and sign in
08:30 am – 09:00 am	Welcome and introduction
09:00 am- 11:00 am	Journey mapping activity
11:00 am – 12:30 pm	Focus group discussion
12:30 pm – 1:30 pm	Reflexive journaling (Take-home activity)
1:30 pm – 2:30 pm	Working lunch & Closing/debriefing sessions

Participatory methods such as journey mapping, reflexive journaling, and focus group discussions were adopted during the study to encourage the active engagement of the research participants. These participatory methods facilitated the co-creation of information between the researcher and the participants to discuss successful health-seeking behaviour (Winskell and Enger, 2009).

5.5.1 Journey mapping

A journey map is a visual representation of a person's steps to achieve a goal, which entails creating a timeline of the sequence of user actions, behaviour or progressive choices to construct a documented narrative to capture the user's opinions and emotions (Gibbosons, 2018). The journey mapping workshop was designed to explore the acceptability and choice of vaginal products among rural and urban women in KZN. The women were briefed on the journey mapping activity they were engaged in during the workshop. The women were allowed to ask questions to ensure that they understood what journey mapping was and the intention of this exercise. Given that one of the critical study questions sought to investigate women's perceptions of vaginal products in KZN, it was necessary first to determine the product preferences of the women for both general hygiene and vaginal health.

This art-based methodology includes a variety of creative methods, such as drawing and painting (Brett-Maclean,2009). During the study, it was critical for each woman to complete the activity independently, without any input or influence from other participants. The main goal was to obtain the women's individual preferences and product selection to determine the women's perceptions of vaginal products.

During the creation of the journey maps, women's engagement was prompted by guiding questions. The women were allowed to show their journey maps to a small group of women in the workshop after finishing their journey maps, although this was not compulsory. The participants were provided A3 sheets of paper and art material and 90 minutes to work on their journey map. Probing questions assisted women in working creatively to document their experiences, which allowed them to engage on topics that are often sensitive to collect data on. Once women finished their journey maps, they moved to the Focus Group Discussion.

5.5.2 Focus group discussions

The focus group discussions contributed to the collective qualitative data collection process. Given that the journey mapping activity is also open to the researcher's interpretation, the study determined that it was necessary to include an additional data collection method in which the women could express themselves vocally without being influenced by the researcher's interpretation (Neylon et al., 2017).

A Focus Group Discussion (FGD) is a qualitative analysis approach and data collection technique in which a small group of people discuss a specific subject or problem in detail with the help of an outside moderator (Eeuwijk and Angehrn, 2017). In this case, the moderator was the researcher on site. This approach elicits participants' attitudes and perceptions, as well as their awareness, experiences, and behaviour, which are exchanged during interactions with various people (Eeuwijk and Angehrn, 2017). In the FGDs, participants were asked to share their views on vaginal products, factors that motivate them to use them, their willingness to adopt new biomedical innovations, and their personal experience with the current and new vaginal products. Women's inclusion in HIV prevention clinical trial development is one of the critical considerations of the study. FGDs proved fruitful within this study as they evoked conversation amongst the women, giving the researcher rich data.

5.5.3 Reflexive journaling

Reflexive journaling refers to a written (or verbal) record of the researcher's actions and reasoning during the study process (Daudelin,1996). Reflexive journaling may also be understood as the "awareness of the researcher's influence on the people or topic being studied while simultaneously recognizing how the research experience affects the researcher" (Gilgun, 2008:182).

Qualitative researchers primarily practice reflexive journaling, but its use has widened to other applications in the research process. Other studies have previously adopted this practice as well. For

example, this is seen in a study on Israeli student teachers where they were required to document their activities using this method, where it was concluded that "the student teachers' reflective journals provided qualitative evidence and served as part of the collected data for the study" (Bashan and Holsblat, 2017:1). Likewise, reflexive journaling was utilised in this study, where women were asked to individually document their experiences with vaginal products and their acceptance of vaginal products in a reflexive journal. This was done due to the sensitive nature of the study, which primarily involves the female genital area, considered one of African culture's most private body parts (Ngubane, 2010). Using reflexive journaling as a data collection tool was necessary to allow the women to document their daily routine and use of vaginal products, as opposed to public speaking during the focus group discussion, which may cause one to hold back in fear of others. Holding back may obstruct data collection, so the reflexive journaling activity was necessary to ensure the women had the privacy to express themselves with no fear of stigma or backlash. The reflexive journaling activity was given to the women as a take-home task. For three consecutive days, the women were asked to document their daily use of any vaginal product and how frequently they did so in their reflexive journals. Reflexive journaling was used in this study to allow participants to continue documenting their perceptions and acceptability based on their journey maps, unpacking their thoughts, experiences and actions reflexively. After three days, the researcher returned to each study site to collect the reflexive journals and use them as part of the data collected.

5.6 Data analysis

The data on women's perceptions, choices, and acceptability of vaginal products were analysed using reflexive thematic analysis. Reflexive thematic analysis analyses qualitative data to answer broad or specific research questions concerning people's experiences, perspectives, and representations of a phenomenon (Braun and Clarke, 2020). This was done to create a representation of the women's choices and acceptance of vaginal products that will be clinically designed for the women as an HIV prevention method. Theoretically, reflexive thematic analysis can be driven by concepts from various domains and employed in several research methodologies (inductive, deductive). It does not claim to be objective since the researcher or researchers impact all analyses (Braun and Clarke, 2020). The analysis produces a theme that explains people's experiences, perceptions, attitudes, or representations of a particular topic (Braun and Clarke, 2020). This study employed inductive and deductive thematic analysis when analysing the data.

Inductive thematic analysis is data-driven, meaning it does not attempt to fit into an existing coding frame or the researcher's analytic preconceptions. The themes are generated from raw data (Braun and Clarke, 2020), which is what this study accomplished. When using deductive thematic analysis, preconceived notions are used, such as applying predetermined codes to data (Bingham and Witkowsky,

2021). Deductive thematic analysis was used in this study because the study was guided by the theoretical framework and research questions when analysing the data.

Braun and Clarke (2020) classify reflexive thematic analysis into six phases: data familiarisation, initial code generation, developing themes, review of themes, the definition of themes and writeup. The phases of reflexive thematic analysis are not necessarily linear, meaning that the researcher may alternate between the phases going back and forth until the researcher is satisfied with the generated codes and themes or has reached data saturation (Bruan and Clarke, 2020).

5.6.1 Data familiarisation

Data familiarisation is the initial phase of reflexive thematic analysis. During this phase, the researcher engaged in a reiterative process of reading the data repeatedly to become acquainted with it. Because the study was conducted in a cultural setting where most of the women primarily spoke isiZulu, the collected data was first transcribed and translated into English from IsiZulu, the participants' home language.

The researcher then engaged in reading the data several times. During this process, the researcher took notes to keep track of key concepts generated by the data. This assisted the researcher in becoming more familiar with the data. The researcher then began to look for patterns and meanings. After data familiarisation and immersion, the researcher had an idea about data concepts. This led to the second analysis phase, which required the researcher to create data codes.

5.6.2 Generating the initial codes

Generating the initial codes entails organizing the data in meaningful and systematic ways. Coding compresses data into small chunks of meaning related to the study (Braun and Clarke, 2020). This implies that coding is not merely about labelling but suggests that qualitative data must be linked to the research idea and back to the other data (Braun and Clarke, 2020). This study considered many crucial steps when generating the initial codes. The initial codes were developed by sorting the data from the journey maps into an excel spreadsheet. The data was sorted in the excel spreadsheet according to similarity, difference and repetition, gradually giving the researcher the initial codes. This was true for data gathered from focus group discussions and reflexive journals. Each research instrument produced an excel spreadsheet containing data generated through the established codes. This was done so that the data could later be assigned to the appropriately developed themes where quotes were required.

The research questions, the literature review, and the theoretical framework guided this systematic study process. As previously mentioned, deductive and inductive approaches were used to search for concepts/ideas linked to the study. The data was then labelled and organised into meaningful groups by the researcher to generate themes in the third phase.

5.7 Developing themes (How did you develop the themes)

This process requires the researcher to study the coded data to develop broad themes present and represented within the coded data (Braun and Clarke, 2006). When doing this, the data shifts from preliminary coded information to broader themes that make meaning across numerous codes.

Themes were primarily developed using data from focus group transcripts. Data from the journey maps were presented as raw data throughout the study, with no specific themes surrounding it. This was done because journey maps are images that can be seen and tell their own stories. They do not need to be boxed within a theme because they are somewhat fluid and open to various interpretations when reading the study (Peterson, 2019). Data from the reflexive journals was also not presented according to specific themes but rather as quotes based on relevance in answering the study research questions

The fourth phase in the reflexive thematic analysis is to repeat the reading process of the identified themes.

5.7.1 Review and refine the themes

In this phase, the researcher clarifies the broad themes generated in the previous phase. This is done to ensure that the themes identified have enough evidence to back them up and allow for a good discussion. It is also done to merge relevant themes with similar information and check if there may be a need to segment some of the themes. As this phase aims to develop meaningful themes backed up by data (Bruan and Clarke,2020), some themes were discarded due to lacking supporting evidence, while others were expanded meaningfully. The goal was to have themes that were well-grounded and accurate, as well as themes that were representative of the data. The fifth phase entails the researcher defining and clarifying the themes in the data presentation process.

5.7.2 Defining and naming the themes

In this phase, merging the themes into a more extensive discussion is critical while recognizing how they pertain to each other in creating meaning and knowledge (Bruan and Clarke, 2020). Within this phase, the themes are refined, intending to "identify the 'essence' of what each theme is about" (Braun & Clarke, 2006:92). Here, the researcher established the meanings and the essence of the generated themes, linking them to the sub-themes and creating a flow within the main themes and sub-themes according to the data.

5.8 Writing up the Analysis

The final phase is to write up the analysis coherently that reflects the study's validity and the accuracy of the findings (Braun and Clarke, 2020). In this study, all six phases were used significantly, and the results are presented in written themes derived from the data.

5.9 Trustworthiness criteria

Lincoln and Guba (1985) suggest four general criteria in their approach to trustworthiness: credibility, transferability, dependability and confirmability. However, Guba and Lincoln (YEAR) added a fifth criterion, authenticity, in 1994. Each of these factors was put into consideration during this study.

5.9.1 Credibility

Credibility refers to the truth of the data or participant perspectives and the researcher's interpretation and representation of them (Cope, 2014). According to Sandelowski (1986), a qualitative study is considered credible if the descriptions of human experience are instantly recognised by people who have had similar experiences. Within this study, credibility was demonstrated by ensuring that during the coding and thematisation process, transcripts, journey maps and reflexive journals are filed and kept so that anyone who wishes to view these documents can do so to verify the conclusions reached in the study during data analysis. This provides the next reader with a human experience that can be recognised by the reader regardless of not physically engaging with the study participants, as all these filed documents are raw, unfiltered data from the women.

5.9.2 Transferability

Transferability is achieved when the study results are meaningful to people not involved in the research, and readers can understand the results (Polit and Beck, 2010). To achieve the transferability of the research findings, the researcher has provided sufficient information on the study participants and the research context to enable other readers to assess the findings' transferable capability.

5.9.3 Dependability

The consistency of the data under similar conditions is referred to as dependability (Tobin & Begley, 2004). Dependability is achieved if another researcher or peer agrees with the decision-making processes employed throughout the research process (Cope, 2014). In this study, dependability was achieved through vigorous peer-reviewing of every step of the study up until data collection, analysis and presentation. The researcher was guided and supervised under all these conditions by a peer and supervisor, making the study dependable for the next reader.

5.9.4 Confirmability

Confirmability refers to the researcher's ability to demonstrate that the data accurately represents the participants' responses, not the researcher's biases or viewpoints (Polit & Beck, 2012). To achieve confirmability within this study, the researcher has described how the conclusions and interpretations of the data were reached. This was done by presenting all the collected data in its raw, unmodified form, including participants' direct quotes from the FGD transcripts and the results from the journey mapping activity and the reflexive journaling activity.

One of the significant ways to prove research confirmability is through triangulation, which entails using multiple data collection methods to confirm the study results to be trustworthy or true (Guion, Diegl and McDonald, 2011). Implementing a discussion focus group right after the journey mapping activity that was coupled with a take-home reflexive journaling activity at the end of the focus group was not only intended to facilitate the creation of information amongst the women and encourage active engagement. However, it also proved the research's trustworthiness by having multiple research instruments to promote triangulation.

5.9.5 Authenticity

The ability and extent to which the researcher faithfully expresses the feelings and emotions of the participant's experiences are called authenticity (Cope, 2014). Here the researcher was very careful to express the feelings and emotions of the participant's experiences with using vaginal products and the practices the women employ. The researcher was mindful of expressing the participants' viewpoints, feelings and emotions as presented by the participants to the researcher.

5.10 Ethical consideration

Ethical considerations guide research designs and practices, and researchers must always follow the rules when collecting data from people (Bhandari, 2022). Therefore, measures were taken to protect study participants by ensuring that the ethical guidelines for conducting social research were followed. Ethical clearance was obtained from the University of KwaZulu-Natal's Humanities and Social Sciences Research Committee (HSSREC), with ethics clearance number HSSREC/00003266/2021.

Furthermore, informed consent was obtained from all study participants before the data collection process. The aims and objectives of the study were explained to the participants during this process to ensure that they understood what the study entailed. Voluntary participation, confidentiality, and anonymity were explained to the participants. The women's names were not mentioned in the dissertation to ensure participant anonymity, and pseudonyms were used where necessary. Moreover, the focus group discussions were recorded, with participants' verbal and written consent. Participants were given a copy of the informed consent form for their records and contact information in case they needed more information about the study. Given the COVID-19 context, all COVID-19 protocols of face-mask wearing, social distancing and sanitation were observed during the data collection. Large venues with sufficient ventilation were booked for the workshops, and where possible open-air venues were secured to have outdoor community workshops. This was mobilised with the assistance of the local NGO, which provided gatekeeper permission to assist with access to the community, securing a venue and recruiting participants.

5.11 Limitations of the study

Due to the sensitive nature of the discussions in the focus groups, some women may have withheld some information about their vaginal practices to avoid shame and stigma. However, this limitation was overcome by allowing the women to work independently on their journey maps and reflexive journals, allowing them freedom and agency to express themselves freely.

CHAPTER 6: RESEARCH FINDINGS AND ANALYSIS

6.1 Introduction

This chapter presents research findings from data collected from women in the three research sites. This study aimed to understand women's perceptions of the acceptability of vaginal products in selected rural, peri-urban and urban areas of KwaZulu-Natal and further identify the cultural influences that inform HIV prevention research. The study intended to understand and demonstrate the benefit of including women in HIV prevention research toward culturally acceptable vaginal health product development. This study further observed the benefits and barriers of utilizing participatory methodologies to engage women in HIV prevention research for biomedical product development. To complete this investigation, empirical evidence was gathered across three research sites using focus group discussions, a journey mapping activity, and a take-home reflexive journaling task.

This chapter presents results related to the study's objectives and captures the notable themes generated from the collected data. These themes are noteworthy to understand the women's perceptions and cultural influences that inform HIV prevention research towards culturally acceptable vaginal health product development and to understand and demonstrate the benefits of inclusion of women in HIV prevention research. The women's reflections from all research sites where data was collected are presented in this chapter. The data presentation is guided by the themes and subthemes, which are outlined below:

- **Theme one:** Vaginal products for sexual benefits
    - Male sexual pleasure
    - Vaginal warmth and tightness
- **Theme Two:** Application preference
- **Theme Three:** Vaginal hygiene maintenance
- **Theme Four:** Vaginal practices within the African culture
    - Sources of vaginal products

The themes identified in the reflexive journaling exercise were the following:

- **Theme one:** HIV education through research participation
    - HIV education through research participation
- **Theme two:** Direct participation in research increased the women’s sense of worth

This chapter's first section presents the journey mapping activities' visual data (Table 6.1). The journey maps presented are labelled with the participant's age and participant location. The second section of this chapter presents data from the focus group discussion transcripts and data from the women's reflexive journals.

Table 6.1: Structure of data presentation.

Structure of chapter	
Section 1	Visual data from journey mapping activity
Section 2	Textual data from FGD and reflexive journals

As mentioned in Chapter 4, reflexive thematic analysis was used to analyse the presented data. *Reflexive thematic analysis* is a qualitative data analysis method used to answer broad or specific research questions about people's experiences, perspectives, and representations of a phenomenon (Braun & Clarke, 2020). The study used reflexive thematic analysis to analyse women's perceptions, choices, and acceptability of vaginal products.

The probing questions and instructions to facilitate and guide the journey mapping activity are provided in Appendix 1. The main research questions in this study guided the questions and instructions. However, the journey mapping activity questions and the questions that facilitated the FGD and the reflexive journaling task were slightly modified to best suit the activities while retaining the main research questions and ideas. Further information on the research instruments that informed the data collection process can be found in Appendix 1 for the journey mapping guide, Appendix 2 for the FGD guide, and Appendix 3 for the reflexive journal guide.

6.2 Biographical information of the women across the 3 sites

It is crucial within the study to be aware of the biographical information of the women participating in obtaining a deeper understanding of the context within which the data was collected, as this is a comparative study between the study sites. Table 6.2 shows the biographical information of the women who participated in the study. To maintain participant confidentiality, participants were assigned fictitious names to protect their identities.

Table 6.2: Biographical data for women who participated in the study.

Date of data collection	Respondents' pseudo name	Age	Study site
26/08/2021	(P1) Smangele	26	Cato crest
26/08/2021	(P2) Mbalenhle	21	Cato crest
26/08/2021	(P3) Chioma	36	Cato crest
26/08/2021	(P4) Rita	29	Cato crest
26/08/2021	(P5) Precious	20	Cato crest
26/08/2021	(P6) Angel	26	Cato crest
26/08/2021	(P7) zimiphi	18	Cato crest
26/08/2021	(P8) Tholakele	18	Cato crest
27/08/2021	(P1) Aneliswa	19	Umlazi
27/08/2021	(P2) Onika	20	Umlazi
27/08/2021	(P3) Sne	21	Umlazi
27/08/2021	(P4) Londi	23	Umlazi
27/08/2021	(P5) Amanda	32	Umlazi
27/08/2021	(P6) Bauble	30	Umlazi
27/08/2021	(P7) Amara	34	Umlazi
27/08/2021	(P8) Ini	-	Umlazi
27/08/2021	(P9) Destiny	21	Umlazi
27/08/2021	(P10) Dream	31	Umlazi
27/08/2021	(P11) Favour	38	Umlazi
31/08/2021	(P1) Pinky	23	Vulindlela
31/08/2021	(P2) Lilly	25	Vulindlela
31/08/2021	(P3) Snowie	28	Vulindlela
31/08/2021	(P4) Raine	23	Vulindlela
31/08/2021	(P5) Nikita	28	Vulindlela
31/08/2021	(P6) Amarachi	23	Vulindlela
31/08/2021	(P7) Peace	36	Vulindlela
3108/2021	(P8) Favour	23	Vulindlela
31/08/2021	(P9) Grace	48	Vulindlela
31/08/2021	(P10) Maphili	54	Vulindlela

Regarding age difference, four women above 24 years in Cato crest, five in Umlazi and six in Vulindlela. The remaining women in the study were between 18 and 24 years old across the three sites. Crest had four participants under 25, Umlazi had five, and Vulindlela had four.

As stated in Chapter 2, women remain disproportionately affected by HIV in Sub-Saharan Africa, constituting 25% of all new infections worldwide (UNAIDS, 2018). The women involved in this study fit into this vulnerable population group because of their age, gender, and geographical location, which characterise some of the factors that contribute to their vulnerability to HIV infection, especially in an area such as Vulindlela, where it is recorded that the Vulindlela population is at the epicentre of the global and national HIV epidemic (Kharsany et al., 2015).

6.3 Section one of the data presentation

6.3.1 Journey mapping

This study segment presents journey mapping charts from the data collection workshop. The first collection of journey maps is from Cato Crest, a peri-urban area. A total of 8 maps were done and are shown below. The second set of charts is from Umlazi, an urban area. After conducting the journey mapping activity in Cato Crest, it was decided it would be best to give the women two charts each so they could express themselves freely without running out of writing space, as previously observed in Cato Crest. The women in Umlazi wrote about their available products in one chart and specifically about vaginal products in the other. A total of 11 journey maps are presented. A total of 10 charts are presented from the rural area of Vulindlela.

Each woman was given two charts. Participants could express themselves in either English or isiZulu, their home language. Some journey maps were written in isiZulu, the women's primary home language. The researcher translated and presented these where needed. Each set of journey maps created by the women includes a brief description of what is written and illustrated on the journey maps. The journey mapping activity was rather an exciting and fun-filled activity for the women across the sites. Most women expressed themselves clearly on the journey maps as much as others preferred to express themselves more through drawing illustrations. Drawing as a means of expression was encouraged immensely, as journey mapping is an art-based research methodology. Incorporating arts-based methods into scientific research provides numerous benefits, including capturing the highly complicated surface of lived experiences by women in KZN. The art-based method also assisted in investigating interconnections between culture and the vaginal practices adopted by the women and communicating insights in the novel, engaging, and empowering ways (Lopez, Wickson and Hausner, 2018). Below each journey map is a brief description explaining the chart's gist.

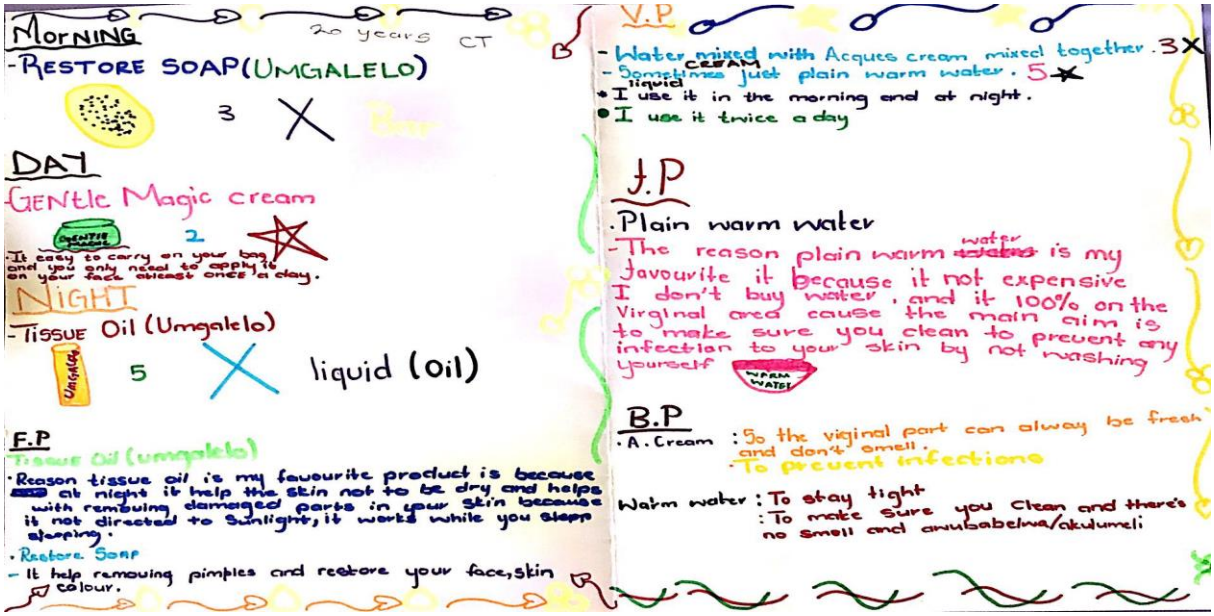

Figure 6.1**: P 1, Cato crest, 26 August 2021.**

Table 6.3: Table illustrating a brief description of what is written on the participant's map in Figure 6.1.

Vaginal products	**General products**
The vaginal product she uses is water mixed with aqueous cream, but she primarily uses plain water combined with nothing. She uses these products in the morning and night daily. She finds plain cold water to be the easiest vaginal product to use. She gave plain water with no mixture, the highest rating of 5 as an important product. She rated water mixed with aqueous cream a rating of 3 in the order of importance. Plain water is her favourite product because it is inexpensive and causes no harm to the vaginal area. Water is found in a liquid form. The benefit of using water as her favourite product is that it ensures she is clean to prevent her from getting any infections of the skin and vagina.	For her general product use, she mentions a range of store-bought lotions and tissue oils she uses daily. She mentions that the tissue oil is her favourite product because it moisturises her skin and prevents dryness. She rates the tissue oil as very important, rating 5 out of 5.

She spends more money on general product use than she prepared for vaginal use. The need for moisturisation drives her general product use. In contrast, her vaginal product usage is driven by the need to prevent negative outcomes in her vaginal area (P 1, Cato crest, 26 August 2021).

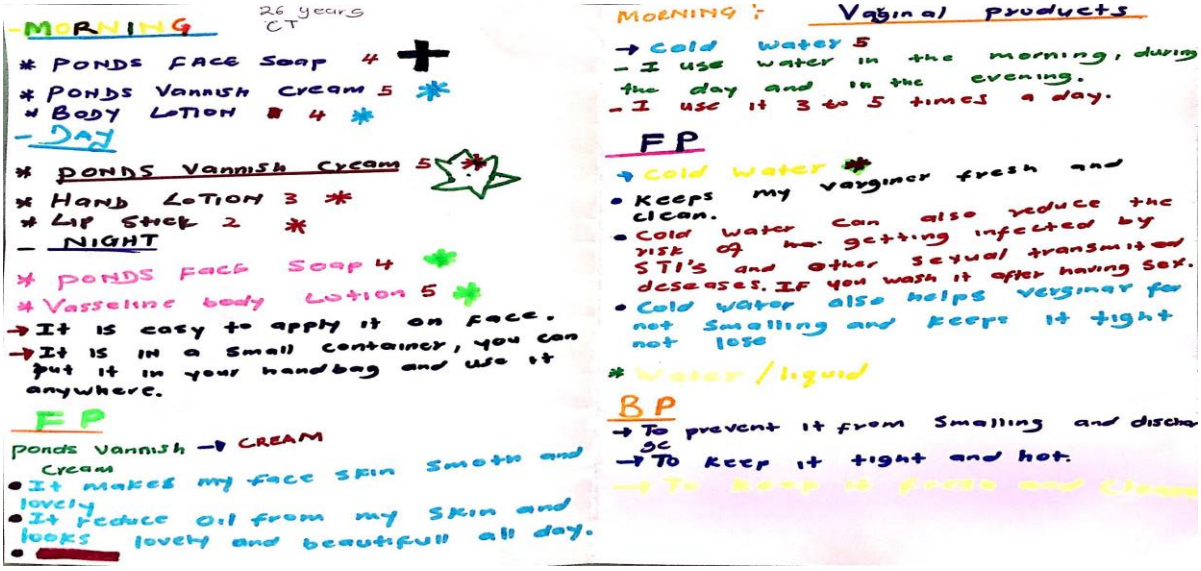

Figure 6.2: P 2, Cato crest, 26 August 2021.

Table 6.4: Table illustrating a brief description of what is written on the participant's map in Figure 6.2.

Vaginal products	**General products**
The vaginal product she uses is cold water. She uses water in the morning, day, and evening. She uses it 3 to 5 times a day. She rated water 5, rating it the most important vaginal product. Water is the product she finds easiest to use. Her favourite product is water because cold water can also reduce the risk of getting infected by STIs and other sexually transmitted diseases if you wash it right after sex. Cold water also helps prevent smell and keeps the vagina tight and not loose. Water is in a liquid form, and the benefits of using water are that it prevents the vagina from smelling and getting a vaginal discharge. It keeps the vagina tight and hot and keeps the vagina fresh and clean.	She mentions three products for her general product use: ponds face soap. Ponds vanish cream and Vaseline body lotion she uses these products daily. she mentions that ponds vanish cream is her favourite product because it makes her face smooth and lovely, also reducing oil on her skin, causing her to look beautiful throughout the day. she rates the ponds vanish cream and the Vaseline lotion as very important, with a rating of 5 out of 5.

She spends more money on general product use than she prepared for vaginal use. Her general product use is motivated by the need for moisturisation and beauty. In contrast, her vaginal product usage is motivated by the need to prevent negative outcomes in her vaginal area, such as contracting STIs, vaginal odour and vaginal infections (P 2, Cato crest, 26 August 2021).

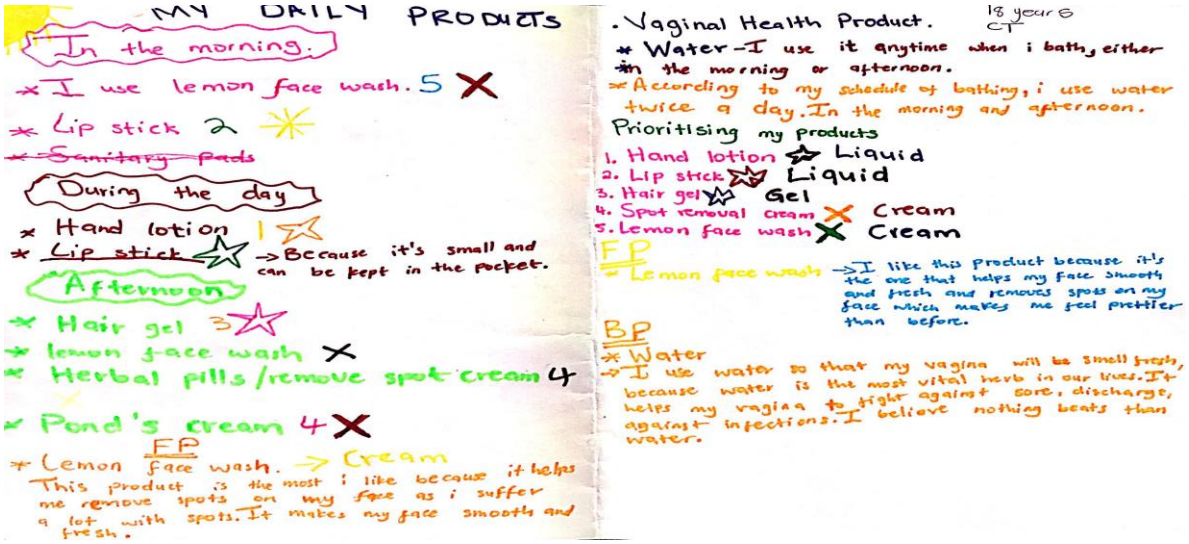

Figure 6.3: P 3, Cato crest, 26 August 2021.

Table 6.5 briefly describes what is written on the participant's map in Figure 6.3.

Vaginal products	General products
The vaginal product she uses is cold water. She uses water two times a day, in the morning and evening. She found water to be the easiest product to use. She found water the best product because it helps keep the vagina clean and protects it against sores, vaginal discharge and infections. She believes that nothing or no product is better than water.	She mentions a range of store-bought products for her general product use but mainly highlights her lemon face wash and ponds cream that she uses daily. She mentions that the lemon face wash and ponds cream are her favourite products because these products assist her with removing spots on her face causing her face to be smooth and fresh. She rates the lemon face wash very important, rating 5 out of 5 and rates the ponds cream on a scale of 4 importance.

She spends more money on general product use than she prepared for vaginal use. Her general product use is motivated by the need for beautiful skin with no spots, while her vaginal product usage is motivated by basic hygiene (P 3, Cato crest, 26 August 2021).

Figure 6.4: P 4, Cato crest,26 August 2021.

Table 6.6: Table illustrating a brief description of what is written on the participant's map in Figure 6.4.

Vaginal products	General products
She uses pure water as a vaginal product. She uses water twice a day in the morning and evening. Her easiest product is water, and water is in a liquid form. Her favourite product is pure water because it protects her from vaginal discharge and eliminates vaginal odour keeping the vaginal clean.	For her general product use, she mentions a variety of store-bought products, such as Dove soap, Nivea lotion, Author ford body lotion and Author ford spray. She uses these products daily. she mentions that her favourite products are the Author ford body lotion and spray. These are her favourite products because they make her smell good. However, she rated dove soap on a scale of 5 importance and the Nivea lotion.

She spends more money on general product use than she prepared for vaginal use. Her general product use is motivated by the need for moisturisation and smelling good. In contrast, her vaginal product usage is motivated by basic hygiene to eliminate vaginal odour and prevent vaginal infections (P 4, Cato crest,26 August 2021).

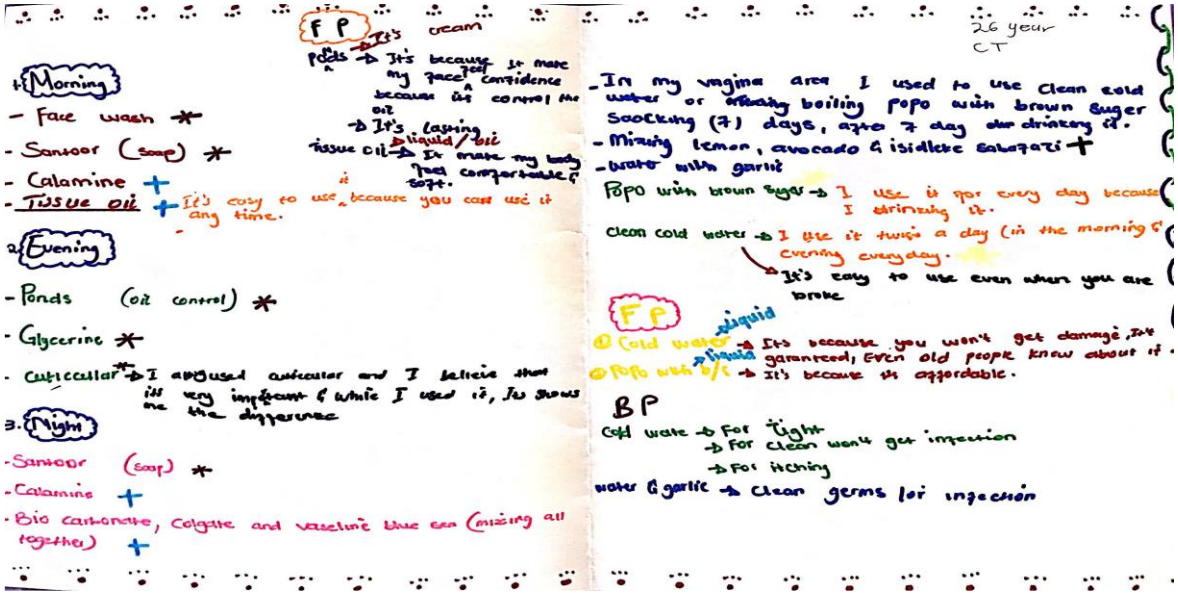

Figure 6.5: P 5, Cato crest, 26 August 2021.

Table 6.7 briefly describes what is written on the participant's map in Figure 6.5.

Vaginal products	**General products**
The vaginal products she uses are both directly applied as well as ingested. She uses cold water to cleanse the vagina and drinks boiled popo seeds with brown sugar. She also mixes lemon, avocado and isidleke-sabafazi (traditional medicine known for sexual enhancement t in women) with garlic to drink for vaginal health. The product she finds easiest to use is cold water. Coldwater is her favourite product because she feels that cold water will not damage or harm the vagina. Secondly, cold water is her favourite product because it is affordable. Water is in a liquid form. She believes it tightens the vagina and cleanses it of infections and itching. She also found water and garlic to be her best products for cleaning germs and infections in the vagina when ingested.	For her general product use, she mentions a range of store-bought products such as ponds face cream, face wash and santoor soap that she uses daily. She mentions that her favourite product is the ponds face cream because it makes her feel confident, gives her skin oil control, and lasts long.

She spends more money on general product use than she prepared for vaginal use. Her general product use is motivated by the need for beautiful skin, while her vaginal product usage is motivated by basic hygiene and preventing bacterial infections (P 5, Cato crest, 26 August 2021).

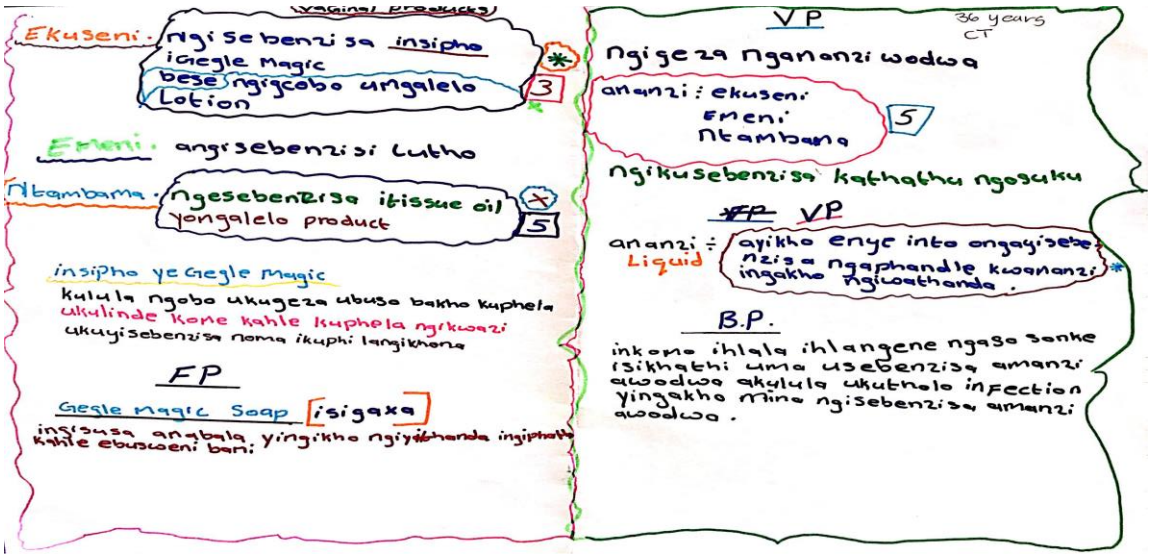

Figure 6.6: P 6, Cato crest, 26 August 2021.

Table 6.8 illustrates a brief description of what is written on the participant's map in Figure 6.6.

Vaginal products	**General products**
She only uses water as a vaginal product. She uses it three times daily in the morning, day and evening. She gave the water a high rating of 5 as an important product. She found water to be the easiest product to use because she feels like, apart from the water, there is nothing else she can use. Water is also her favourite product, as she mentioned that she finds water to be the only thing she can use as a vaginal product. Water is her best product because it keeps the vagina tight and helps fight vaginal infections.	She mentions daily gentle magic soap and tissue oil for her general product use. She mentions that gentle magic soap is her favourite product because it removes facial scars and causes her skin to be smooth. She rates tissue oil as very important, rating 5 out of 5.

She spends money on general product use in contrast to vaginal use. Her general product use is motivated by the need for beautiful skin and moisture. In contrast, her vaginal product usage is

motivated by hygiene, preventing bacterial infections and maintaining vaginal tightness (P 6, Cato crest, 26 August 2021).

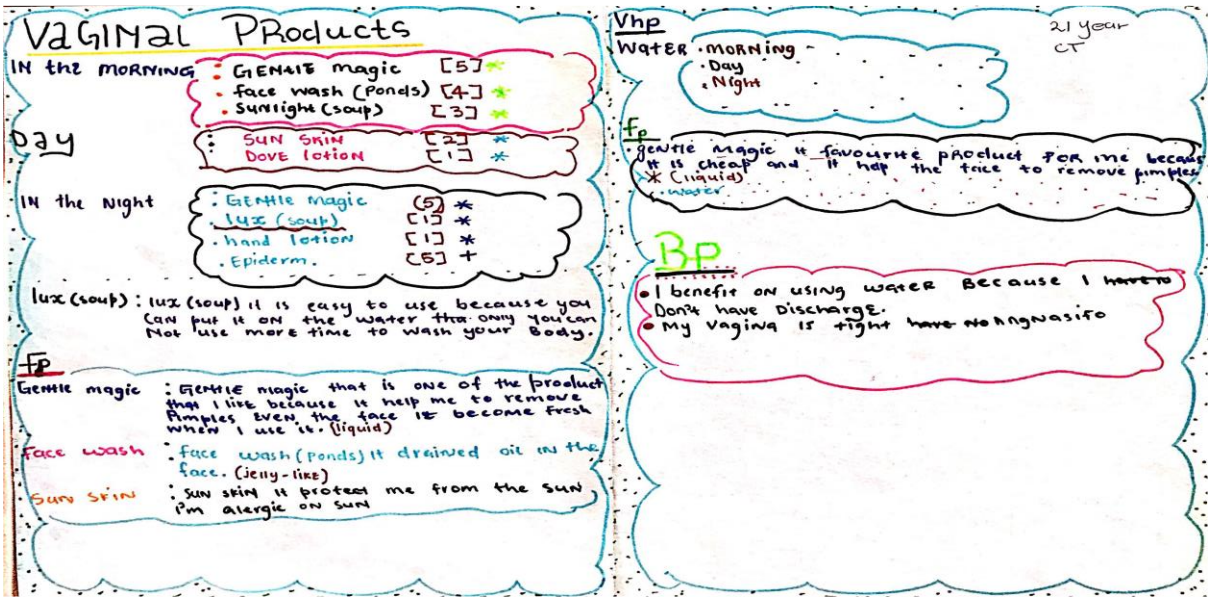

Figure 6.7**: P 7, Cato crest, 26 August 2021.**

Table 6.9 briefly describes what is written on the participant's map in Figure 6.7.

Vaginal products	**General products**
She uses water as a vaginal product and does these 3 times a day in the morning, day and night. She finds water to be the easiest product to use and finds it to be the best product to use as it helps her fight vaginal discharge and keep the vagina tight and disease free.	For her general product use, she mentions a range of store-bought products, such as gentle magic face toner, face wash and sunlight green bar, that she uses daily. She notes that the gentle magic face toner is her favourite product because it helps her remove pimples on her face causing her face to be smooth. She rates the gentle magic face toner as important, rating 5 out of 5.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for beautiful skin and moisture. In contrast, her vaginal product usage is motivated by hygiene, preventing bacterial infections and maintaining vaginal tightness (P 7, Cato crest, 26 August 2021).

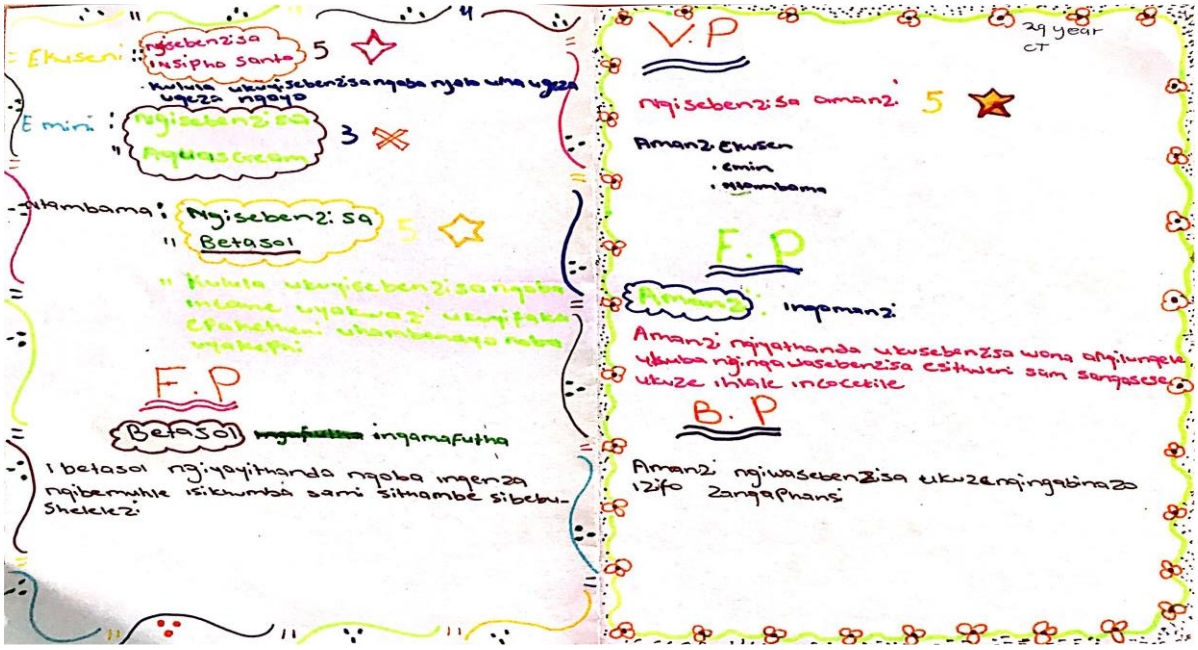

Figure 6.8**: P 8, Cato crest, 26 August 2021.**

Table 6.10 briefly describes what is written on the participant's map in Figure 6.8.

Vaginal products	**General products**
The vaginal product she uses is water. She uses water 3 times daily in the morning, day and evening. She rated water on a scale of 5 as an important product. She also found water to be the easiest product to use. Water is her favourite product because it cleanses the vagina and keeps it tight.	She mentions santoor bar soap, Aqueous cream, and Betasol, which she uses daily for her general product use. She mentions that Betasol is her favourite product because it makes her skin moist and smooth. she rates Santoor bar soap as very important, rating 5 out of 5.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for beautiful skin and moisture. In contrast, her vaginal product usage is motivated by hygiene and maintaining vaginal tightness (P 8, Cato crest, 26 August 2021).

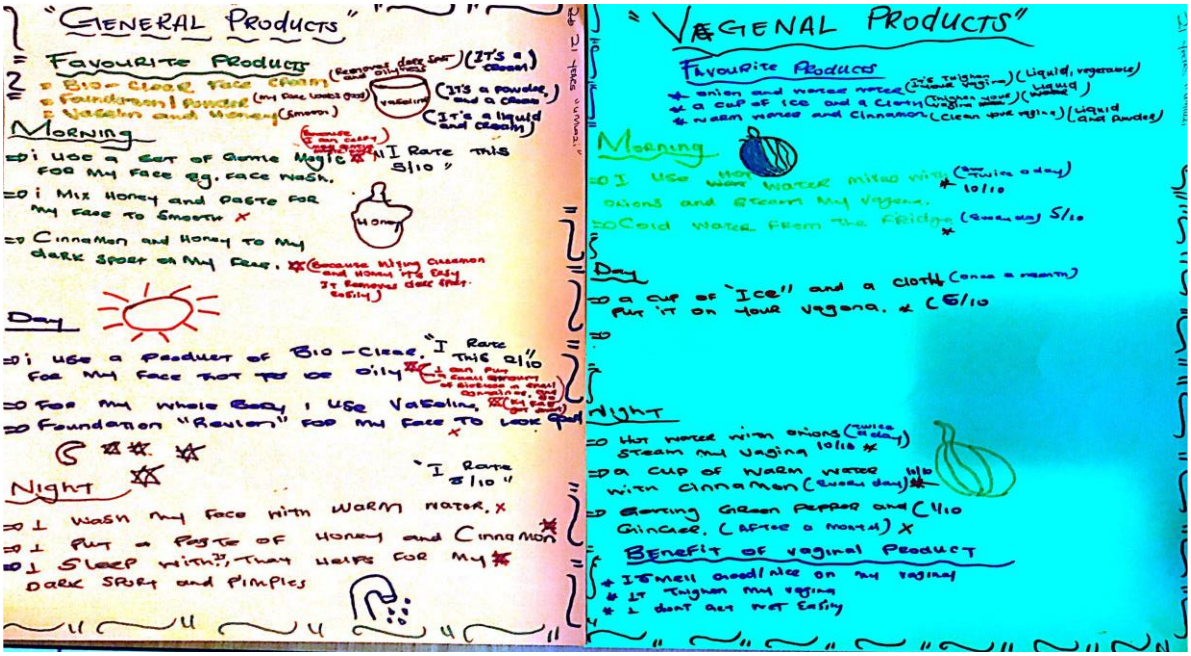

Figure 6.9: P 1, Umlazi, 27 August 2021.

Table 6.11 briefly describes what is written on the participant's map in Figure 6.9.

Vaginal products	**General products**
This participant uses a variety of vaginal products in a day. In the morning, she uses hot water and onions to steam the vagina and then proceeds to rinse the vagina with cold water from the fridge. During the day, she uses a cup of ice and a cloth to place on the vagina. At night she steams her vagina with boiling water and onions and drinks a cup of warm water and cinnamon. Once a month, she boils green paper and ginger to drink for her vaginal health. She rated cold water from the fridge on a scale of 5 as the most important vaginal product to her. She also found that cold water from the fridge is the easiest product to use. Her favourite products are onions and water because it tightens the vagina. Her favourite product is a cup of ice and a cloth because it tightens the vagina. Lastly, warm	She mentions bio-clear face cream and gentle magic that she uses daily for her general product use. she mentions that bio-clear is her favourite product because it moisturises her face. She rates gentle magic as very important, rating 5 out of 5.

water and cinnamon are her favourite vaginal products to ingest as they clean the vagina.	

She spends money on general product use. However, when it comes to vaginal products, she has a significant preference for household and readily available products meaning that she does not spend money on vaginal products in contrast to available products. Her general product use is motivated by the need for moist and clear skin, while her vaginal product usage is motivated by hygiene, vaginal warmth and tightness (P 1, Umlazi, 27 August 2021).

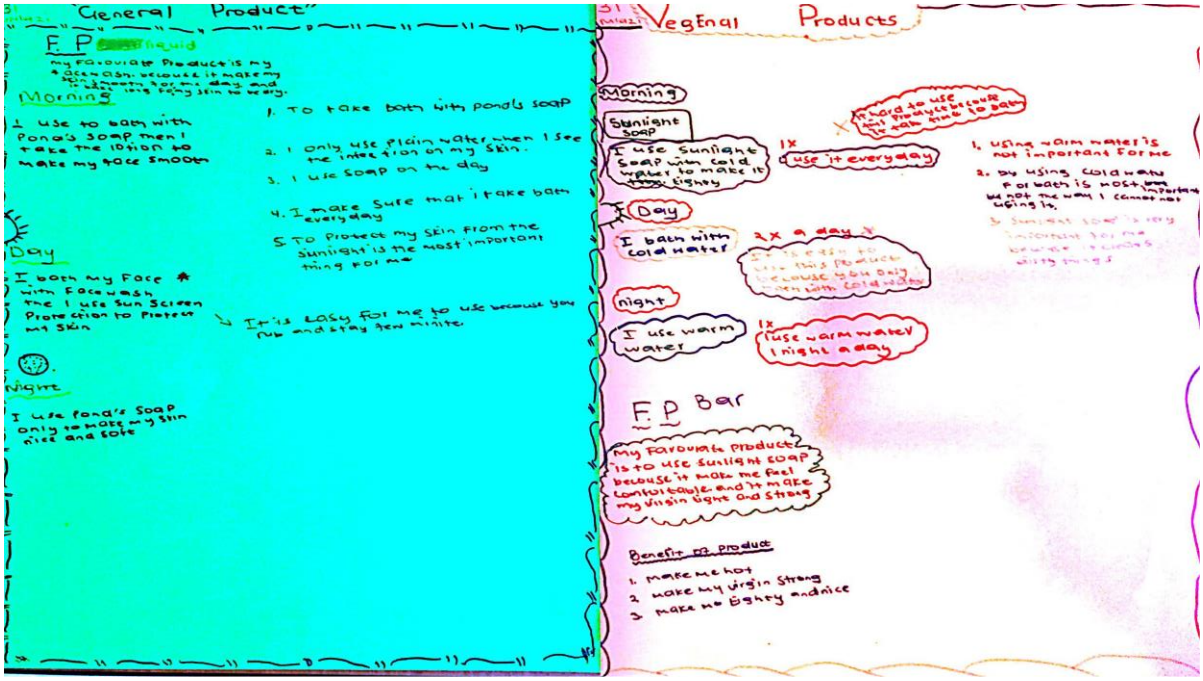

Figure 6.10: P 2, Umlazi, 27 August 2021.

Table 6.12 briefly describes what is written on the participant's map in Figure 6.10.

Vaginal products	General products
The vaginal product she uses is sunlight-green bar soap with cold water in the morning. During the day, she uses plain cold water with no mixture; at night, she uses warm water to cleanse the vagina. She rated cold water on a scale of 2 in importance, her highest rating. She finds cold water to be the easiest product to use. Her favourite product is sunlight green bar soap mixed with water because it makes her feel comfortable. This is also her best product, and the benefits of using sunlight and water are that it makes the vagina warm and it makes the vagina tight and nice.	She mentions daily ponds soap, face wash, and sunscreen for her general product use. She mentions that her favourite product is her face wash because it makes her skin smooth.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for smooth skin and moisture, while her vaginal product usage is motivated by hygiene and maintaining vaginal tightness (P 2, Umlazi, 27 August 2021).

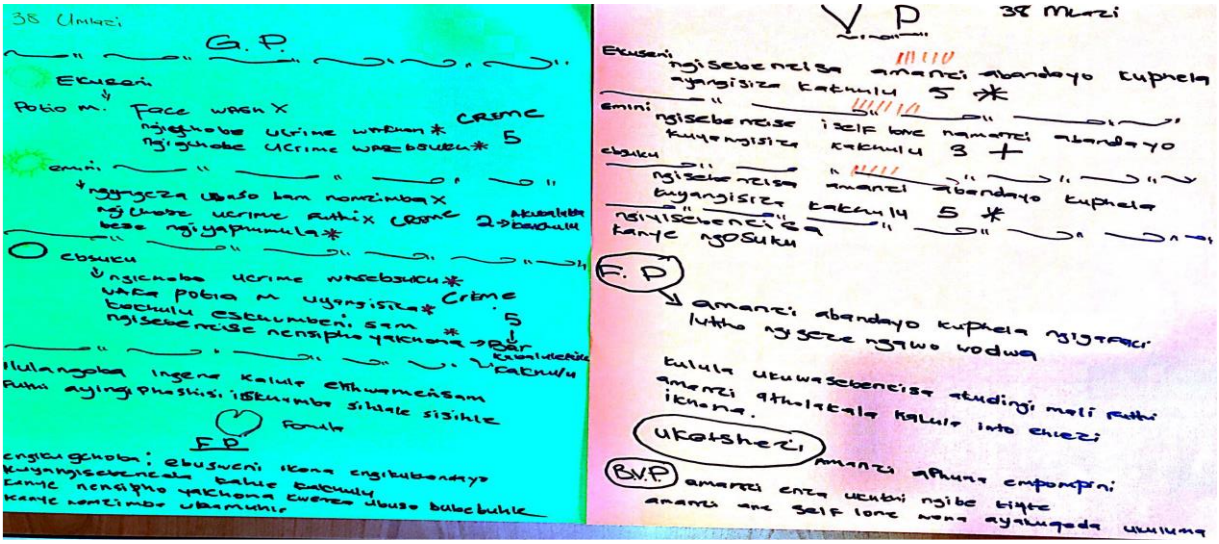

Figure 6.11: P 3, Umlazi, 27 August 2021.

Table 6.13 illustrates a brief description of what is written on the participant's map in Figure 6.11.

Vaginal products	General products
The vaginal product she uses in the morning is cold water. During the day, she uses cold water mixed with Savlon (an anti-septic liquid skin product generally used in bathing water to aid skin with allergies or injuries). At night she used plain cold water and rated water on a scale of 5 as the most important product for her. Water is also the easiest for her to use. Water is also her favourite product because it is easily accessible and you do not need money to purchase it. Her best product to use is cold water because it makes her vagina tight, and water mixed with the salon helps with the itchiness of the vagina.	For her general product use, she mentions Portia M face wash, face cream and Portia M soap that she uses daily. She mentions that Portia M soap is her favourite product because it makes her skin smooth. she rates the face cream as very important, rating 5 out of 5.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for smooth skin. In contrast, her vaginal product usage is motivated by hygiene, maintaining vaginal tightness, and preventing vaginal itching P 3, Umlazi, 27 August 2021).

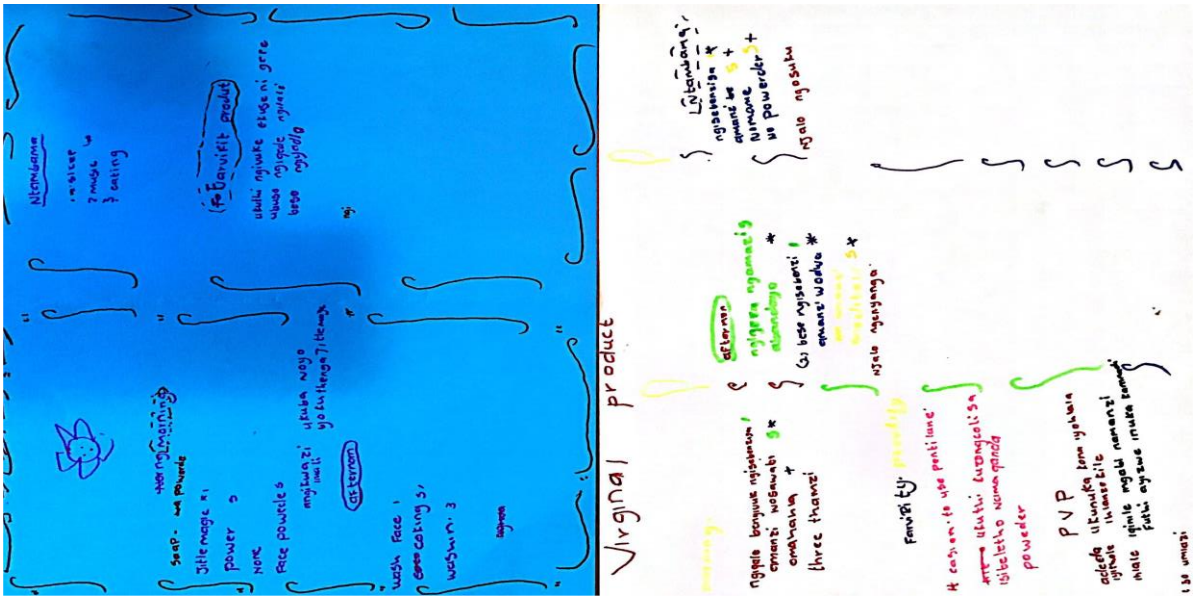

Figure 6.12**: P 4, Umlazi, 27 August 2021.**

Table 6.14 illustrates a brief description of what is written on the participant's map in Figure 6.12.

Vaginal products	**General products**
She uses cold water with salt in the morning, and then during the day, she uses plain cold water during the night. She rated water on a scale of 5 being the most important vaginal product. Water is also the easiest to use. She finds water to be her favourite and best product because it eliminates vaginal odour and maintains the cleanliness of the vagina. It also causes the vagina to be tight and not wet.	She mentions gentle magic, face powder, and soap daily for her general product use.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for clear skin. In contrast, her vaginal product usage is motivated by hygiene, maintaining vaginal tightness, and ensuring that her vaginal area is not wet and free of vaginal odour P 3, Umlazi, 27 August 2021).

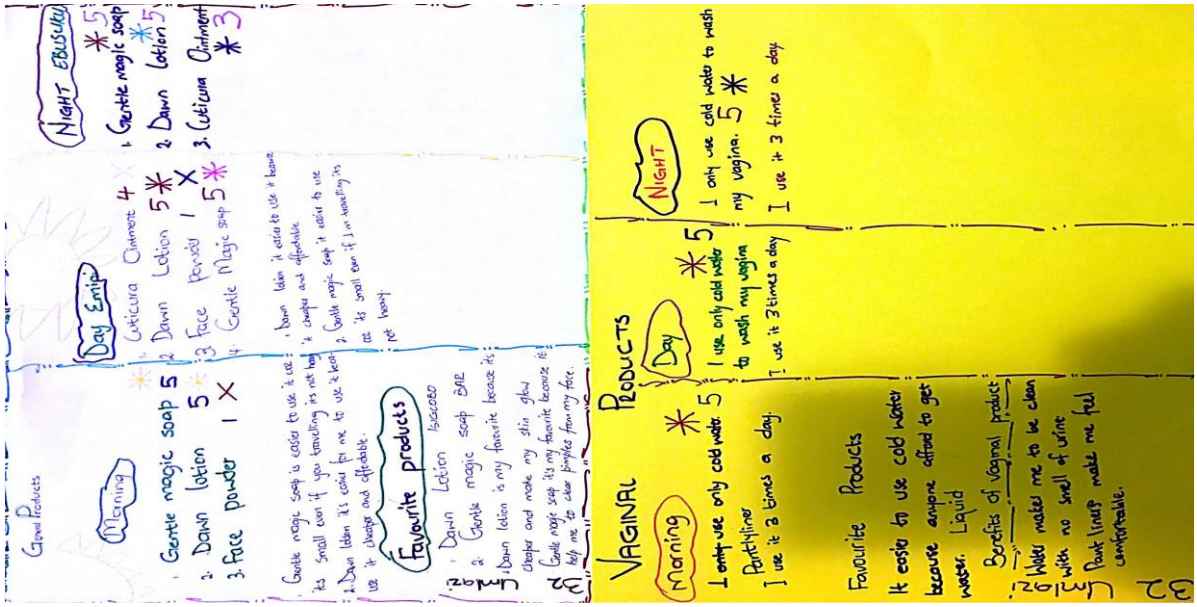

Figure 6.13**: P 5, Umlazi, 27 August 2021.**

Table 6.15: Table illustrating a brief description of what is written on the participant's map in Figure 6.13.

Vaginal products	**General products**
In the morning, the vaginal product she uses is cold water, which she uses during the day and night, which means she uses cold water 3 times a day. She rated water on a scale of 5 as the most important product. She also found cold water to be the easiest to use. Water is also her favourite and best product to use because water makes her clean with no smell of urine left behind.	She mentions gentle magic soap, Dawn lotion and face powder daily for her general product use. she mentions that dawn lotion and gentle magic are her favourite products because they are cheaper. They make her skin glow, and gentle magic clears pimples giving her clear skin. She rates the gentle magic and dawn as important, rating 5 out of 5.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for clear, smooth, glowing skin, while her vaginal product usage is motivated by hygiene (P 3, Umlazi, 27 August 2021).

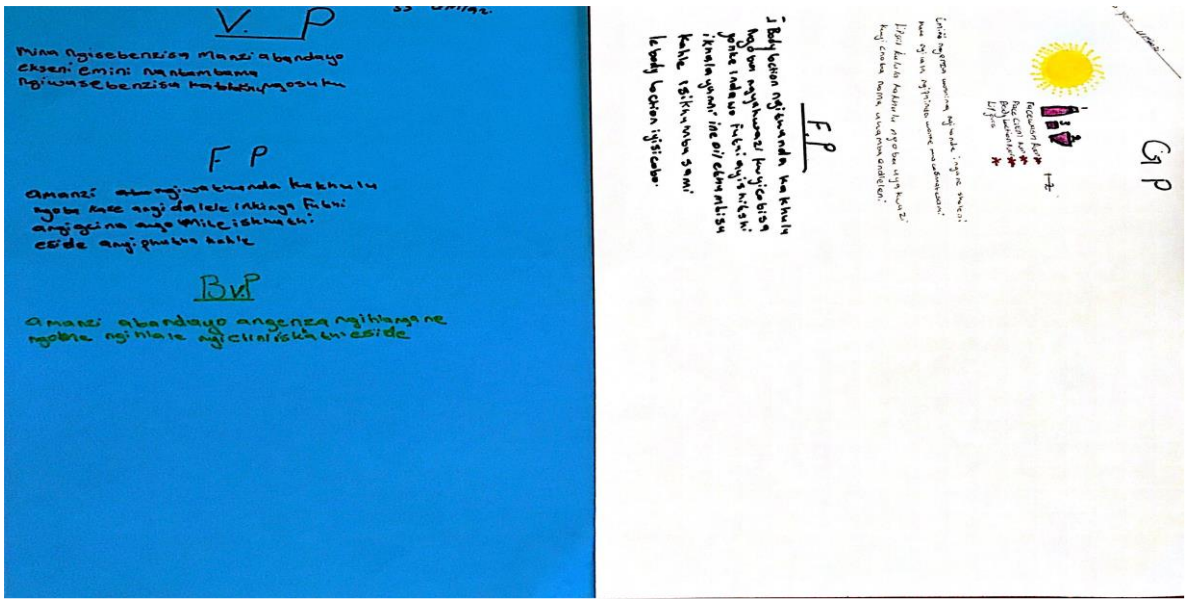

Figure 6.14**: P 6, Umlazi, 27 August 2021.**

Table 6.16 illustrates a brief description of what is written on the participant's map in Figure 6.14.

Vaginal products	**General products**
She uses cold water as a vaginal product 3 times a day in the morning, during the day and at night. Her favourite product to use is cold water because it maintains the cleanliness of the vagina, keeping it tight and odour free. Water is also her best product; it keeps her tight and her vagina always clean.	For her general product use, she mentions Avon's face was Avon face cream, body lotion and lip gloss that she uses daily. She notes that the Avon body wash is her favourite product because she can use it on her whole body and face leaving her moisturised.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for moisturised skin, while her vaginal product usage is motivated by hygiene and vaginal tightness (P 3, Umlazi, 27 August 2021).

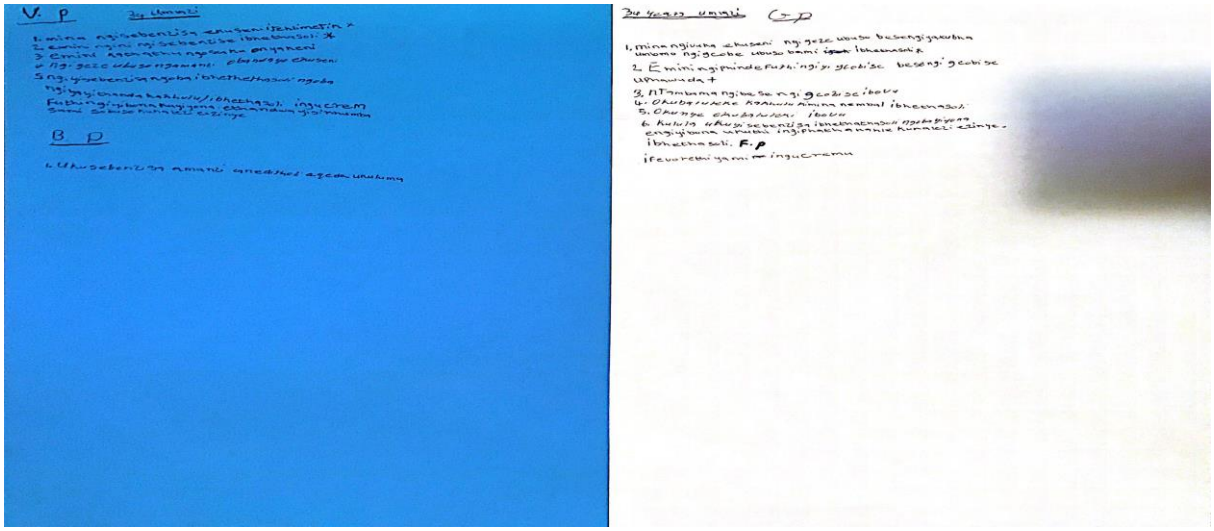

Figure 6.15**: P 7, Umlazi, 27 August 2021.**

Table 6.17 briefly describes what is written on the participant's map in Figure 6.15.

Vaginal products	**General products**
She uses cold water mixed with Dettol as a vaginal product to eliminate itching around the vaginal area. Water-mixed Dettol is also her best vaginal product, as it eliminates itching.	She mentions that she uses betasol, face powder, orange clay, and face cream daily for her general product use. she says that her face cream is her favourite because it keeps her skin smooth.

She spends more money on general product use in contrast to vaginal use. Her general product use is motivated by the need for moisturised skin, while her vaginal product usage is motivated by hygiene and eliminating vaginal itching (P 3, Umlazi, 27 August 2021).

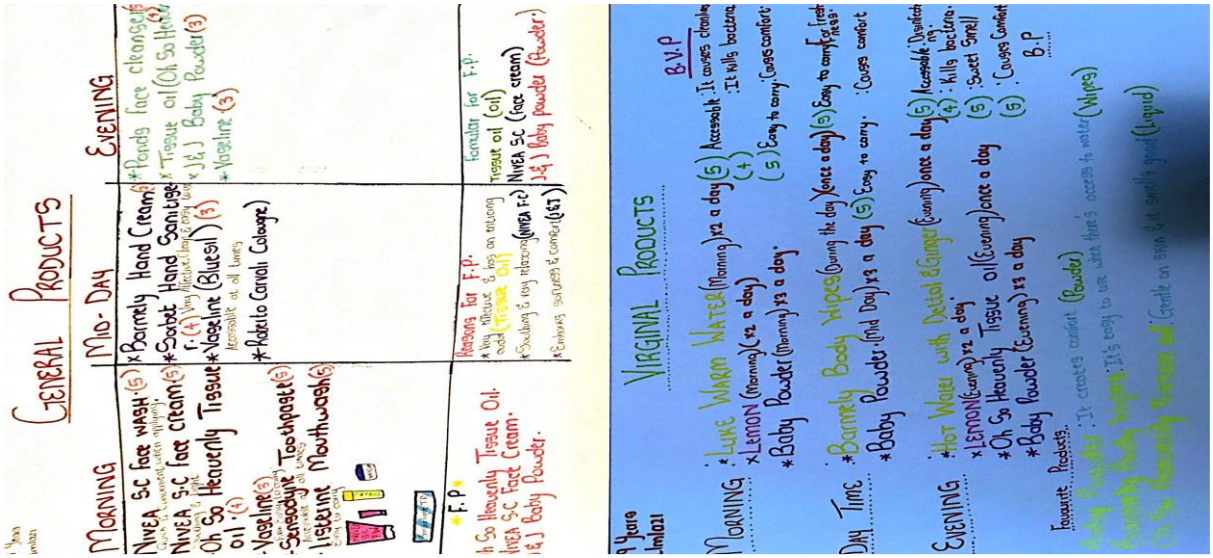

Figure 6.16**: P 8, Umlazi, 27 August 2021.**

Table 6.18: Table illustrating a brief description of what is written on the participant's map in Figure 6.16.

Vaginal products	**General products**
The vaginal products she uses are a variety. In the morning, she uses lukewarm water and lemon to cleanse the vagina and then applies the baby powder. During the day, she uses Barmely body wipes to wipe the vaginal area and applies baby powder to maintain freshness. In the evening, she uses hot water with Dettol and ginger and sometimes adds lemon. She then applies oh-so heavenly tissue oil and baby powder. She rated a scale of 5 of high importance to lukewarm water, baby powder, Barmely body wipes, water with Dettol and ginger, and oh-so heavenly tissue oil. However, the product she found easiest to use among them is lukewarm water. Her favourite products are baby powder, Barmely body wipes, and oh-so-heavenly tissue oil. This is because baby powder creates comfort for her, while the body wipes are easy to use even when there is no access to water. The product she finds best to use	For her general product use, she mentions a range of store-bought products such as Nivea face wash, Nivea face cream and oh-so heavenly tissue oil daily. She mentions that her favourite product is the oh-so-heavenly tissue oil because it smells good and makes her skin soft. She rates the Nivea face wash and Nivea face cream as very important, rating 5 out of 5.

is lukewarm water as it is accessible and kills bacteria keeping the vagina clean.	

One can argue that she spends equal money on general and vaginal products. Her general product use is motivated by the need for moisturised, glowing skin. At the same time, her vaginal product usage is motivated by hygiene and eliminating vaginal odour and bacterial infections (P 8, Umlazi, 27 August).

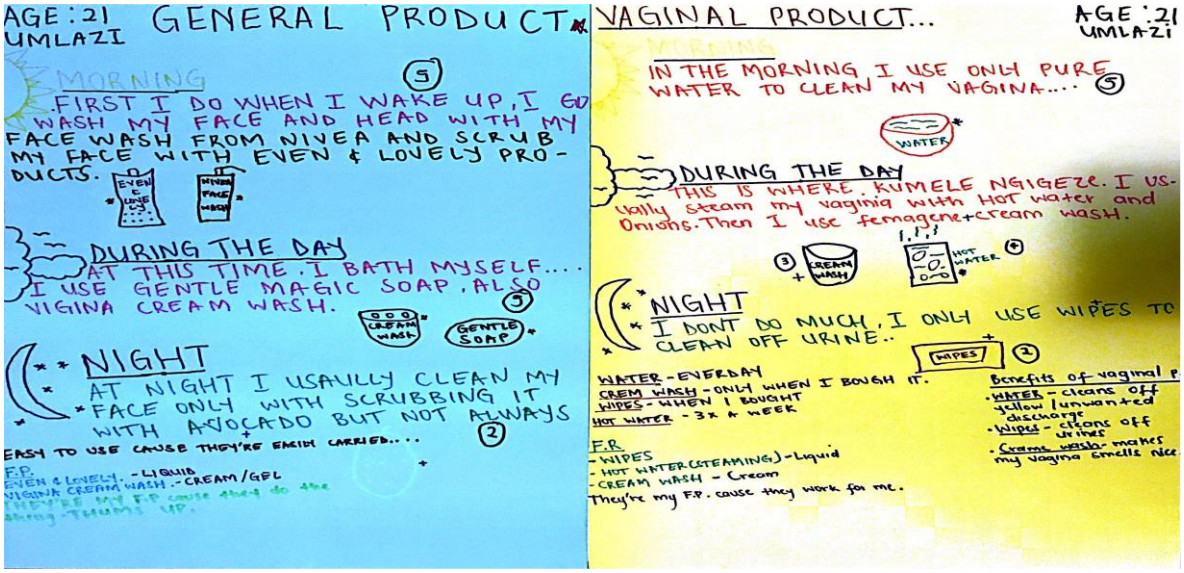

Figure 6.17**: P 9, Umlazi, 27 August 2021.**

Table 6.19: Table illustrating a brief description of what is written on the participant's map in Figure 6.17.

Vaginal products	**General products**
In the morning, she uses only pure water to clean her vagina. During the day, she steams the vagina with hot water and onions. Then she rinses the vagina with a female cream wash (intimate wash bought over the counter to cleanse the vaginal area). She does not put much effort into her cleansing routine at night, as she only uses wipes to clean off her urine. She rated pure water on a scale of 5 of importance to her and found pure water to be the easiest product to use. Her favourite products are wipes, steaming with	She mentions a range of store-bought products she uses daily for her general product use. These products are Nivea face wash, Even and Lovely face toner, and Vigina face cream. She mentions that her favourite product is even and lovely face toner because it makes her skin smooth. She rates the Vigina face cream as important, rating 5 out of 5.

water and the female cream wash because these products give her good results and work for her.	

She spends an equal amount of money on both general and vaginal products. Her general product use is motivated by the need for moisturised, glowing skin. At the same time, her vaginal product usage is motivated by hygiene (P 9, Umlazi, 27 August 2021).

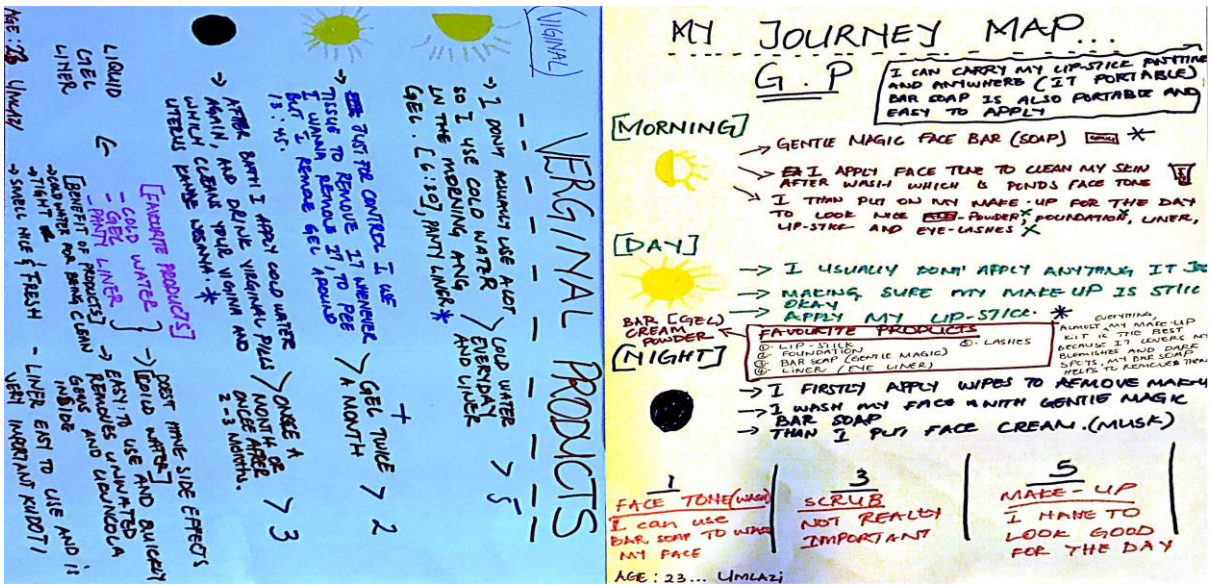

Figure 6.18**: P 10, Umlazi, 27 August 2021.**

Table 6.20: Table illustrating a brief description of what is written on the participant's map in Figure 6.18.

Vaginal products	**General products**
She also uses various vaginal products, but in the morning, she uses cold water and intimate gel and wears a panty liner. During the day, she wipes herself with tissue after urinating and does not use any other product. At night she uses cold water again and drinks vaginal pills, which clean the vagina, uterus and bladder. She rated cold water on a scale of 5 of importance as a vaginal product. She also finds cold water to be the	For her general product use, she mentions the gentle magic face bar. Ponds face toner and make-up daily. She mentions that make-up is her favourite product because she needs to look good throughout the day. she rates make-up as very important, rating 5 out of 5.

easiest product to use. Her favourite products are cold water, intimate gel and panty liners. This is because cold water does not have side effects, and the intimate gel removes bacteria in the vagina. The pantyliners are easy to use and maintain the cleanliness of the vagina.	

She spends more or less an equal amount of money on general and vaginal products. Her general product use is motivated by the need for beautiful skin. At the same time, her vaginal product usage is motivated by hygiene (P 10, Umlazi, 27 August 2021).

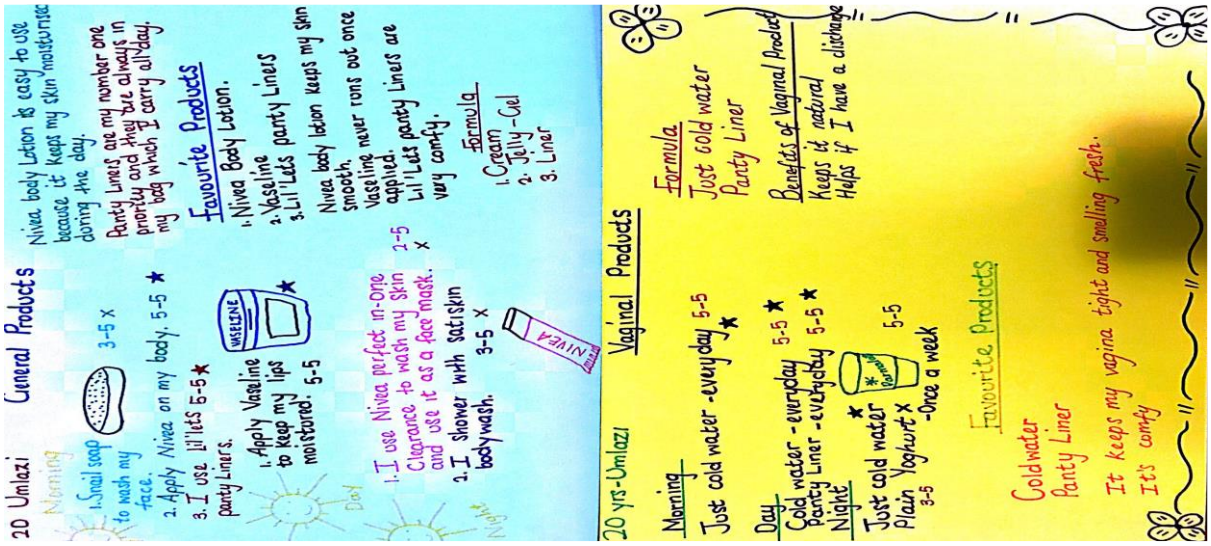

Figure 6.19**: P 11, Umlazi, 27 August 2021.**

Table 6.21 illustrates a brief description of what is written on the participant's map in Figure 6.19.

Vaginal products	**General products**
In the morning, she uses plain cold water; during the day, she also uses cold water and wears a panty liner. At night she uses cold water again and applies plain yoghurt to the vaginal area once a week. She rated cold water on a scale of 5 of importance to her and found water to be the easiest product to use. Her favourite products are cold water and pantyliners, which keep her	She mentions that she uses snail soap, Nivea body lotion and Vaseline daily for her general product use. she mentions that vaseline is her favourite product because it keeps her moisturised and prevents skin drying. she rates Nivea body lotion as very important, rating 5 out of 5.

vagina tight and smelling fresh and comfortable. All these products' benefits are keeping her vagina clean with no vaginal discharge.	

She spends more or less an equal amount of money on general and vaginal products. Her general product use is motivated by the need for moisturisation. At the same time, her vaginal product usage is motivated by hygiene, eliminating vaginal odour, and maintaining vaginal tightness P 11, Umlazi, 27 August 2021).

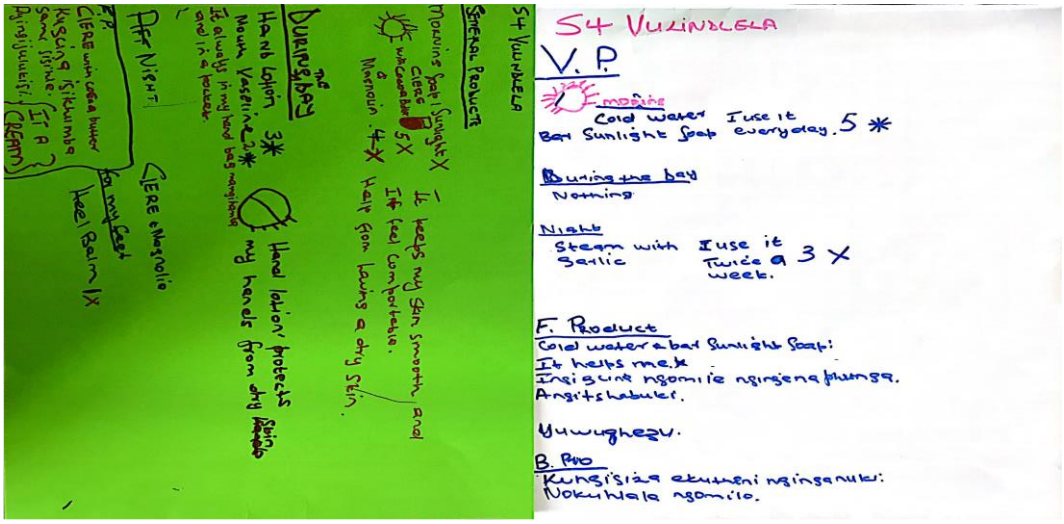

Figure 6.20**: P 1, Vulindlela, 31 August 2021.**

Table 6.22 illustrates a brief description of what is written on the participant's map in Figure 6.20.

Vaginal products	**General products**
She uses cold water and sunlight-green bar soap to cleanse the vagina in the morning. During the day, she does not use any product. At night she steams the vagina with water and garlic twice a week. She gave cold water and sunlight a scale 5 rating which is the highest level of importance to her. Water and sunlight are also the easiest products for her to use. Her favourite products to	She mentions using sunlight green bar, Clare cocoa butter and magnolia tissue oil daily for her general product use. She mentions that her favourite product is Clare cocoa butter because it keeps her skin moist. She rated Clare cocoa butter a rating of 5 importance and magnolia tissue oil a 4.

use are cold water and sunlight green bar soap these are her favourite products to use because it keeps her vagina dry with no smell.	

She spends more or less an equal amount of money on general and vaginal products. Her general product use is motivated by the need for moisturisation. At the same time, her vaginal product usage is motivated by hygiene and eliminating vaginal odour (P 1, Vulindlela, 31 August 2021).

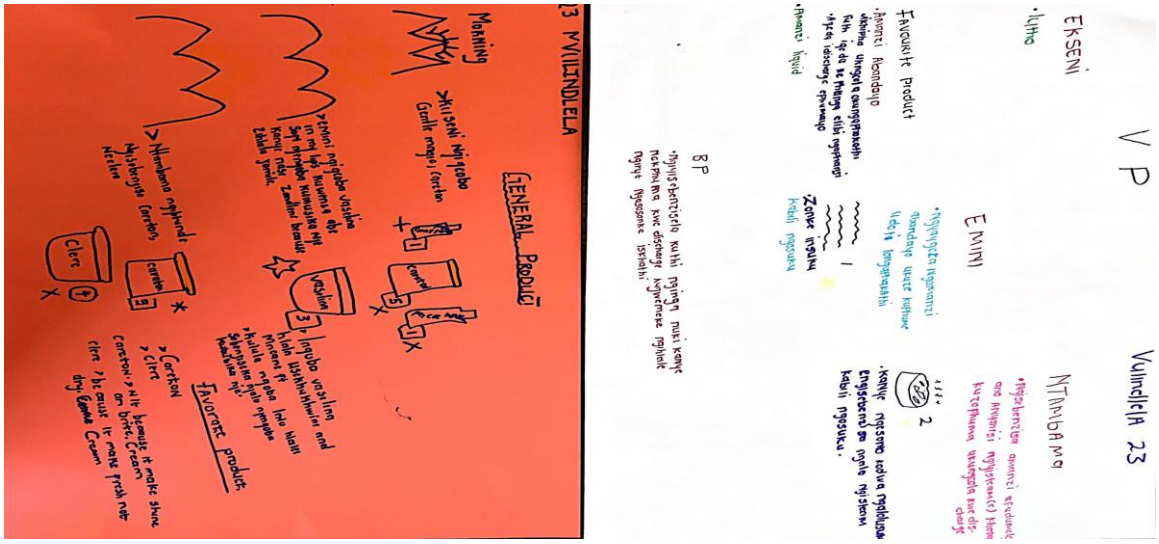

Figure 6.21**: P 2, Vulindlela, 31 August 2021.**

Table 6.23 illustrates a brief description of what is written on the participant's map in Figure 6.21.

Vaginal products	**General products**
In the morning, she does not use any vaginal product; however, she baths and cleanses the vagina with cold water during the day. At night she steams the vagina with water and onions to extract any bacteria in the vagina and prevent vaginal discharge. She found water to be the easiest product to use and is her favourite product. The benefits of using cold water to	For her general product use, she mentions that she uses gentle magic face toner, Carleton cream, vaseline and Clere daily. she mentions that her favourite product to use is Carleton cream and clere because they moisturise her skin, keeping it smooth. she rates the carton cream an important 5 and rates clere a 4.

cleanse and steam with onions are that it helps her prevent vaginal odour and vaginal discharge.	

She spends less money on vaginal products as most of the things she uses are household products in contrast to available products. Her general product use is motivated by the need for moisturisation, while her vaginal product usage is motivated by hygiene and eliminating vaginal odour and discharge (P 2, Vulindlela, 31 August 2021).

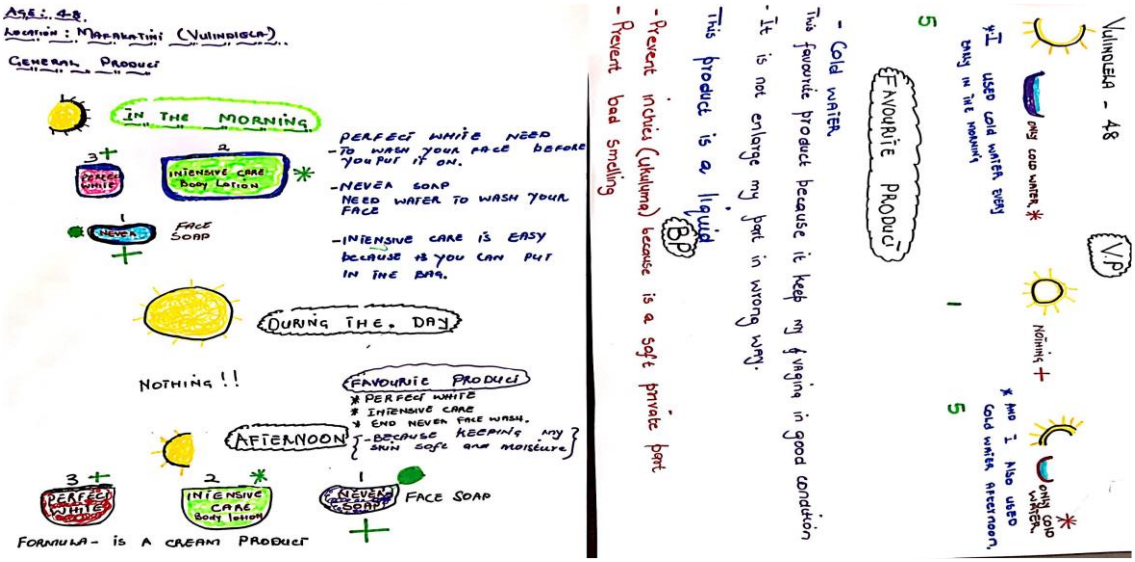

Figure 6.22**: P 3, Vulindlela, 31 August 2021.**

Table 6.24 illustrates a brief description of what is written on the participant's map in Figure 6.22.

Vaginal products	**General products**
In the morning, she only uses cold water and does this daily. During the day, no product is used. In the evening, she uses cold water. She finds water the easiest product to use and is her favourite product because it keeps her vagina in good condition and does not enlarge the vagina. The benefits of using water are that it prevents itchiness in the vagina and bad odour.	She mentions that she uses perfect white cream, intensive care body lotion and Nivea face soap for her daily product use. She mentions that her favourite products are perfect white cream, intensive care lotion and the Nivea face wash. Her favourite products are because they keep her skin moisturised. she rated perfect white cream 5 importance.

She spends no money on vaginal products as she uses only cold water compared to available products. Her general product use is motivated by the need for moisturisation, while her vaginal product usage is motivated by hygiene, eliminating vaginal odour, discharge and vaginal tightness (P 3, Vulindlela, 31 August 2021).

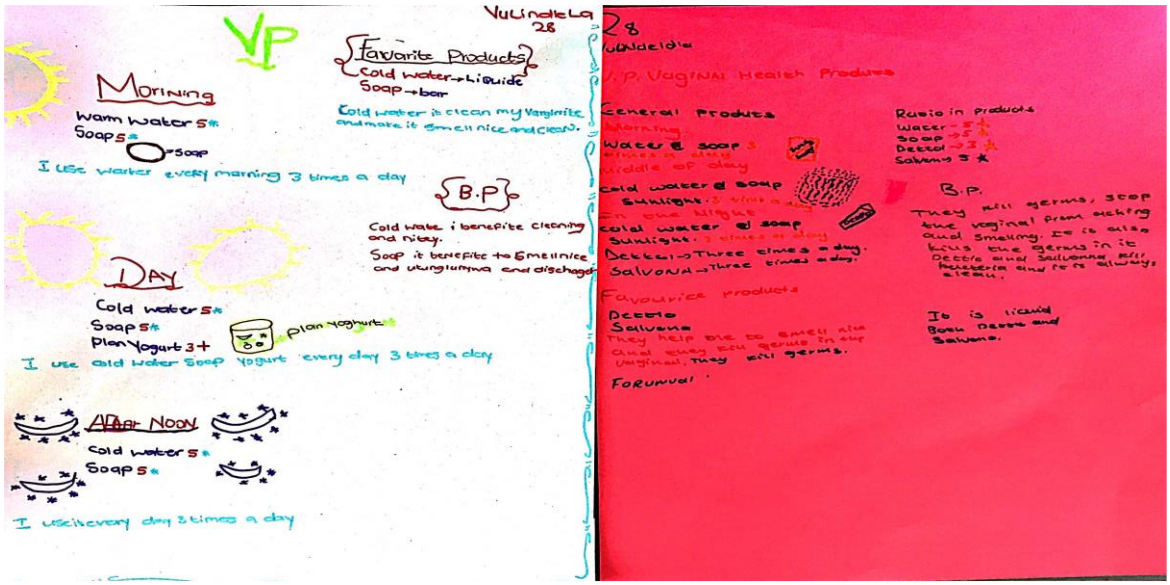

Figure 6.23**: P 4, Vulindlela, 31 August 2021.**

Table 6.25 illustrates a brief description of what is written on the participant's map in Figure 6.23.

Vaginal products	**General products**
The vaginal product she uses in the morning is cold water and sunlight green bar soap; she also uses this during the day and repeats this at night; however, she adds Dettol or savlon, which is done only three times a week. She finds cold water and sunlight green bars the easiest products to use. Her favourite products to use are Dettol and salon. They kill germs and prevent the vagina from smelling and itching.	She mentions that she uses carrolite, orange clay, and gentle magic daily for her general product use. she notes that her favourite products are carrolite and orange clay because it protects her skin from the sun. The carrolite moisturises her skin. she rates the orange clay and carrolite as very important, rating them 5 out of 5.

She spends more or less an equal amount of money on vaginal and general products. Her general product use is motivated by the need for moisturisation and sun protection, while her vaginal product usage is motivated by hygiene, eliminating vaginal odour and discharge (P 4, Vulindlela, 31 August 2021).

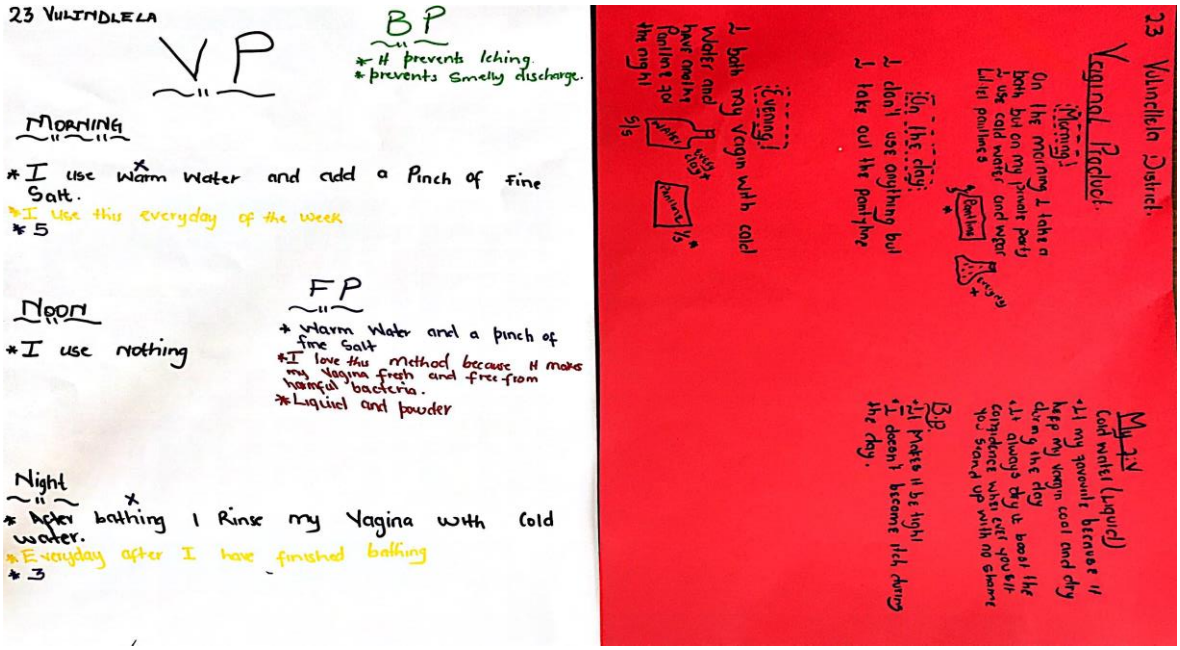

Figure 6.24**: P 5, Vulindlela, 31 August 2021.**

Table 6.26 illustrates a brief description of what is written on the participant's map in Figure 6.24.

Vaginal products	**General products**
She uses cold water to cleanse the vagina and wears a pantyliner in the morning. During the day, she uses no product but takes off the pantyliner. In the evening, she uses cold water. She rated cold water on a scale of 5 high importance to her. She finds using cold water the easiest; it is her favourite product because it keeps the vagina clean and dry during the day. This always boosts her confidence whenever she stands up. Cold water makes the vagina tight and helps the vagina not to be itchy during the day.	When accessing both journey maps, it was noted that the participant wrote on vaginal products only.

According to the data, she only uses cold water and wears a pantyliner, meaning that she spends very little money on the vaginal product she uses. Her motivation for using these products is to maintain good vaginal hygiene and maintain vaginal tightness (P 5, Vulindlela, 31 August 2021).

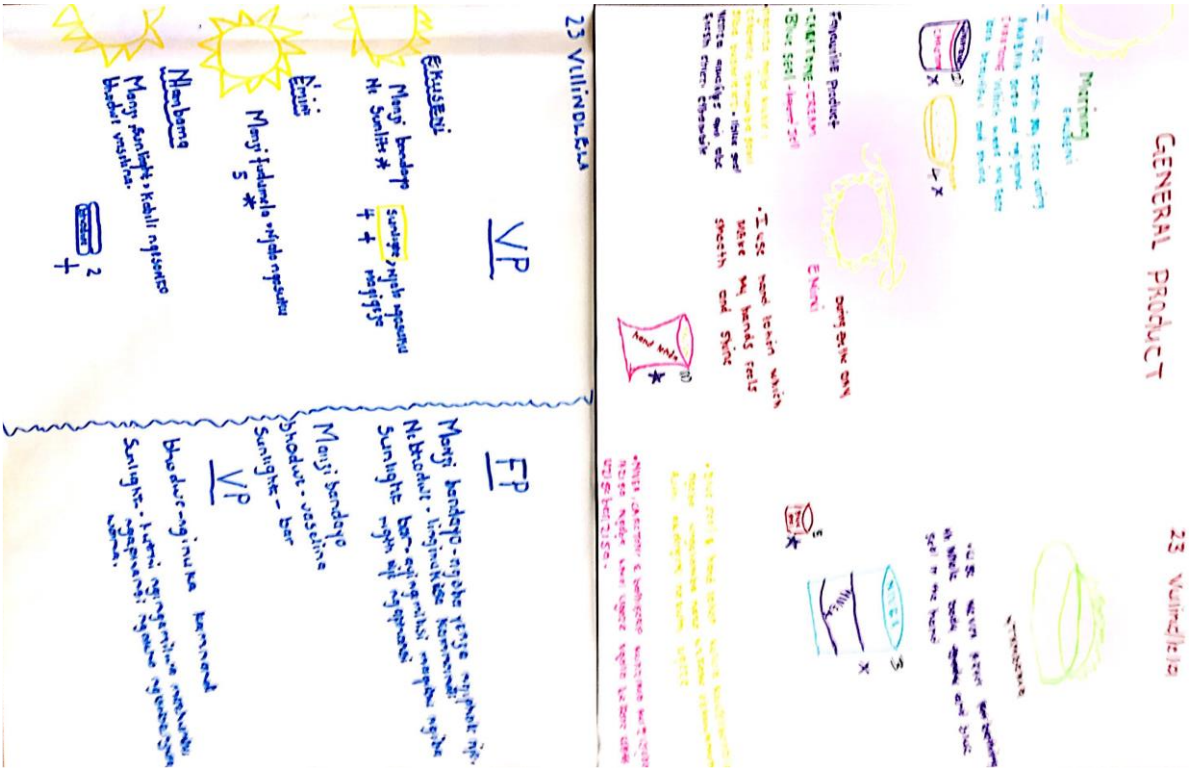

Figure 6.25**: P 6, Vulindlela, 31 August 2021.**

Table 6.27 briefly describes what is written on the participant's map in Figure 6.25.

Vaginal products	**General products**
She uses cold water and sunlight in the morning to cleanse herself. During the day, she uses just water and nothing else to repeat the cleansing process. She uses water and sunlight at night and then applies "ibhodwe Vaseline" in the vaginal area. She rated cold water on a scale of 5, which is highly important. She also finds using warm water the easiest thing to use. Her favourite vaginal products to use are cold water and sunlight along with "ibhodwe Vaseline" cold water helps her stay cool in the vaginal area, and ibhodwe Vaseline helps her vaginal area smell fresh. In contrast, sunlight green bar soap keeps her clean and aids with skin irritation.	She mentions that she uses caratone face cream, blue seal Vaseline, and Nivea body lotion for her general product use. She mentions that caratone face cream and blue seal are her favourite products because they protect and moisturise her skin, making it smooth. she rates the blue seal Vaseline and caratone very important, with a rating of 5 out of 5.

She spends more money on general product use than she prepared for vaginal product use. The need for moisturisation and smooth skin drives her general product use. In contrast, her vaginal product usage is driven by the need to prevent negative outcomes in her vaginal area (P 6, Vulindlela, 31 August 2021).

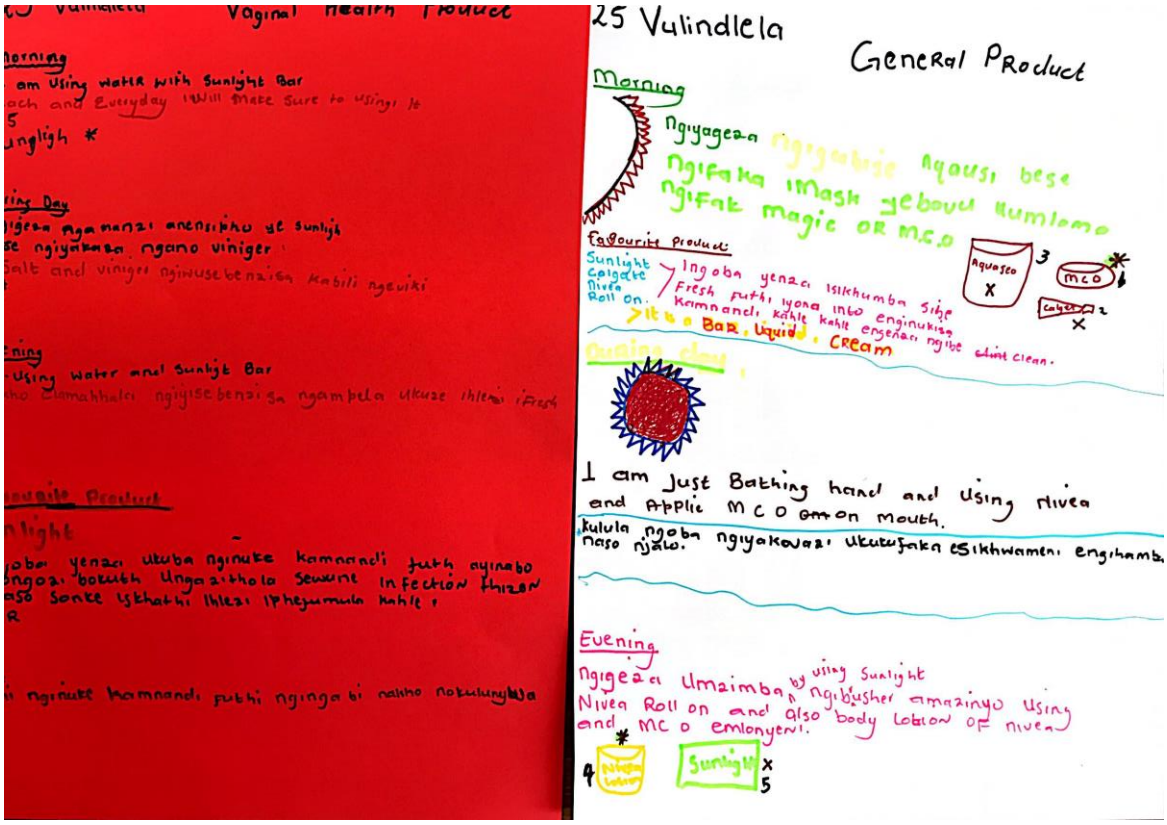

Figure 6.26**: P7, Vulindlela, 31 August 2021.**

Table 6.28 illustrates a brief description of what is written on the participant's map in Figure 6.26.

Vaginal products	**General products**
The vaginal products she uses in the morning are water and sunlight-green bar soap. During the day repeats, the cleansing process is done by using water and sunlight. She then rinses the vaginal area with water mixed with vinegar. In the evening, she uses cold water and sunlight green bar soap to cleanse the vaginal area again. She gave the water and sunlight green bar a rating on a scale of 5, indicating that these products are of great importance to her. She also finds these	She mentions that she uses Aqueous cream, MCO, orange clay, and sunlight green bar daily. She notes that the sunlight green bar is her favourite product because it is a mild soap. she rates it as very important, with a rating of 5 out of 5. for her general product use.

products to be the easiest to use. Her favourite product is sunlight green bar soap because it helps her remain fresh and clean and eliminates vaginal odour; it is not harsh to the vaginal area and helps fight vaginal infections.	

She spends more money on general product use than she prepared for vaginal use. The need for cleanliness drives her general product use. In contrast, her vaginal product usage is driven by the need to prevent negative outcomes in her vaginal area, such as having a vaginal infection and fighting foul vaginal odour (P 7, Vulindlela, 31 August 2021).

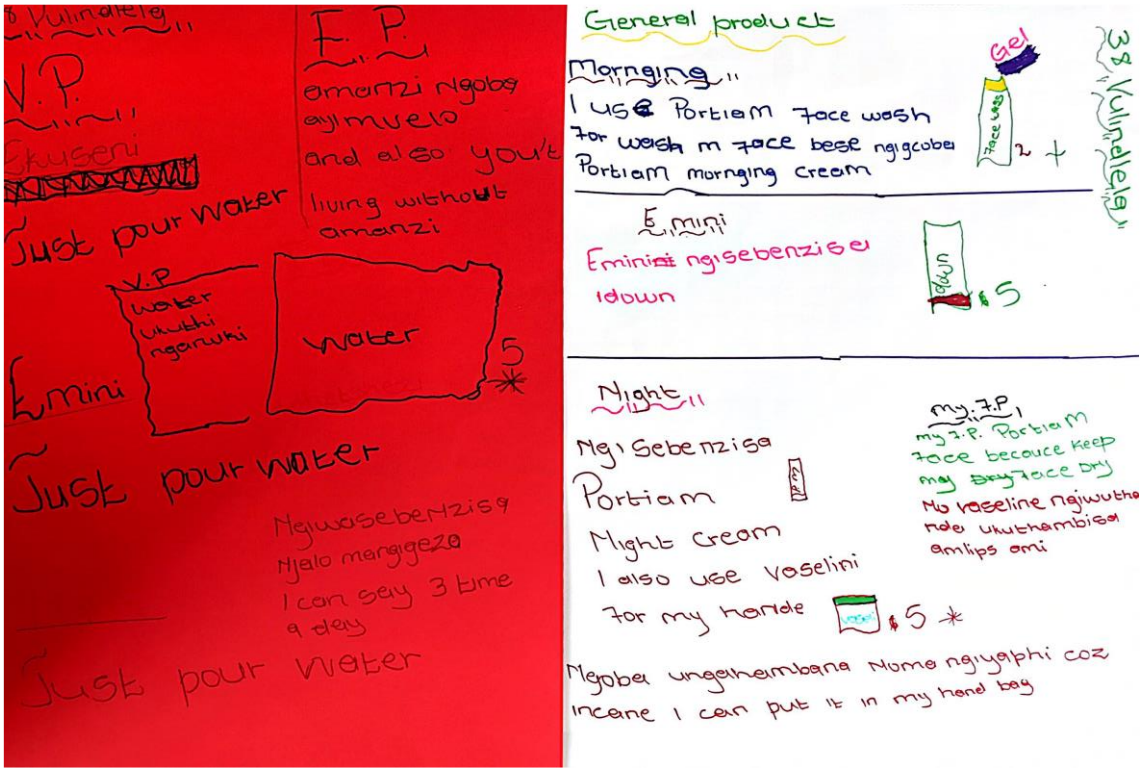

Figure 6.27**: P 8, Vulindlela, 31 August 2021.**

Table 6.29 illustrates a brief description of what is written on the participant's map in Figure 6.27.

Vaginal products	**General products**
In the morning, she uses pure water to cleanse the vaginal area. During the day, she uses water again and repeats the process at night. She finds	She mentions that she uses Portia M face wash, dawn lotion and Vaseline for her general product use daily. She notes that Portia M's face wash and

using water to cleanse herself highly important, as she rated pure water on a scale of 5. She also finds pure water to be the easiest product to use, and it remains her favourite product because water is natural with no chemicals, so she finds it safe and comforting to use.	Vaseline are her favourite products because the face wash cleanses her face and keeps her moisturised. She rates the Portia M face wash and Vaseline as important, rating 5 out of 5.

She spends more money on general product use than she prepared for vaginal use. The need for moisture and clear skin drives her general product use. In contrast, her vaginal product usage is driven by the need to prevent negative outcomes and discomfort in her vaginal area (P 8, Vulindlela, 31 August 2021).

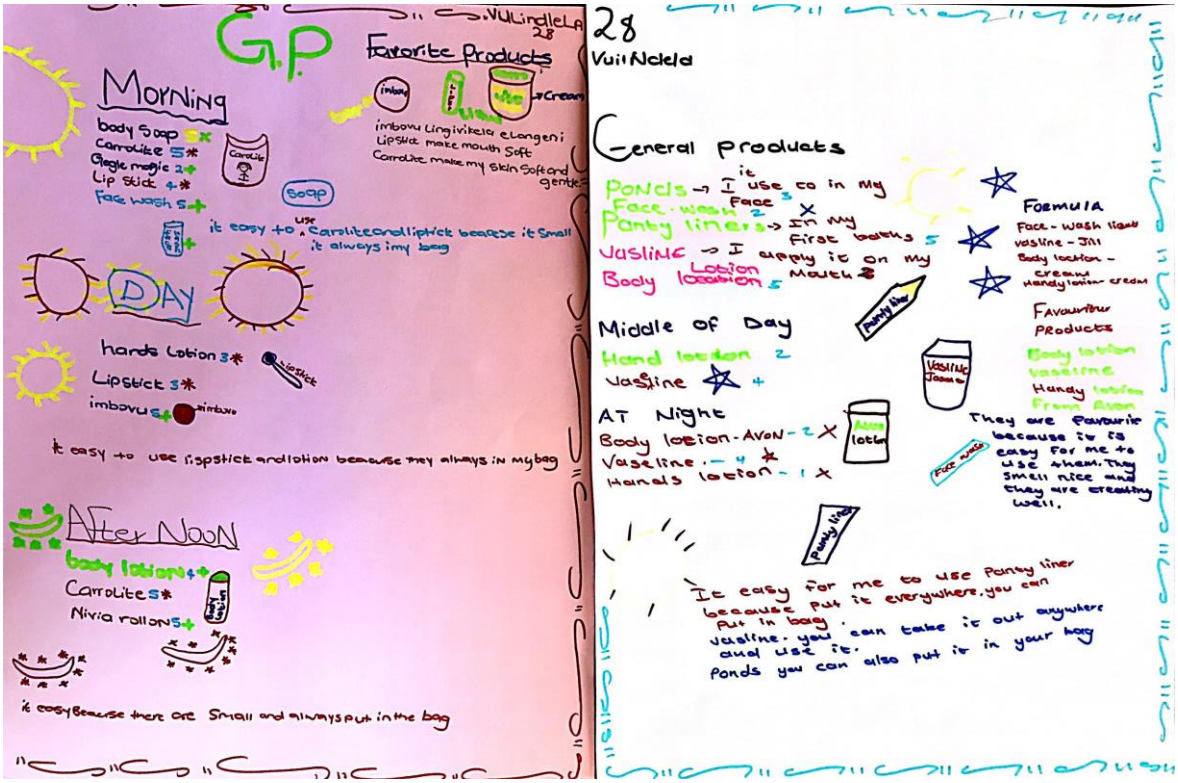

Figure 6.28**: P 9, Vulindlela, 31 August 2021.**

Table 6.30 illustrates a brief description of what is written on the participant's map in Figure 6.28.

Vaginal products	**General products**
The vaginal products she uses in the morning are water and soap. During the day, she uses cold	She mentions that she uses ponds face wash, Vaseline, body lotion and hand lotion daily for

water and soap; however, occasionally, this is accompanied by the application of plain yoghurt in the vaginal area. Water and soap are of high importance to her as she gave them a rating on a scale of 5, which is the highest rating; she finds these products to be the easiest products to use and are her favourite products because cold water cleanses the vagina leaving it smelling nice and clean.	her general product use. she mentions that her favourite product is Vaseline because it is not harsh on the face. She rates Vaseline as very important, rating 5 out of 5.

She spends more money on general product use than she prepared for vaginal use. The need for moisture and clear skin drives her general product use. In contrast, her vaginal product usage is driven by the need to avoid vaginal odour and irritation and to keep the vagina clean (P 9, Vulindlela, 31 August 2021).

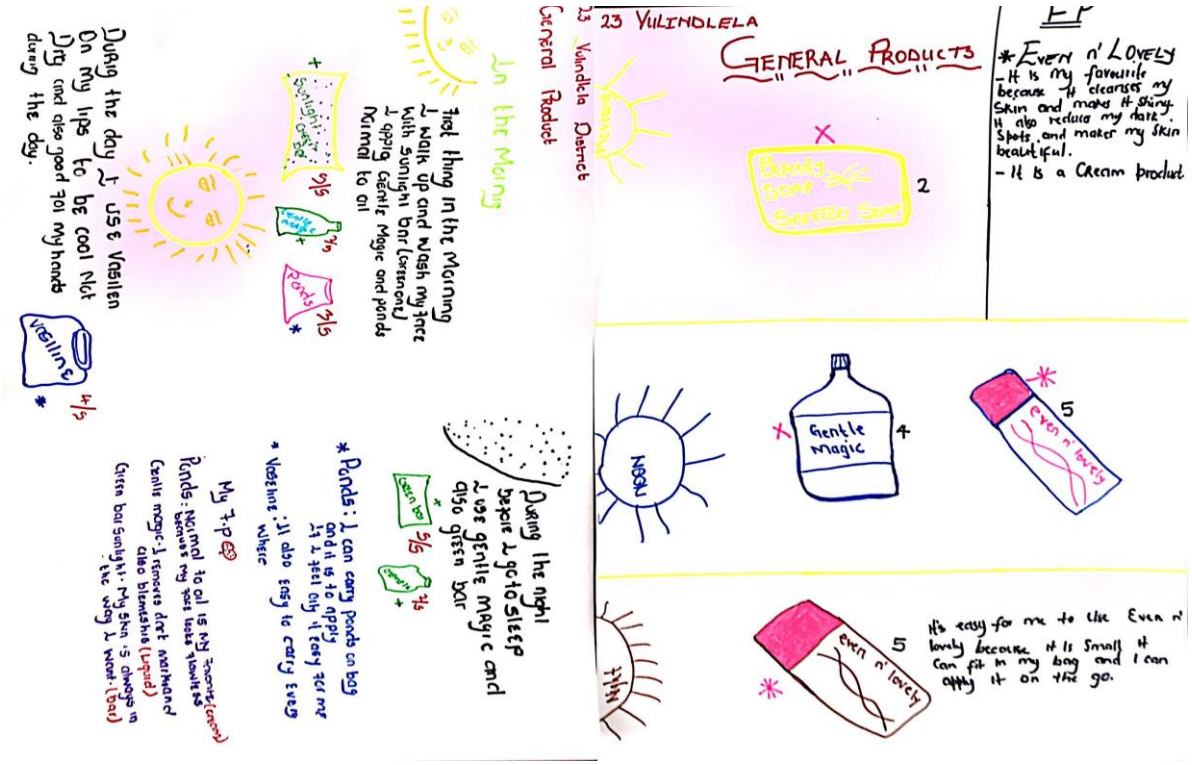

Figure 6.29**: P 10, Vulindlela, 31 August 2021.**

Table 6.31 briefly describes what is written on the participant's map in Figure 6.29.

Vaginal products	**General products**
The vaginal product she uses in the morning is warm water, and she adds a pinch of fine salt to the cleansing water. At noon she uses no product, and at night after bathing, she rinses her vagina with cold water. She does this every day after bathing. Warm water with a pinch of salt is highly important to her. she Rated it on a scale of 5, the highest rating. She also finds it to be the easiest product to use. Warm water and a pinch of salt are her favourite products because they make her vagina fresh and protected from harmful bacteria. Warm water and salt help her prevent itching and smelly discharge in the vaginal area.	She mentions that she uses santoor bar soap, gentle magic and even n' lovely face cream daily for her general product use. She notes that even n' lovely is her favourite product because its cleanses are skin-reducing oil and eliminate spots on the face. She rates even n' lovely significant, rating 5 out of 5 and rates gentle magic 4.

She spends more money on general product use than she prepared for vaginal use. The need for clear skin drives her general product use. In contrast, her vaginal product usage is driven by the need to avoid vaginal odour and irritation and to keep the vagina clean (P 10, Vulindlela, 31 August 2021).

6.3.2 Summary of the visual data

In summary, women from the three different study sites had some perceptions of vaginal products that were similar and some different. The women across the sites were women ranging from 18 years and above. Their vaginal product preferences were fairly consistent. However, the frequency with which the product was used varied. Some women used the product regularly, while others used it sparingly. This was determined by the product's use, which means that some products are used more than others. For example, there was a significant preference for plain cold water regularly over vaginal steaming, which is just as popular among women but not as regular as plain water. As mentioned, the use of the product determined how regularly it was used. For instance, vaginal products meant for sexual enhancement, such as vaginal dryness, warmth, and wetness, were used more regularly. These products range from plain cold water to sunlight green bar soap and many others. Other regular products were used to prevent vaginal infections, vaginal discharge, and STIs. These were products again like cold water, vaginal steaming using onions, and drinking various concoctions. Women also gave preference to products that helped them maintain basic hygiene.

According to the data analysed, the critical difference observed between general product usage amongst the women within the three study sites was that most women are willing to spend more money on acquiring general body cosmetic products for self-care, beauty and moisture of the skin. One may elude to the fact that these women are willing to spend money to enhance their looks when one observes their buying habits towards general products. However, when it comes to vaginal products, the majority of the women from the three study sites are not much motivated to buy vaginal products but rather make their products at home using readily available household products, traditional herbs, water and any other available product that will not cost them much. Women are motivated to use these products to enhance their male partners' sexual pleasure, maintain good vaginal health and prevent any vaginal-related infection.

The journey mapping activity was quite engaging for the women as an art-based research methodology. It was highly instrumental in addressing the study enquiry on the acceptability and choice of vaginal health products amongst the women in KZN and encouraging women's inclusivity in clinical product development.

However, some women did not answer all the journey mapping questions yet tried by all means necessary to answer what they could and engage with the fun activity. Therefore, this element of the methodology necessitated other research methodologies to assist in its shortcomings in this study. This

research methodology was coupled with two more research methodologies: focus group discussions and reflexive journaling activity. This was done to ensure that women were engaged in the study in every way possible. The focus group discussions compensated for the parts where the women could not express themselves during the journey mapping activity or follow the instructions.

6.4 Section two of the data presentation

This section presents data with generated themes from focus group discussions and reflexive journals. The data will be clearly labelled as coming from a focus group discussion or a reflexive journal, with the participant's location and age, where possible. Because the women were allowed to converse openly as they would under normal circumstances during the FGD, age could not be captured as participants spoke but were captured in the reflexive journals as it was written along with the participant's location.

After analysing the data from the focus groups across the study sites, the following themes were identified:

- **Theme one:** Vaginal products for sexual benefits
    - Male sexual pleasure
    - Vaginal warmth and tightness
- **Theme Two:** Application preference
- **Theme Three:** Vaginal hygiene maintenance
- **Theme Four:** Vaginal practices within the African culture
    - Sources of vaginal products

The themes identified in the reflexive journaling exercise were the following:

- **Theme one:** HIV education through research participation
    - HIV education through research participation
- **Theme two:** Direct participation in research increased the women's sense of worth

6.4.1 Focus group theme one: Vaginal products for sexual benefits

Under this theme, women reported using vaginal products for sexual benefits in two ways. Most women reported using various vaginal products to modify the vaginal area through vaginal tightening and enhanced vaginal warmth. Secondly, the women also reported using vaginal products to influence/achieve/ensure/enhance sexual pleasure for the male sexual partner.

6.4.1.1 Male sexual pleasure

Women in all three sites reported using a range of vaginal products for sexual benefits with their male partners, primarily to give sexual pleasure to the male partner to maintain or retain a relationship, as evident in the following quotes.

> *Mabhebeza. You get it from the ocean and put it in the bucket. When it grows, it makes your partner remain with you and not leave you. They make tea using it*. (Umlazi FGD, 27 August 2021).

> *Another thing is also locansi (A powdered substance generally condensed with Stoney, warm water or juice and consumed for sexual pleasure); it is like a maize meal. You can buy it from a traditional chemist. You can mix it with Stoney, warm water, or juice. When you are having sexual intercourse with your partner, your partner doesn't leave you.* (Vulindlela FGD, 31 August 2021).

> *Another thing that they do is that they take Stoney and mix it with halls so that the vagina is sexually pleasurable when they are going to visit the man*. (Cato crest FGD, 26 August 2021).

> *Yes, it looks like a flower. You take it and boil it, and then you put it aside while you wait for it to be cold. And then you drink it, but when you drink it, you must be careful and drink it may be in the morning if you are going to meet your partner later in the afternoon. Then when you get to him, it will be till the morning* (Umlazi FGD, 27 August 2021).

> *You put the halls inside the Stoney and let it dissolve. Then you drink it Before you go to him. Suppose you happened to be mischievous and cheated with another man. I drink it and wait a while. It doesn't show that you were having sexual intercourse with another man, and the next man has sexual pleasure* (Umlazi FGD,27 August 2021).

> *There is another one you can use if you don't have money to go and buy a product. There is a product called isnama(beggarweed). You drink it before you go and have sexual intercourse with your partner* (Vulindlela FGD, 31 August 2021).

Most women found it paramount to utilise these vaginal products to avoid losing their male partners. The women claimed improved partner retention due to making their vaginas hotter, tighter, dryer, and more sexually appealing to their partners.

> *Mabhebeza (Kombucha) is Inside the water, and it is jelly-like. It is an unusual animal that is jelly-like. It is dangerous because it will grow inside you if you don't sift and drink it well. They*

use it to keep their partners, and no one can take them if they use it. I know someone, but no one tries to take her partner from her (Umlazi FGD, 27 August 2021).

Pleasuring their partner precedes sexual safety from disease and infection for most women. In many cases, the woman's pleasure was overlooked by the women themselves, who stated that they wanted the satisfaction of their partners through utilizing these products.

Let's say one day, you are having sexual intercourse with your boyfriend, and you are unprepared. What kind of condition will your boyfriend find your vagina in? He will find you cold. (Participant implied that the vagina would not be warm, it would not be intact and pleasurable since there is nothing inserted in the vagina) (Vulindlela FGD, 31 August 2021).

Another thing that I heard is that if you are going to meet up with a man, you must lick med lemon. You must not drink it; you must lick it (Cato crest FGD, 26 August 2021).

When using sunlight-green bar soap, your partner will enjoy having sex with you. Insert it in your vagina (Vulindlela FGD,31 August 2021).

Some people use isnemfu and put it inside the vagina to make the vagina warm if they visit a man (Cato crest FGD, 26 August 2021).

6.4.1.2 Vaginal warmth and tightness

According to the data gathered, the use of vaginal products among women is frequently motivated by a strong desire to improve sex enjoyment by drying, tightening, or raising the vaginal temperature.

I know of a pin code. It is like a maize meal. It is like mealies that are ground, but they are not fine. Its job is to make the vagina warm when you have sexual intercourse with your partner (Vulindlela FGD, 31 August 2021).

Umxovo (a mixture or combination of certain products dependent upon the user) is what they put in the vagina to make the vagina warm inside. It helps when you are having sexual intercourse with a man. The vagina is warm and is not excessively wet during sexual intercourse. You also put an alarm (Alum) to make the vagina tight (Cato crest FGD,26 August 2021).

Stoney and halls tighten the muscles of your vagina so that your male partner will find you perfect (Umlazi FGD, 27 August 2021).

I know of Umlilo abacaxi (a liquid substance more like water drunk for sexual pleasure). You can drink it; it is like water. You can mix it with water or juice; it is up to you. Or you can mix it with Stoney and drink it. (Stoney is a fizzy drink) It makes your vagina warm (Vulindlela FGD, 31 August 2021).

6.4.2 Focus group theme two: Application preference

The women in the focus group claimed to be familiar with various methods for tightening the vagina or raising its temperature. Some differ from ingesting or inserting the product to bathing or washing the vagina externally or internally with various substances, though only a few openly admitted to utilizing these products as one can see that the women often refer to other people that use these products and not themselves.

Some people use isnemfu and put it inside the vagina to make the vagina warm inside Because when you are having sexual intercourse with a man, it is tight in such a way that it is like you are a virgin, yet you are not (Cato crest FGD, 26 August 2021).

These products appear to have varying effects on the vagina. These products were perceived differently by the women. Some products increased vaginal temperature, 'making you hot,' while others tightened the vagina, and some made the vagina dry, removing all the moisture perceived to be undesirable during intercourse.

You insert isnemfu. Other people say that your vagina becomes warm, and it tightens up your vagina when you put it in your mouth. You take it and put it in your mouth then it tightens your vagina (Umlazi FGD, 27 August 2021).

You can also eat green pepper. It would be best if you ate it alone. It keeps the vagina warm and pleasurable during sex (Vulindlela FGD, 31 August 2021).

6.4.3 Focus group theme three: Vaginal hygiene maintenance

The women admit to using these vaginal practices and products for hygiene reasons. The women value their vaginal hygiene, which influences their sexual desirability.

Well, the one I know is to steam with hot water with lemon. Like you squeeze lemon in the water and then you sit on it. Because it kills the bacteria inside, which decreases your chances of having bladder infection and all of that (Umlazi FGD,27 August 2021).

The women's vaginal practices are also influenced by their basic concepts of vaginal cleanliness, sexual readiness and desirability, and cultural beliefs about sexual health. Furthermore, women appear to pay little attention to the health consequences of these hygiene practices, such as inserting foreign products

into the vagina that may be harmful and encourage HIV susceptibility by harming the vaginal walls or negatively affecting the vaginal pH, all in the name of hygiene (Young, 2002).

> *Umhlonyane (Artemisia afra) is sometimes used for your vagina, or if you have a flue, you can also use it when you want the vagina not to smell a bad vagina odour* (Cato crest FGD, 26 August 2021).

The women reported using a range of products for hygiene purposes. Some of the products they reported using were natural products such as lemons and garlic.

> *No, another thing that women use to keep the vagina clean or protect it from being infected uhm you can drink hot water with ginger, lemon, or garlic* (Cato crest FGD, 26 August 2021).

> *Holy ash (Sacred ash is made from burnt dried wood, burnt cow dung, or cremated bodies used in Agamic rituals). You use it for bathing. You put it in the water and use the mixture for bathing. It stops you from having excessive fluids in your vagina* (Vulindlela FGD, 31 August 2021).

> *Inhliziyo kabhanana* (Banana aborted seeds) *cleans you inside your vagina to the point that if a sperm is inserted, you will fall pregnant immediately* (Umlazi FGD, 27 August 2021).

> *I know of plain yoghurt. Also, when you go to Caprisa, there is a syringe they give you that you can insert into your vagina. It extracts all the dirt in your uterus and vagina. If you have a dirty uterus, you can use plain yoghurt to extract all the dirt. You can drink or insert it in your vagina* (Vulindlela FGD, 31 August).

> *You rub the newspaper, roll it up, and insert it in your vagina. You insert it in your vagina to stop the discharge that comes out of your vagina* (Vulindlela FGD, 31 August 2021).

Some women reported using water, sometimes cold and sometimes warm, mixed with something else.

> *I know cold water, that it is important for a female to bath using cold water and not hot water* (Cato crest FGD, 26 August 2021).

> *I know of sunlight with cold water* (Umlazi FGD, 30 August 2021).

> *I use warm water with sunlight* (Vulindlela FGD, 30 August 2021).

6.4.4 Focus group theme four: Vaginal practices within the African culture

This theme delves into vaginal practices that women believe are derived from cultural traditions. The researcher looked at vaginal products that women have incorporated into their lives because they are commonly used and, as a result, have become a part of their daily routine.

Women in the three study areas mention pure cold water or cold water mixed with other ingredients such as salt or sunlight green bar, *itshe lomgodi* (Aluminum sulphate) or snuff tobacco. When using these products, it was discovered that there was a common or somewhat similar preference among women for readily available household products such as cold water and soap. These products are not limited to household items. However, some are seen to fall under traditional products due to their nature, possibly in the form of herbs.

> *Itshelomgodi (Aluminium sulphate) works if you put Dettol and rough salt* (Umlazi FGD, 27 August 2021).

> *I know cold water is important for a female to bath using cold water and not hot water* (Cato crest FGD, 26 August 2021).

> *She explained that she always inserted isjjindane (snuff tobacco) inside her vagina to get her vagina warm for sexual intercourse and pleasure with her partner* (Vulindlela FGD, 31 August).

6.4.4.1 Sources of vaginal products

As mentioned above, some of the products used by women can be classified as either 'traditional' products, homemade household products, or store-bought over-the-counter products. Traditional products include those made at home, herbs like roots, leaves, and barks, and ground minerals (such as alum, a compound containing aluminium potassium sulphate).

Even though most women were utilizing mainly household products and traditional products, there was a display of knowledge about store-bought vaginal products and vaginal products available at local clinics. Therefore, within this sub-theme, the various sources of vaginal products used by women are explored.

> *There are pills from the clinic that you drink, and then you get an injection whenever your discharge is not right or if maybe you slept with your partner, and then maybe after a couple of days you have pains that you don't understand and a clinic discharge that is not right. Maybe a brown one sometimes, yellowish, it must not be like that, it must be white* (Umlazi FGD, 26 August 2021).

There is also a vaginal cream that I have heard of that you can apply on the panty so that your vagina doesn't smell (Cato crest, 26 August 2021).

What I know of is called water and gel (Umlazi woman,27 August 2021).

We use natural things, like cold water. You can also use things you can put in your mouth, like green pepper or black smoothies. It is better to eat something that will make your vagina dry instead of inserting things in your vagina (Vulindlela FGD, 31 August 2021).

There are herbs that they sell in the shops. It is a traditional herb. You put it inside boiling water and sit on top of it. It also helps a lot (Umlazi FGD, 26 August 2021).

Another thing I have heard of is that I have never used it, but apparently, you can also use bicarbonate and drink it or lick it. It also helps to get our vagina cleaned cause if you drink it, it cleans you inside, and you end up peeing urine that has changed and clean if it was dirty (Cato crest FGD, 26 August 2021).

Presented below are data obtained from the reflexive journals and presented according to the two themes generated from the data.

6.4.5 Reflexive journals theme one: Women's involvement in clinical trial development toward HIV prevention

Participatory research methodologies were used in this study to ensure the direct involvement of women in HIV prevention research and clinical trial development. Most women were interested in participating in these methodologies. They were intrigued by the prospect of being directly involved in clinical trial development for HIV prevention because it made them feel important. To collect information on how women felt about direct involvement in the study, they voiced their feelings about being involved during the focus group discussion and within their reflexive journals. This approach elicited participants' attitudes and perceptions and their awareness, experiences, and behaviour, which are exchanged during interactions with various people (Eeuwijk and Angehrn, 2017).

6.4.5.1 HIV education through research participation

Some women mentioned how they learned about vaginal products from the workshop sessions while participating in the study. This served as a form of HIV education as the study is primarily on HIV prevention for women.

I am very happy to learn about vaginal products, especially vaginal products that can help me prevent HIV (38 years old, Umlazi Reflexive journal, 27 August 2021).

This awesome research sparked the idea of taking care of ourselves as women, most importantly, our vaginal health. The research has given us hope for the control we will gain in protecting ourselves from HIV during unprotected sexual intercourse (19 years old, Umlazi Reflexive journal, 27 August 2021).

I was very happy to be part of the workshop as I learned more about future HIV prevention methods for women (54 years old, Vulindlela Reflexive journal, 31 August 2021).

I enjoyed the workshop as it allowed me to be comfortable with other women and learn about HIV and vaginal products (21 years old, Cato crest Reflexive journal, 31 August 2021).

I was so happy to be asked what type of vaginal product I prefer to use to reduce HIV (Umlazi Reflexive journal, 27 August 2021).

*The workshop was the best and most helpful to help the youth learn how to prevent HIV(*25 years old, Vulindlela Reflexive journal, 31 August 2021).

We are happy we gained information that we didn't have. We now know that there is a possibility that we might not get HIV infected (23 years old, Vulindlela Reflexive Journal,31 August 2021).

I enjoyed being part of the workshop, learning new things, and having some information (21 years old, Umlazi Reflexive journal, 27 August 2021).

This workshop teaches me many things about HIV information and how to prevent it. I hope the product is coming soon (28 years old, Vulindlela Reflexive journal, 31 August 2021).

The workshop was enjoyable cause we got to write and learn about our products, and we voiced our opinion about what we wanted, so I learnt a lot about the different products (36 years old, Cato crest Reflexive journal, 26 August 2021).

6.4.6 Reflexive journals theme two: Direct participation in research increased the women's sense of worth

It has been observed in previous years and previous studies that women feel that their voices and opinions continue to go unnoticed, especially when it comes to matters that affect their physical and reproductive health. They often feel as though they need to prove that they "deserve" the attention due to them as women (Javadi, 2016). Women also still feel that they are often expected to do more, and their health is valued less. This study sought to bridge this gap by directly involving women in the study

and collecting data directly from the source rather than speculating on women's choices and preferences, eliciting a sense of self-worth in the women.

> *In this research and workshop experience, I'm so proud as a young woman because I believe we are not undermined as women. We are free. This workshop shows that we got rights and something to say as women, and this workshop proved that things have changed, unlike before, as we know women not to be important* (26 years old, Cato crest Reflexive journal, 2021).

> *I enjoyed your sessions, guys; you taught us good things that are helpful as women. Sis Nqobile Ngubane (researcher), you're a good teacher, and please, if there are other sessions like this, don't be shy to call us. We enjoyed it, and if there are any employment opportunities you know of, please alert us. Thank you* (18 years old, Cato crest Reflexive journal, 26 August 2021).

> *I enjoyed your sessions, and you taught us helpful things as we are women* (29 years old, Cato crest Reflexive journal, 26 August 2021).

> *As a woman, I feel comfortable and important in this workshop. I learned more things that make women healthy and protected* (21 years old, Umlazi Reflexive journal, 27 August 2021).

> *I was very happy to be part of this workshop study as it allowed me to learn about HIV prevention and what scientists are developing to help women with HIV* (54 years old, Vulindlela Reflexive journal, 31 August 2021).

> *As a woman, I am happy. After all, it means that women are important, and we are allowed to talk and be aware of what is happening because, most of the time, men are the ones who are informed and given such opportunities* (Cato crest FGD, 26 August 2021).

> *But truth be told, it feels good for us to meet and share our opinions and ideas. I have learnt a lot in this short period together* (Umlazi FGD,27 August 2021).

6.5 Summary

This chapter has presented the data collected through the journey mapping activity, reflexive journaling task, and focus group discussion. The chapter has outlined the data collected concerning the perceptions of vaginal products and vaginal practices within the African culture. Furthermore, the chapter has presented data on women's involvement in clinical trials and product development toward HIV prevention. The following chapter will analyse this data concerning the literature reviewed and through the theoretical framework to answer the research questions that guided the study.

CHAPTER 7: MAIN RESEARCH FINDINGS AND CONCLUSION

7.1 Introduction

The preceding chapter presented data from the journey mapping activity, FGDs and reflexive journals according to the established themes. The chapter illustrated the chosen quotations from the FGD and reflexive journals and the images of the young women's journey maps. The data presented in the preceding chapter is analysed and interpreted in this chapter. The data acquired from women on their perceptions and acceptability of vaginal health product use was analysed using reflexive thematic analysis. This was done to represent the women's perceptions and acceptance of vaginal health product use. Reflexive thematic analysis is commonly used to interpret qualitative data from study participants (Braun and Clarke, 2020). Theoretically, reflexive thematic analysis can be driven by concepts from a wide range of domains and can be employed in several research methodologies (inductive, deductive). It does not claim to be objective since the researcher or researchers impact all analyses (Braun and Clarke, 2020). Therefore, after presenting the data, the data must be analysed according to the literature and the theoretical principles that informed the study. The next section looks at vaginal products for sexual benefits.

7.2 Vaginal products for sexual benefits

Based on the evidence from this study, culture plays a role in informing the perceptions and acceptance of vaginal product use amongst women in KZN. Women's perceptions of the acceptability of vaginal health product use were investigated in this study to understand better the factors that influence these perceptions. It was established that the women's perceptions were informed by various factors that led them to have particular perceptions towards vaginal products. These perceptions derive from the benefits women think they obtain from these vaginal products. The benefits perceived by these products to women are mostly sexual- and hygiene-based.

A study in KZN explored vaginal products women utilised to improve their sexual experience and discovered that women spend time preparing and sourcing vaginal products to please and retain partners (Humphries et al., 2019). The adoption of vaginal products by women are often motivated by a strong sense of hygiene and ensuring sexual enjoyment is enhanced by drying, tightening, or raising the vaginal temperature (Fashemi et al., 2013; Scorgie et al., 2011; Jespers et al., 2012). It was established through the data that sexual enhancement was the major concern for women, hence the adoption of these products for their perceived benefits, such as vaginal warmth and tightness, vaginal products for sexual benefits, and male sexual pleasure. Many factors influence the perceptions of women of vaginal products, but according to this study, culture may play a large role in influencing these perceptions. As mentioned in Chapter 3, The culture-centred approach applied to the study as culture has a crucial part in defining an individual's or community's level of health; this is especially true in the African

environment, where family and community behaviour and attitudes influence an individual's behaviour (Airhihenbuwa and Webster, 2004).

Strong social influences from the women's peers, friends, and the community influence them to use these vaginal products to achieve sexual enhancement, which the community perceives as a good thing (Humphries et al., 2019). Cultural practices such as dry sex also contribute to the choices of vaginal products the women choose to employ as they believe that certain products will give the desired dry vaginal area that is culturally perceived as more appealing sexually. However, these cultural habits, such as encouraging vaginal dryness during intercourse to increase penile friction, contribute to women's vulnerability to HIV infection (Kun, 1998).

Considering that health communication is the field in which this study was conducted according to the data of this study it is paramount for health communicators, when developing health messages about sexual health in women, to put into significant consideration these cultural habits and practices that inform the women's perceptions of the acceptability of vaginal product use. As purported by the CCA, the community considerably influences individuals' health decisions (Dutta, 2008). Hence, it is also essential that the communities in which these women exist be educated on the potential harm that may be brought to women by employing some cultural habits. Such an intervention might assist in dismantling some harmful cultural practices amongst the women that make them more susceptible to HIV infection and can deter the acceptance of vaginal product use.

7.3 Male sexual pleasure

It was discovered within this study that women use a variety of vaginal products for purposes of increasing vaginal temperature and maintaining the vagina dry. While these practices induce increased mutual satisfaction between the partners, vaginal dryness can lead to friction and fracturing and the transmission of diseases.

Women use a wide variety of vaginal products that are often context-specific and have significant social value for managing personal well-being, ranging from perceived assistance in managing relationship security and preserving a 'virgin-like' vagina to managing sexual pleasure (Hilber et al., 2013; Van der Straten et al., 2014; Hull et al., 2011). Similar to the current study, it was discovered through data analysis that most women's products are vaginal products for sexual benefits. However, studies have also revealed that women who use vaginal products may be more likely to contract HIV (Mayer et al., 2006; Aslan and Bechelaghem, 2018). This is because, often, vaginal practices are linked to an increased risk of HIV by facilitating increased friction during sex and drying the vagina (Myer et al., 2005; van der Straten et al., 2014). However, the dry vaginal area is commonly desired by women for sexual enhancement and the pleasure of their male counterparts. This is evident in the data when the

women emphasise using various vaginal products to keep their vaginas dry and increase vaginal temperatures. Vaginal practices in KZN can potentially increase HIV transmission and have significant implications for developing microbicides and future HIV prevention methods (Scorgie et al., 2011).

Previous research found that women use various vaginal practices for hygiene and male sexual pleasure and retention. It was discovered that women are willing to go to great lengths for male retention, and this is concerning because they may involve the use of harmful products and practices heightening their risk of HIV infection (Humphries et al., 2019; Plummer et al., 2021; Klatt et al., 2017).

In Chapter 3, it was discussed that according to the CCA, culture is made up of traditions passed down from generation to generation, as well as changes brought about by members actively participating in and adding to the meanings of a community (Dutta, 2008). As a result, the culture of male dominance has been practised and passed down from generation to generation, such that even today, women in KZN are dominated by the perception that male sexual pleasure is paramount above all else, leading them to use vaginal products to obtain and maintain the culture of sexual desirability to men over being sexually protected and practising safe sex to prevent HIV. Male retention is strongly encouraged in these traditional settings, leading women to engage in often dangerous vaginal practices to please and retain men (Harper et al., 2012).

Quotes obtained from the data by the women on this matter reveal that above implementing vaginal products that are female-initiated for HIV prevention, it is also very crucial to find ways to dismantle these dominant cultural beliefs that serve as a deterrence to HIV prevention in women, such as male dominance This made it necessary for the study to explore the cultural traditions that inform the women's decision in utilizing HIV prevention methods such as vaginal products as culture has an immense contribution to one's health practices People are not all passive recipients of health messages, according to the CCA, the day-to-day experiences of people as they come together to create their conceptions and discourse of disease and wellbeing, shape cultural perspectives on health (Dutta, 2008). Culture should be a fundamental organizing principle in designing HIV education systems and evaluating their results (Cawyer and Smith-Dupre,1995).

The next section discusses vaginal warmth and tightness from the perspective of the women in KZN.

7.4 Vaginal warmth and tightness

Women in this study stated that the vaginal products they use provide them with the sexual benefits of vaginal warmth and tightness, making them more sexually desirable to men. Women consider vaginal warmth and tightness essential for male sexual pleasure. Vaginal warmth and tightness are not new to

women in KZN. Maintaining a tight and warm vaginal area is generally achieved through using various vaginal products by women (Plummer et al., 2021; Kariuki et al., 2017).

It must be understood that women in KZN, specifically those included in this study, will use vaginal products based on the product being beneficial to their relationships. Therefore, one may conclude that HIV prevention is a secondary consideration in vaginal product use when developing a vaginal product (microbicide) for HV prevention. This demonstrates that men's influence or impact on the choices and perceptions of vaginal products women choose to employ within the South African context is extensive, given that the social power they have to dominate women within the South African context is massive. As a result, most South African women, particularly in KZN, are influenced by male sexual desirability more than HIV prevention in the vaginal products they choose to use.

The following section unpacks the application preference of women from KZN.

7.5 Application preference

Given the variety of vaginal products, women incorporate into their daily lives vaginal products for reasons such as hygiene and male sexual pleasure. According to the analysed data, the women from the three study sites varied in product application preference. Some preferred to ingest the vaginal products of their choice. In contrast, others preferred inserting the vaginal product directly into the vagina. Some women mentioned preferred just cleansing the vagina with the product of choice.

In contrast, others expressed a preference for vaginal steaming. According to the study, the primary cause was convenience because it was easier to obtain and utilise the product that influenced its use. The study showed that the women had a large preference for household, traditional and readily available products due to convenience, availability and little to no cost. This implies that for future designs of microbicides for HIV prevention, product convenience, availability, and cost must take precedence in product design.

7.5.1 Vaginal hygiene maintenance

Women engage in vaginal practices for various reasons, including, but not limited to, genital hygiene and vaginal health/treatment of genital symptoms. Women's genital hygiene is highly valued, and specific norms guide vaginal cleanliness and related vaginal practices within these communities in KZN (Van der Straten et al., 2010; Balkus et al., 2014; Morrison et al., 2015).

The need for women to keep their vaginal areas clean may be due to biological differences between the female and male sexual organs. Female sexual organs are more vulnerable to vaginal infections and HIV infection, putting women at greater risk of disease (Matthews and Harrison, 2006:7). Furthermore, STIs' enhancing effects on HIV transmission have generally focused on broken skin defences or

bleeding as reasons why STIs increase HIV transmission (Schmid et al., 2000:3). This contributes to women's hypervigilance about vaginal hygiene and safety, leading them to use vaginal products they believe will provide hygiene and protection from vaginal irritation. Vaginal hygiene within the African culture and practice comes from vaginal practices within the African context. Within this study, these practices were named to be practices such as vaginal steaming, cleansing the vaginal area with pure cold water and many more.

7.5.2 Vaginal practices within the African context

The type of vaginal products women chooses to employ during these vaginal practices varies. The women in the study used numerous products to perform vaginal practices. It was highlighted in the previous chapter that these products ranged from ingestible products to products of direct application to the vaginal area, performing cleansing rituals such as vaginal steaming and cleansing the vaginal area with homemade herbal concoctions.

Vaginal practices, as mentioned in the preceding theme, are performed in these settings for various reasons (Van der Straten et al., 2010). However, these vaginal practices may impair the use or efficacy of female-initiated prevention methods (Peters, Driel and Jansen, 2014). Unknown to the women, some vaginal practices significantly harm the female genital area. Some vaginal techniques involve using substances that may harm vaginal health (Danielsson et al., 2011).

7.6 Sources of vaginal products

The vaginal products women use range from traditional, homemade, and prescribed products from the clinic to household products. When speaking of homemade products, one refers to a product assembled and made at home with little or no skill (Bennett, Hjelmgren, and Piazza, 2020). Within this study, traditional products refer to products that are generally plants that are culturally and historically used as medicine in a given cultural context (Du Gay, 2013). Even though most women utilised mainly household and traditional products, there was a display of knowledge about store-bought vaginal products and vaginal products available at local clinics.

This suggests that introducing a vaginal health product for HIV prevention will not be entirely foreign in these communities. However, after analysing the data, it was established that women had different preferences for vaginal products, and the economic availability of the product also influenced their choices. This is demonstrated by the marked preference for natural products such as cold water, traditional products and homemade products, as these products are not expensive and are readily available. Therefore, poverty in South Africa should be intensely scrutinised because poverty has been identified as a community HIV driver in most KZN areas, including the explored study sites. Due to limited economic opportunities, most households rely on government social grants. However, these are

insufficient to sustain large families in rural communities as their needs grow, creating a vast gap in their lives in providing food, school necessities, and clothing for their families (Chimbindi et al., 2018:2). Affording the luxury of purchasing a vaginal health product. In contrast, readily available household and traditional products will be a significant challenge regardless of the health benefits they might bring. This information was gathered as the women expressed their concerns about the product's price and not having money to purchase it.

Furthermore, some women expressed scepticism about incorporating a new product into their daily life routine and products. The majority of the scepticism stemmed from a lack of trust in factors such as changing their health because the vaginal product will be a new market with unknown side effects and perceived potential to reduce sexual pleasure.

Whether the product benefits or harms the woman's body is a major concern. Women appear to prioritise male sexual pleasure over their health. In general, adolescent girls and young women in South Africa are under much societal pressure to be sexually desirable to men for men to enjoy sexual intercourse with them and hopefully provide for them materialistically. One of how women achieve sexual desirability is through unprotected sex and incorporating the use of their preferred vaginal health product (Eaton, Flisher and Aaro, 2003:150).

7.7 Women's involvement in clinical trial development toward HIV prevention

Participatory research methodologies were used in this study to ensure the direct involvement of women in HIV prevention research and clinical trial development. This was done due to a disparity in women's participation in clinical trial development and female-initiated prevention measures. Women were involved in this development to a lesser extent (Ramjee et al., 2010). This study aimed to increase female involvement. Directly involving women in such developments has seen great success in other countries, such as the United States. "There has been some progress in making HIV/AIDS research and services more responsive to women's needs, thanks in large part to the work of advocacy groups and action by the United States Congress, HIV/AIDS research, and services more responsive to women's needs (e.g., including women in clinical drug trials and revising the Centers for Disease Control definition of AIDS to include infections typical in women)" (Amaro, 1995:437). These participatory methods facilitated the co-creation of information between the researcher and the participants to discuss successful health-seeking behaviour (Winskell and Enger, 2009). The women in the study areas were eager to participate in these methodologies. They were captivated by being directly involved in the development of clinical trials for HIV prevention because it made them feel important. In the process of involving women in HIV research, the study obtained women's participation and provided an opportunity for the women to receive HIV education.

7.8 HIV education through research participation

HIV education was given during a workshop meant for data collection with various data collection techniques. The women vocalised how they felt about the workshop providing HIV education and assisted in dismantling false beliefs about HIV transmission. This highly benefits the study because it demonstrates that directly involving women in HIV research can help reduce HIV transmission in women shortly. Public health scholars have recognised end-user participation in all stages of new product development as critical to ensuring product acceptance, uptake, and tailored demand-creation strategies for product promotion (Mensch et al., 2012; Brady and Tolley, 2014; Guthrie et al., 2018; Swain et al., 2019). End-user product acceptability and active participation in all stages of product development and testing before product formulation are required to introduce new biomedical innovations for HIV prevention (Govender et al., 2017).

7.8.1 Direct participation in research increased the women's sense of worth.

In an African society where women's voices are generally stifled and ignored, direct participation in research increases women's sense of worth immensely. End-user participation in biomedical product creation has proven to be highly beneficial, including enhanced patient safety, increased user satisfaction, and reduced development costs while restricting redesign (Hani and de Marcellis-warin,2016). The need for and value of end-user participation in creating women's vaginal products at all levels of development has proven to be vital as it will ensure user acceptance and adherence to HIV prevention intervention. In response to the challenges of low uptake and adherence to HIV prevention interventions, participatory research is needed to engage end-users in developing biomedical interventions. This study has managed to successfully do this by directly involving women in HIV research.

7.9 Conclusion

This study sought to understand women's perceptions of the acceptability of vaginal health product use to increase the inclusion of women in HIV prevention research. Three research questions were a guide within the study to conduct this investigation. Firstly, the study sought to understand the perceptions of women towards vaginal products in selected rural, peri-urban and urban areas of KwaZulu-Natal. Secondly, the study aimed to explore the cultural influences contributing to perceptions of the acceptability of vaginal products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal. Lastly, the study sought to explore how including women through communication for participatory development processes could facilitate or increase participation in biomedical research. Empirical evidence was collected through FGDs, journey mapping exercises and reflexive journaling to understand the women's perceptions of the acceptability of vaginal health product use.

The primary research findings established that the women in KZN use various vaginal products primarily for hygiene and male sexual pleasure. These were a range of products such as homemade products and traditional herbs. It was established through the data that the women also had varying application preferences, with some women preferring to employ ingestible vaginal products. In contrast, others preferred the direct application of vaginal products. The women's perceptions of the acceptability of using vaginal products were mainly influenced by male sexual pleasure over prioritising safe sex. This is a significant concern to health organisations and communities as women remain at the infection centre. Prioritising male sexual pleasure over protection against HIV serves as one of the driving factors to the spread of HIV within these communities and a deterrent to health interventions put into place to fight the spread of HIV in women. To combat the perceptions of the acceptability of the use of vaginal products that might be negative and not beneficial to women, it is essential that communities to which these women belong be educated on the negative implications of choosing to employ vaginal products that can increase HIV vulnerability. As the CCA states, communicating health cannot be separated from engaging the people from the cultural communities to participate in building and establishing their health messages and interventions, which in turn may promote product uptake in these communities.

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APPENDICES

Appendix I: Informed Consent Forms

Information Sheet and Consent to Participate in Research

Dear participant Date:

My name is Nqobile Ngubane with student number 216021979. I am a Master's student at the Centre of Culture, Communication and Media and Society (CCMS) in the School of Applied Human Science, College of Humanities, University of KwaZulu-Natal, Howard College.

You are being invited to consider participating in a study titled "exploring the acceptability and preference of vaginal health product use among rural and urban women in KZN and Cape Town: Towards women inclusivity in clinical product development." The aim of this study is to explore the perceptions of women towards vaginal health products in selected rural, peri-urban and urban areas of KwaZulu-Natal and Cape Town. The study also aims to explore the factors that influence acceptance of vaginal health products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal and Cape Town. Furthermore, this study aims to identify the similarities and differences in the preference of vaginal health products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal and cape Town. The study is expected to enroll a total number of 50 participants inclusive of all the selected research sites. The participants will be divided into 2 groups. Each group will have a total number of 5 participants.

This study will involve a journey mapping, reflective journaling activity as well as a focus group discussion that will be conducted in all the selected research sites. The duration of your participation if you choose to enroll and remain in the study is expected to be roughly 6 hours in a day.

The study does not involve any risk of whatsoever kind on participant(s). We hope that the study will create the following benefits:

1. Provide knowledge on the importance of using vaginal health products as a HIV prevention method.

2. Identify the key influencers for/against vaginal health products.

3. Create an awareness and understanding about vaginal health products.

Please note that:

1. The information you provide will be used for scholarly research only.

2. Your participation is voluntary. You have a choice to participate, not to participate or to stop participating in the research.

3. Your views in the journey mapping activity, reflective journaling activity as well as the focused group discussion will be presented anonymously. Neither your name nor identity will be disclosed in any form during the course of the study.

4. The whole workshop programme will take roughly 6 hours to complete.

5. Light refreshments will be provided in the beginning of the workshop programme in appreciation for your time.

6. The record as well as other items associated with the interview will be held in a password-protected file accessible only to myself and my supervisor. After a period of 5 years, in line with the University rules, it will be disposed by shredding or burning.

7. If you agree to participate, please sign the declaration attached to this statement

This study will be ethically reviewed and approved by the UKZN Humanities and Social Sciences Research Ethics Committee.

In the event of any problems or concerns/questions you may contact the researcher on:

Cell: 063 146 0823

Email: 216021979@stu.ukzn.ac.za or the UKZN Humanities & Social Sciences Research Ethics Committee, contact details as follows:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557- Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

Thank you in anticipation of your favourable consideration.

Yours sincerely,

Nqobile Ngubane

CONSENT

I …….. (Full names of participant) have been informed about the study by ……(Provide name of researcher/fieldworker).

I understand the purpose and procedures of the study and I declare that my participation in this study is entirely voluntary and that I may withdraw at any time without affecting any of the benefits that I usually am entitled to.

I have been informed about any available compensation or medical treatment if injury occurs to me as a result of study-related procedures.

If I have any further questions/concerns or queries related to the study I understand that I may contact the researcher on (Cell: +27747399836; Email: 217079823@stu.ukzn.ac.za).

If I have any questions or concerns about my rights as a study participant, or if I am concerned about an aspect of the study or the researchers then I may contact:

HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS ADMINISTRATION

Research Office, Westville Campus

Govan Mbeki Building

Private Bag X 54001

Durban

4000

KwaZulu-Natal, SOUTH AFRICA

Tel: 27 31 2604557 - Fax: 27 31 2604609

Email: HSSREC@ukzn.ac.za

I hereby provide consent to:

Audio-record my interview / focus group discussion YES / NO

_____ _____

Signature of Participant Date

Appendix II: Interview guide

Workshop Programme

Dates: 26 August 2021 (Cato Crest)

27 August 2021 (Umlazi)

31 August 2021 (Vulindela)

Researcher: Nqobile Ngubane

Time Activity

08:00 am Participants arrive, receive refreshments and sign into the workshop.

08:30 am – 09:30 am Welcome, introduction to project and discussion of informed consent

09:30 am- 10:30 am Journey mapping activity

10:30 am – 11:30 pm Focus group discussion

11: am – 12:00 pm Introduction to Reflexive journaling activity

12: 00pm lunch & Closing/debriefing session

Research questions

1. What are the perceptions of women towards vaginal health products in selected rural, peri-urban and urban areas of KwaZulu-Natal?

2. What are the cultural influences that contribute to perceptions of acceptability of vaginal health products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal?

3. In what ways can inclusion of women through communication for participatory development processes facilitate participation/increased participation in biomedical research?

Journey Mapping: session one (1 hour, 15 mins)

Introduction to journey Maps

- Start off by discussing what a journal map is.
- Show participants examples of journey maps
- Explain that journey maps have been used as another way to talk to women.
- Discuss the process today and what the ladies will be expected to do.

- To begin with, I would like for you to divide your map into two parts by folding it down the centre.

- For the first set of questions, we will work on the left side of the map, for the second set of questions, we will work on the right side of the map.

(5 mins)

1. Think about the products that you use as a woman every day. What types of products do you use each day? I would like for you to approach this as a journey. Think about your journey through the day and the products you will normally use from the time you wake up in the morning to the evening. It is important to remember that this can be both traditional products, cosmetics, medical products or over the counter purchase products.

For example, (you can offer an example of products you use in a day)

- Let's start by listing the products you use.

- You are welcome to place these into three categories.

- For example, what you use in the morning, products you use anytime in the day, and in the evening/or before you go to bed.

(10 mins)

2. Now I would like you to revisit each of the products you have listed. Can you rate on a scale of 1-5, the importance of each product to you?

1 is the lowest importance and 5 is most important.

Use any of the colour pens and write your numbers next to each product.

(5 mins)

3. Using your journey map, can you indicate using stars which are the easiest products to use, and crosses to show which are the difficult products to use?

You can underline with RED which product you think is the easiest to use. Can you add a sentence on why this is the easiest?

(5 mins)

4. From all the products you use daily, which is your favorite product? Can you write into your map (perhaps ask them to offer 2-3 reasons), why this product is your favourite?

Just write on your map: These are my favourite products as a heading, then list why

(5 mins)

5. What are the formulas of your favourite products that you use?

For example are these products a:

- gel
- Cream
- Tablet
- Film
- Powder
- Aerosol spray (like a deodorant spray)
- Powder

(5 mins)

Now let’s move to discuss more specific vaginal health products.

1. working into your journey map, what are some of the vaginal health products you use?

(5 mins)

2. Write down in your journey map, next to each product you listed, when you use these products and how often you use these products?

- So for example, if you use it in the morning (write AM next to each product), if you use this in the evening (write PM). If you use this anytime in the day, write AT next to each product.

- Now next to each product you listed, can you write how often you use it. For example, once a day, once a week, twice a day etc etc.

(5 mins)

3. Still working into your map, can you rate on a scale of 1-15, the importance of each of these vaginal health products to you?

- 1 is the lowest importance and 5 is most important.

(5 mins)

3. Using your journey map can you indicate using stars which are the easiest products to use, and crosses to show which are the difficult products to use?

(5 mins)

4. From all the vaginal health products you use, which is your favorite product? Can you write into your map, using this heading: My favorite product, and below is write why this product is your favourite?

(5 mins)

5. What are the formulas of your favourite products that you use?

For example:

- gel
- Cream
- Tablet
- Film
- Powder
- Aerosol spray (5 mins)

6. Now write down benefit of vaginal products on your map. List some of the benefits for you, in using these products?

(5 mins)

Now we have come to the end of our journey mapping. Thank you for sharing your ideas and experience on the maps. Are there any participants who are keen to share or talk about their maps?

Questions for Focus group discussion (Session 2 of workshop)

Research question one: What are the women's perceptions on the acceptability of vaginal health product use in selected rural, peri-urban and urban areas of KwaZulu-Natal?

1. What do you know about vaginal health products?

2. What are the types of vaginal health products that you know of?

3. How do you feel about using vaginal health products?

4. Which vaginal health products would you prefer to use? What is the reason for your preference?

5. Do you think vaginal health products are healthy or harmful to use? Why?

6. Do you think vaginal health products will prevent you from contracting HIV?

7. Which vaginal health products would you not prefer to use? And why?

Research question two: What are the factors that are specific cultural influences that contribute to a better understanding of the formulation, dosing strategy and frequency in use, acceptance and willingness to use vaginal health products among women in selected rural, peri-urban and urban areas of KwaZulu-Natal?

1. Would you be willing to use vaginal health products? Why?

2. What formulation would you prefer for vaginal health products? Why?

3. How often would you want to use a vaginal health products? Daily or several times per day? Weekly? Monthly? Why?

4. What are the factors that can encourage you to accept and use vaginal health products?

Research question three: In what ways, has engaging women in HIV prevention product development research, contributed to a more in-depth understanding of women's acceptability of and preferences in vaginal health product use?

1. How do you feel about getting the opportunity to state your views concerning a vaginal health product for use by women?

2. What factors are important for people or companies to consider when they design vaginal health products for women?

3. Are there any barriers or things that will stop you from using new products that can assist you to have better vaginal health?

Reflective journaling (session 3 of workshop)

Take home activity (3 days journal with three-day probing questions)

Women are an important part of society. Taking care of our bodies is also very important. We use some products for making us feel good, other products to look good, other products to stay healthy and even some products to help us deal with health relates issues such as STI's, HIV etc.

In your journals, we would like for you to think about the journey mapping task you completed at the workshop. It got you to think about products both general product use as well as vaginal health product use. In your journal, we would like to send you a question a day for the next three days. One each of these pages, we would like for you to write your responses. At the end of the three days, we will collect the books or you can take a photo and send to us and keep the book. Let us know which you prefer.

- Everyday for three days, keep a journal of all the products you use, both general products and vaginal products.

- Every-time you use a product, write the date, time and formulae (gel, cream powder) that you used. At the end of the day, take a photo and send this to the facilitator.

- In your journal, you will also be asked to write a few lines on daily question sent to you.

For example:

Day 1: How do you feel about adding a new vaginal product to your daily routine if it helps you reduce your risk of HIV infection?

Day 2: Is there anything you would like in this product. What should this product be? (a gel, powder etc) and how often will you be comfortable to use these products?

Day 3: Tell us anything about yourself or this research and workshop experience. What did you enjoy, didn't enjoy?

Appendix III: Ethics Approval

UNIVERSITY OF KWAZULU-NATAL
INYUVESI YAKWAZULU-NATALI

18 October 2021

Nqobile Simthandile Lungelo Ngubane (216021979)
School Of Applied Human Sc
Howard College

Dear NSL Ngubane,

Protocol reference number: HSSREC/00003266/2021
Project title: Understanding women's perceptions of the acceptability of vaginal health product use: Towards inclusion of women in HIV prevention research.
Degree: Masters

Approval Notification – Expedited Application

This letter serves to notify you that your application received on 22 August 2021 in connection with the above, was reviewed by the Humanities and Social Sciences Research Ethics Committee (HSSREC) and the protocol has been granted **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment/modification prior to its implementation. In case you have further queries, please quote the above reference number. PLEASE NOTE: Research data should be securely stored in the discipline/department for a period of 5 years.

This approval is valid until 18 October 2022.
To ensure uninterrupted approval of this study beyond the approval expiry date, a progress report must be submitted to the Research Office on the appropriate form 2 - 3 months before the expiry date. A close-out report to be submitted when study is finished.

All research conducted during the COVID-19 period must adhere to the national and UKZN guidelines.

HSSREC is registered with the South African National Research Ethics Council (REC-040414-040).

Yours sincerely,

[redacted]

Professor Dipane Hlalele (Chair)

/dd

Humanities and Social Sciences Research Ethics Committee
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Appendix IV: Turnitin Originality Report