

**An exploration of factors and phenomena influencing parent  
and/or caregiver compliance with the immunisation schedule  
in the Witzenberg sub-district  
of the Western Cape**

**by**

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## ABSTRACT

Parents and/or caregivers all over the world are expected to comply with existing childhood immunisation programmes in order to prevent outbreaks of preventable childhood diseases. The most important justification for this study was the 2010 measles outbreak in the Western Cape province of South Africa. This outbreak correlated with the study conclusions of Corrigan, Coetzee and Cameron (2008:41) as they found the immunisation coverage in the Western Cape to be insufficient to prevent outbreaks of preventable childhood diseases.

From the literature, it seemed that attitudes and factors that influence parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape persist. In doing this study, the researcher's purpose was to discover what those factors were. The aim was to determine, understand and describe the attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule, and the nature thereof. The set objectives were to gain knowledge of and insight into the factors influencing participants' adherence with routine childhood immunisation; and participants' feelings, attitudes, and experiences surrounding immunisation within the context of their health care environment.

A quantitative research approach, with a smaller qualitative component, was selected for this study which had an exploratory descriptive design. The population targeted for data collection included parents and/or caregivers of children aged 0 to 60 months in the Witzenberg sub-district (N=8374), as well as in community health centres (CHCs) that provided immunisation and/or other primary health care services in the mentioned sub-district (N=16). The non-probability convenience sampling of parents and/or caregivers consisted of 376 participants (n=376), while 8 CHCs (n=8) were selected through systematic sampling.

The measuring instrument used as the data collection technique for this study was a self-administered questionnaire. A pilot study was conducted to pre-test the questionnaire, and its reliability and validity were further ensured by submitting it for review to research experts in methodology and nursing. A combination of quantitative and qualitative methods was used to analyse the study data. MS Excel was used to capture the quantitative data after which it was analysed using descriptive statistics by means of STATISTICA version

9-software. Tesch's approach to qualitative data analysis was used as a guideline with the purpose of identifying and categorising the essential qualitative data and grouping it together in one descriptive framework.

The main findings were that parents and/or caregivers involved in this study were positive about immunisation and their experiences within the health service environment. They also felt that health workers were playing an important role in their decision-making process. However, their knowledge regarding the purpose of and contra-indications for immunisation were insufficient, and most parents reported that their children experienced side effects after immunisation.

Key recommendations on conclusion of the study include clear, accurate and specific information to parents about the purpose of immunisation and its contra-indications and side effects. Vaccinators and managers should be informed about the persistent problem with mild vaccination side effects and refresher courses should be provided with regard to infection control, administration techniques and the reporting of adverse effects.

## OPSOMMING

Daar word van ouers en/of versorgers oor die wêreld verwag om aan bestaande kinder-immunisasiëprogramme te voldoen ter voorkoming van vaksien-voorkombare siektes. Die belangrikste regverdiging vir die studie was die masel-uitbreking in die Wes-Kaapprovinsie van Suid-Afrika in 2010. Die uitbraak het die studiebevindinge ondersteun van Corrigan, Coetzee en Cameron (2008:41), wat bevind het dat immunisasiedekking in die Wes-Kaap onvoldoende was om 'n uitbreking van voorkombare kindersiektes te verhoed.

Volgens die literatuur het dit voorgekom asof die gesindhede en faktore wat ouers en/of versorgers se houding jeens die roetine- kinder-immunisasiëskedule in die Witzenberg sub-distrik van die Wes-Kaap beïnvloed, voortduur. Die navorser het met hierdie studie ten doel gehad om die faktore te ontdek, ten einde die gesindhede en faktore wat 'n invloed uitoefen te bepaal, te verstaan en te omskryf. Die doelwitte was om kennis in te win oor en insig te verkry in die faktore wat ouers en/of versorgers se aanhanklikheid met routine kinder immunisering beïnvloed; en in ouers en/of versorgers se gevoelens, houdings en ondervindings ten opsigte van immunisasie in hulle gesondheidsorg-omgewing.

'n Kwantitatiewe navorsingsbenadering met 'n kleiner kwalitatiewe komponent is geselekteer vir die studie wat 'n ondersoekend-beskrywende navorsingsontwerp gehad het. Die populasie wat geteiken is vir data-insameling was ouers en/of versorgers van kinders van 0 tot 60 maande in die Witzenberg sub-distrik (N=8374), asook gemeenskapsgesondheidsentrums wat immunisasie en/of ander primêre gesondheidsorgdienste in die genoemde sub-distrik aanbied (N=16). Die nie-waarskynlike gerieflikheidsteekproef van ouers en/of versorgers het uit 376 deelnemers (n=376) bestaan, terwyl 8 (n=8) gemeenskapsgesondheidsentrums deur middel van sistematiese steekproefbepaling geselekteer is.

Die meetinstrument vir data-insameling in die studie was self-gedadministreerde vraelyste. 'n Loodsstudie is uitgevoer as vooraf-toetsing van die vraelys en die geldigheid en betroubaarheid daarvan is verder verseker deur die vraelys aan navorsingskenners in navorsingsmetodologie en verpleging te onderwerp. 'n Kombinasie van kwantitatiewe en kwalitatiewe metodes is gebruik vir die analisering van die studie-data. Die kwantitatiewe data is op MS Excel ingevoer waarna beskrywende statistieke deur middel van Statistica weergawe 9-sagteware gebruik is om dit te analiseer. Tesk se benadering tot

kwalitiewe data-analise is as riglyn gebruik met die doel om belangrike data te identifiseer, te kategoriseer en in 'n beskrywende raamwerk te groepeer.

In die studie is daar hoofsaaklik bevind dat ouers en/of versorgers positief is oor immunisasie en hul ondervinding binne die gesondheidsorgomgewing, en dat gesondheidswerkers 'n belangrike rol in hul besluitnemingsproses speel. Hul kennis aangaande die doel van en kontra-indikasies vir immunisasie was egter onvoldoende en die meeste ouers en/of versorgers het gerapporteer dat hul kinders ná immunisasie probleme met nuwe-effekte ondervind het.

Die hoofaanbevelings wat uit die studie voortgespruit het, was dat duidelike, akkurate en spesifieke inligting aan ouers en/of versorgers verskaf moet word aangaande die doel van immunisasie en die kontra-indikasies daarvoor. Immuniseerders en bestuurders moet ook ingelig word oor die voortdurende voorkoms van nuwe-effekte sodat opknappingskursusse oor infeksiebeheer, korrekte toedieningstegnieke en die rapportering van nuwe-effekte aangebied kan word.

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## TERMINOLOGY

Terminology, abbreviations and acronyms that were frequently mentioned in this proposal that are not commonly known to the average reader are explained below:

- BCG: Bacillus Calmette-Guerin
- CHCs: Community Health Centres
- Community health centres: Facilities rendering an immunisation and/or a primary health care service to the general public. This includes fixed and mobile clinics.
- DoH: Department of Health
- DT: Diphtheria and tetanus vaccine
- DTaP: Diphtheria and tetanus toxoids with acellular pertussis
- DTP: Diphtheria, tetanus toxoids and pertussis
- DTP3: Diphtheria, tetanus toxoids and pertussis 3<sup>rd</sup> dose
- DTP-IPV/Hib: Diphtheria, tetanus, pertussis vaccine, inactivated polio vaccine, Haemophilus Influenza type b vaccine
- EC: Eastern Cape
- EPI: Expanded Programme on Immunisation
- EPI-SA: Expanded Programme on Immunisation in South Africa
- FS: Free State
- Full immunisation coverage: Percentage of all children under one year in the target area who completed their primary course of immunisation during the month (annualised)
- GP: Gauteng
- HepB: Hepatitis B
- HREC: Health Research Ethics Committee
- IPV: Inactivated polio vaccine
- KZN: KwaZulu-Natal
- LP: Limpopo
- MCV: Measles-containing vaccine
- MDG 4: Millennium Development Goal 4
- MMR: Measles-mumps-rubella
- MP: Mpumalanga

- NDoH: National Department of Health
- NC: Northern Cape
- NW: North-West
- OPV: Oral polio vaccine
- Parent and/or caregiver: Any parent and/or person who takes care of a child and has to take that child to the immunisation clinic for vaccination
- Primary course of immunisation: Includes BCG, OPV 1, 2 & 3, HepB 1, 2 & 3, and 1<sup>st</sup> measles
- Routine childhood immunisation schedule: All vaccines according to the DoH's Expanded Programme on Immunisation in South Africa's (EPI-SA) schedule (2005:14) for children up to 12 months of age.
- PVC<sub>7</sub>: 7-valent pneumococcal vaccine
- RV: Rotavirus vaccine
- SA DHB: South African District Health Barometer
- Td: Tetanus and diphtheria vaccine
- TOPV: Trivalent oral polio vaccine
- UN: United Nations
- UNICEF: United Nations International Children's Emergency Fund
- Vaccinators: Nurses registered with the South African Nurses' Council (SANC) who administer immunisation to children at the CHCs
- VACFA: Vaccines for Africa
- WC: Western Cape
- WHO: World Health Organization

## CHAPTER 1

### SCIENTIFIC FOUNDATION OF THE STUDY

#### 1.1 PRELIMINARY LITERATURE REVIEW

Parental compliance to routine childhood immunisation schedules is often debated. The South African District Health Barometer (SA DHB) (Day, Monticelli, Barron, Haynes, Smith & Sello, 2010:259) indicated that the immunisation coverage rate for children under one year had increased from 91.2% in 2003/2004 to 103.9% in 2008/2009. This was in contrast to a study reported by Solarsh and Goga (2004, cited in Corrigan, Coetzee & Cameron, 2008:42) that found that the Western Cape (WC) had an immunisation coverage of 69%. According to the investigators this was one of the lowest immunisation coverages for all the provinces of South Africa. Corrigan *et al.* (2008:41) investigated whether the WC was at risk for an outbreak of preventable childhood diseases due to the low immunisation coverage. They found the immunisation coverage to be insufficient to prevent outbreaks and concluded that factors relating to the various immunisation clinics (i.e. missed opportunities and parents being sent away), as well as lack of information were the most common reasons given by parents for non-completion of the immunisation schedule (Corrigan *et al.*, 2008:41). The study revealed that this lack of information resulted in a significant dropout between the 9 and 18 month vaccinations. Since explanations for this phenomenon were lacking further investigation was required.

A preliminary literature review was done to determine the existing knowledge regarding the reasons for low immunisation rates in children aged 0 to 60 months and the gaps in this knowledge. The literature study was done by means of an Internet search on various databases, namely Medline, PubMed, NCBI and Evolve/Elsevier. Sources were mainly chosen according to their publication dates (2000-2010) and relevance to the topic.

##### 1.1.1 Current knowledge

In a study conducted by Harrington, Woodman and Shannon (2000:394) the main focus was to examine mothers' satisfaction with the immunisation process and its possible effect on low immunisation uptake. Sanou, Simboro, Kouyaté, Dugas, Graham and Bibeau (2009:1) investigated factors related to complete immunisation coverage in Burkina Faso. These studies revealed that the mothers experienced major emotional distress due to the

hastiness of the immunisation process (Harrington *et al.*, 2000:394) and would have preferred the vaccinators to stay longer in their village during immunisation visits (Sanou *et al.*, 2009:6). They concluded that the mothers would have preferred a more empathic immunisation environment that included time to discuss their fears and questions with the health provider. The mothers preferred general practitioners as immunisation providers over health centres mainly because they felt they would spend less time at the general practitioner's office and the environment would be more empathic (Harrington *et al.*, 2000:394).

The main aim of studies conducted by Bardenheier, Yusuf, Schwartz, Gust, Barker and Rodewald (2004:569), and Borràs, Domínguez, Fuentes, Batalla, Cardeñosa and Plasencia (2009:154) was to determine parental cognisance relating to vaccines and their safety. Bardenheier, Yusuf, Schwartz *et al.* (2004:569) sampled children in the United States between the ages of 19 and 35 months from participants in the 2000/2001 National Immunisation Survey and conducted a case-control survey study. The study measured the coverage of three vaccines, namely measles-containing (MCV) or measles-mumps-rubella (MMR); diphtheria, tetanus toxoids and pertussis (DTP) or diphtheria and tetanus toxoids with acellular pertussis (DTaP); and hepatitis B (HepB). They concluded that although most parents believed immunisations to be important to their children's health, a significant difference existed between the vaccination coverage of children whose parents had specific concerns about side-effects and getting too many shots, and those parents who did not. They also found that even parents whose children were up to date with their immunisations had concerns about vaccine safety (Bardenheier, Yusuf, Schwartz *et al.*, 2004:569). This conclusion correlated with that of Borràs *et al.* (2009:154) who investigated parents of children under three years regarding vaccination in Catalonia, Spain. Other factors that led to vaccine non-compliance were the need for information (Borràs *et al.*, 2009:154), parents' inability to understand the health workers' expectations, and their belief that their children were fully immunised (Sanou *et al.*, 2009:6).

Gust, Strine, Maurice, Smith, Yusuf, Wilkinsons, Battaglia, Wright and Schwartz (2004:16) and Dannelun, Tegnell, Hermansson and Giesecke (2005:1) looked at the attitudes, beliefs and behaviour of parents of under-immunised children and the reasons for postponement or abstinence respectively. Whereas Bardenheier, Yusuf, Schwartz *et al.* (2004:570) and Gust *et al.* (2004:17) conducted case-control studies using telephone surveys, Dannelun *et al.* (2005:1) did a telephonic survey by using a structured

questionnaire with the specific aim of determining the attitudes of the parents regarding their postponement or non-vaccination with the MMR vaccine. All these studies found concerns about the safety of vaccines to be the major reason for under- or non-immunisation.

Coverage or default rates and the reasons associated therewith were investigated in studies conducted by Bardenheier, Yusuf, Rosenthal, Santoli, Shefer, Rickert and Chu (2004:479), Onyiriuka (2005:71), and Corrigan *et al.* (2008:41). All three of these studies used a cross-sectional household survey study design and found missed opportunities to be the main reason for low immunisation coverage. Onyiriuka (2005:72) noted a missed opportunity to be 'when a child who needed an immunisation had contact with the health service but was not given the vaccination'. Corrigan *et al.* (2008:45), whose study was conducted in the WC, mention that opportunities were missed when nurses told parents to come back another time and when clinic staff gave parents wrong return dates.

A survey conducted by Smith, Kennedy, Wooten, Gust and Pickering (2006:1287) took a slightly different approach than the other studies reviewed. Other than looking at the influence of the parents' beliefs about vaccine safety, their specific aim was to determine the health care provider's influence on the parents' decision to vaccinate their children. The authors knew parents had concerns about vaccine safety and wanted to determine the extent to which the health care providers influenced the vaccine coverage rates through their attitudes, conduct and treatment of immunisation. The study found that health care providers had a positive influence on parents' decisions to have their children vaccinated.

### **1.1.2 Gaps in the knowledge base**

Many qualitative and quantitative studies have been conducted in recent times to determine the reasons for parents and/or caregivers not fully immunising their children. Even though these studies identified many reasons, there is still a worldwide phenomenon of low immunisation coverage rates at different places, for certain vaccines, at different times.

One of the gaps identified is the lack of a clear understanding why parents and/or caregivers of fully immunised children chose to do so (Vernon, 2003:400) regardless of their reluctance towards immunisation. Vaccinators will be better able to plan interventions for parents and/or caregivers who choose not to immunise if they understand the reasons

motivating those parents and/or caregivers who do.

There is also a lack of knowing and understanding the perceptions and feelings of the employer of a parent and/or caregiver of a child who needs to be immunised, as seen and experienced by the parent and/or caregiver, and the influence it has on vaccination coverage rates. Those perceptions can play a major role in the immunisation compliance of the parent and/or caregiver as most of the immunisation services are rendered during daytime working hours.

## **1.2 PROBLEM STATEMENT AND RATIONALE**

It is clear from the literature that there are persisting attitudes and factors that may influence parent and/or caregiver compliance with the routine childhood immunisation schedule for children aged 0 to 60 months in the Witzenberg sub-district of the WC. Parents and/or caregivers all over the world are expected to comply with existing childhood immunisation programmes in order to prevent outbreaks of preventable childhood diseases. Therefore, even though parents and/or caregivers do take their children to be immunised, many still seem to be reluctant about immunisation. Although Liebenberg (2008) (Assistant Director: Comprehensive Health Services) reported that there had been a marked improvement in the immunisation coverage in the proposed site of the Witzenberg sub-district during 2007, she claimed that the increase in coverage was due to facility interventions, such as the auditing of immunisation records, and not due to a change in the perceptions of the parents and/or caregivers. She agreed that an in-depth study into the persisting attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule would be relevant.

The most important justification for this proposed study was the recent 2009 country-wide spread of measles in South Africa. By February 2010, 422 confirmed measles cases were reported in the WC and the spread was officially declared an outbreak in this province (DoH, 2010). This outbreak underpins the relevance of the study conclusions of Corrigan et al. (2008:41) who found the immunisation coverage in the WC to be insufficient to prevent outbreaks of preventable childhood diseases.

The researcher was of the opinion that an investigation into the phenomenon of immunisation compliance in the Witzenberg district was justified due to the controversial information reported in the literature, as well as the 2010 outbreak of measles in the WC. It

was believed that it would be possible to generalise these study findings to the other sub-districts of the Cape Winelands. The researcher had insight into this specific phenomenon as she had worked in the specific field and area previously and conducted this study because of her personal experience thereof.

### **1.3 AIM OF THE STUDY**

The aim of the study was to determine definite factors contributing to parent and/or caregiver attitudes to the routine childhood immunisation schedule in the Witzenberg sub-district of the Cape Winelands district of the Western Cape, as well as the nature of and reasons for the identified factors. Four components had been identified in this problem, namely parents and/or caregivers, registered nurses administering immunisation (hereafter referred to as vaccinators), community health centres (CHCs) and employers of the parents and/or caregivers. Due to time constraints and because the researcher was living abroad while undertaking the study, the focus was on one component only, namely the parents and/or caregivers.

### **1.4 OBJECTIVES OF THE STUDY**

The objectives for this study were to:

- gain knowledge of and insight into factors that promote or impede parent and/or caregiver uptake of routine childhood immunisation in the above-mentioned area;
- determine the attitudes and feelings of the parents and/or caregivers in the above-mentioned area regarding immunisation;
- describe the experiences of the parents and/or caregivers within the health service environment at the CHCs in the above-mentioned area.

### **1.5 RESEARCH METHODOLOGY**

#### **1.5.1 Research approach and design**

A quantitative research approach, with a smaller qualitative component, was selected for this study. The researcher decided to use an exploratory descriptive design to explore and describe the immunisation experiences of parents and/or caregivers within the health service environment and the subsequent influence of their experiences on their decision to

immunise the child or not. Burns and Grove (2007:240) state that a descriptive study is set to gather more information about attributes within a particular field of study, and that it aims to give an image of a phenomenon as it occurs naturally.

Bless and Higson-Smith (1995, cited in De Vos, Strydom, Fouché & Delport, 2005:104) define the unit of analysis as the individual or object from which the researcher gathers information. In this study the primary unit of analysis was the parents and/or caregivers of children aged 0 to 60 months in the Witzenberg sub-district of the Western Cape who had to receive routine childhood immunisation from vaccinators at CHCs.

### **1.5.2 Research question**

The primary research question in this study was the following:

What are the factors influencing parents and/or caregivers to comply with the routine childhood immunisation schedule in the Witzenberg sub-district?

### **1.5.3 Target population and sampling**

De Vos *et al.* (2005:194) define a population as the total number of those components related to the research problem under investigation.

The population targeted for data collection in this study included:

- parents and/or caregivers of children aged 0 to 60 months in the Witzenberg sub-district (N=8374) (Statistics South Africa, 2001); and
- CHCs providing immunisation and/or other primary health care services in the mentioned sub-district (N=16).

Kerlinger (1986, cited in De Vos *et al.*, 2005:193) describes sampling as 'taking any portion of a population or universe as representative of that population or universe'. The researcher chose the following two sampling methods for this study:

- A 4.5% non-probability convenience sampling of parents and/or caregivers from those parents and/or caregivers with children aged 0 to 60 months attending the CHCs in Witzenberg sub-district (n=376). Based on Singleton's definition of convenience sampling (Singleton, 1988, cited in De Vos *et al.*, 2005:202), any parent and/or caregiver of children aged 0 to 60 months available at or near the chosen CHCs were

asked to participate until the designated sample size was reached. The researcher opted to use Stoker's guidelines regarding the size of the sample (De Vos, Strydom, Fouché, Poggenpoel, Schurink & Schurink, 2001:192).

- A systematic sampling of the CHCs providing immunisation and/or other primary health care services in the Witzenberg sub-district was done by methodically selecting every second facility from an alphabetical list of these facilities after randomly choosing a starting point in order to ensure equal representation thereof in the study (n=8) (De Vos *et al.*, 2005:200).

#### **1.5.4 Inclusion and exclusion criteria**

Only parents and/or caregivers of children aged 0 to 60 months who had been living in the Witzenberg sub-district for longer than six months were included in this study. The parents and/or caregivers who had been residing in this area for less than six months were excluded because they had not had enough experience with services rendered by CHCs in this chosen sub-district in order to participate meaningfully in this study.

#### **1.5.5 Data collection instrument**

The measuring instrument proposed as the data collection technique for this study was a self-administered questionnaire. A questionnaire was considered to be the most effective tool in obtaining the set objectives for this study, as an objective of a questionnaire is to gather facts and impressions associated with a given phenomenon from people with experience thereof (De Vos *et al.*, 2005:166).

The questions in the questionnaire were aimed at gaining information regarding the participants' knowledge, insights, perceptions, attitudes, and experiences with regard to all aspects of routine childhood immunisation in the Witzenberg sub-district, thereby achieving the objectives for this study.

#### **1.5.6 Pilot study**

Bless and Higson-Smith (2000, cited in De Vos *et al.*, 2005:206) define a pilot study as a modest study executed before the major research with the purpose of establishing the suitability and sufficiency of its methodology, sampling, instruments and analysis.

A pre-test was conducted that involved five respondents (n=5) from within the same

population as the main study in order to rectify any confusing and/or excess questions that occurred in the questionnaire in August 2009. The researcher used the information gained through this pre-test to compile a better questionnaire, thereby improving the questionnaire's reliability and validity (De Vos *et al.*, 2005:210). Data collected from the pre-test was not incorporated in the main study findings or conclusions.

#### **1.5.7 Reliability and validity**

Validity is achieved when a measuring instrument essentially and precisely measures the research concept, while reliability has to do with the measurement's trustworthiness (De Vos *et al.*, 2005:160). Credibility was therefore ensured by adhering to the sampling as described earlier, and by keeping to the subject selected. This is reflected in the data derived from the questionnaires when investigating the attitudes and factors influencing parental compliance with routine childhood immunisation. It was proposed to fully test the reliability and validity of the study design and data collection instrument by submitting the research proposal and the measuring instrument for review to research experts in methodology and nursing, as well as conducting a pre-test of the data collection instrument prior to the main study.

#### **1.5.8 Ethical considerations**

The ethical considerations for this study were based on the ethical principles as described in Burkhardt and Nathaniel (2002:41). Written informed consent was obtained from all participants before the start of the data collection interventions in order to ensure the participants' right to personal autonomy. There were no study interventions and although participants were asked to provide their names in order to establish relationship, it was not documented on the data, thereby ensuring their anonymity. Mouton (2005:243) notes that in doing this the researcher ensures the participants' rights to privacy, anonymity and confidentiality, as well as their right to full knowledge about the research.

This research proposal was also submitted to the Health Research Ethics Committee (HREC) of Stellenbosch University for ethical approval, after which it was presented to the Western Cape Department of Health for consent to execute the study.

#### **1.5.9 Data collection**

The researcher distributed the questionnaires to the parents and/or caregivers at the chosen CHCs during her three-week vacation in August 2010. Participants were asked to

start completing Section A of the forms where after the researcher assisted individual participants who needed help in completing the rest of the questionnaire. The researcher again collected all the questionnaires on their completion for data analysis and interpretation.

#### **1.5.10 Data analysis and interpretation**

According to Burns and Grove (2007:41) data analysis is directed at decreasing, arranging and providing significance to the data. Given that a descriptive design was chosen for this study, descriptive statistics were used in analysing the quantitative data. MS Excel was used to capture the data and STATISTICA version 9-software was used to analyse the quantitative data. Summary statistics were used to describe the variables. Distributions of variables were presented with histograms and/or frequency tables.

The researcher opted to use Tesch's approach to qualitative data analysis (De Vos *et al.*, 2001:343) as a guideline in reducing the qualitative data of the study.

### **1.6 STUDY OUTLINE**

The outline of this research report is as follows:

#### **Chapter 1: Scientific foundation for the study**

In this chapter a general overview of the research is given. It includes an introduction to the research topic, operational definitions, as well as the rationale, problem statement, aim and objectives of the study. The methodology of the research study is explained briefly and the ethical considerations are discussed.

#### **Chapter 2: Literature review**

The concepts of the Expanded Programme on Immunisation (EPI) and South Africa's immunisation profile are discussed in this chapter. In addition, previous relevant research studies are reviewed and the research findings are discussed.

#### **Chapter 3: Research methodology**

In this chapter the research approach and design, as well as the selection of subjects for the sample, the data collection methods and process, and the data management process

are explained in detail.

#### Chapter 4: Data analysis and results

The results of the study are presented, analysed, interpreted and discussed in this chapter.

#### Chapter 5: Conclusions and recommendations

The thesis is concluded and recommendations are made based on the literature review and the empirical findings of the study.

### **1.7 SUMMARY**

This proposed study was aimed at determining, understanding and describing the attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule, and the nature thereof. The objectives were to gain knowledge of and insight into factors influencing participants' adherence with routine childhood immunisation; and the participants' feelings, attitudes, and experiences surrounding immunisation within the context of the health care environment in the Witzenberg sub-district of the Cape Winelands district in the Western Cape. In order to achieve this, the researcher proposed to use a quantitative descriptive approach in order to provide a clear description of the phenomenon as it is lived and experienced by the parents and/or caregivers in their everyday lives. That in turn helped in generalising the findings to the region and in putting plans and actions in place that will help to ensure parent and/or caregiver compliance with the primary immunisation programme.

In the next chapter (Chapter 2) the relevant literature as reviewed by the researcher is discussed.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 INTRODUCTION

This section begins with a brief overview of the global immunisation programme and the way in which it is carried out in South Africa. The new, revised immunisation schedule introduced in South Africa in 2009 is also briefly discussed in this section. Furthermore, a brief overview of the immunisation coverage for all provinces in South Africa is included before the discussion of the reviewed literature.

A literature review was done to determine the existing knowledge of reasons for low immunisation rates in children aged 0 to 60 months and the gaps therein. The literature study was done via an Internet search on various databases Medline, PubMed, NCBI and Evolve/Elsevier. Sources were mainly chosen on the basis of their publication dates (2000-2010) and relevance to the topic.

#### 2.2 THE EXPANDED PROGRAMME ON IMMUNISATION (EPI)

Since immunisation coverage is one of the primary predictors of the infant rate of death (Day *et al.*, 2010:274), it plays a vital role in saving the lives of children and in lowering the incidence of deaths and diseases. According to the EPI (VACFA, 2009), immunisation coverage increased from less than 5% to almost 80% of all children worldwide after the World Health Organization (WHO) implemented the EPI for children under one year in 1974. As a result, smallpox has been eradicated, polio occurrences lessened by 99% and other life-threatening diseases covered by the vaccines have become far less prevalent. Thus, in preventing more than two million deaths every year, immunisation is one of the most cost-effective and successful medical accomplishments to date (WHO, 2005:3). Although only four vaccines, namely Bacillus Calmette-Guerin (BCG), DTP, oral polio vaccine (OPV) and measles, were included in the first EPI schedule, many more vaccines are now universally available (VACFA, 2009). Table 2.1 provides information on the new EPI-SA schedule.

**Table 2.1**  
**The new EPI-SA schedule**

AGE	VACCINE	ROUTE OF ADMINISTRATION
<b>Birth</b>	BCG TOPV*	Intradermal injection to right upper arm Drops by mouth
<b>6 weeks</b>	TOPV RV* DTP-IPV/Hib* Hepatitis B PCV <sub>7</sub> *	Drops by mouth Liquid by mouth (NOT >24 weeks) Intramuscular injection to the left thigh Intramuscular injection to the right thigh Intramuscular injection to the right thigh
<b>10 weeks</b>	DTP-IPV/Hib Hepatitis B	Intramuscular injection to the left thigh Intramuscular injection to the right thigh
<b>14 weeks</b>	RV DTP-IPV/Hib Hepatitis B PCV <sub>7</sub>	Liquid by mouth (NOT >24 weeks) Intramuscular injection to the left thigh Intramuscular injection to the right thigh Intramuscular injection to the right thigh
<b>9 months</b>	Measles PCV <sub>7</sub>	Intramuscular injection to the left thigh Intramuscular injection to the right thigh
<b>18 months</b>	DTP-IPV/Hib Measles	Intramuscular injection to the left arm Intramuscular injection to the right arm
<b>6 years</b> (both boys and girls)	Td*	Intramuscular injection to the left arm
<b>12 years</b> (both boys and girls)	Td	Intramuscular injection to the left arm

(South African Vaccination and Immunisation Centre, 2010)

\* Abbreviations (see Terminology)

### 2.2.1 The EPI in South Africa (EPI-SA)

The EPI-SA was implemented in 1995. Its goal is to provide children with protection against vaccine-preventable diseases from the earliest age possible, preferably before they have contact with such diseases (Day *et al.*, 2010:46; DoH, 2005:6). The initial EPI-SA used five vaccines to protect children up to age five against six deadly diseases, namely polio, diphtheria, tuberculosis, pertussis, measles and tetanus (Baker, 2010:18). It

was later upgraded to include the HepB and haemophilus influenza type b (Hib) vaccines (DoH, 2005:2, 14). The new revised EPI-SA schedule includes eight vaccines and provides coverage for 12 deadly diseases. It covers children from 0 to 12 years while introducing an improved, new single, as well as a new combination vaccine, as indicated in Table 2.1.

In this new revised schedule, the diphtheria and tetanus vaccine (DT) at five years was replaced with Tetanus and diphtheria vaccine (Td) because of its lower concentration of diphtheria toxoids. Td is now administered to children at ages six and 12 years. The added dose at 12 years aims to gradually lengthen young girls' coverage against tetanus to a lifelong protection, thereby ensuring that they will not need tetanus toxoids immunisation during their pregnancy when they are older (DoH, 2008).

The two new single vaccines that were included in the revised schedule are 7-valent pneumococcal vaccine (PVC<sub>7</sub>) and rotavirus vaccine (RV). Pneumococcal diseases lead to high infant death occurrences in South Africa each year, while rotavirus infection is the major cause of the more than 10 000 yearly diarrhoea deaths of children under five years of age in South Africa (Ngcobo, 2009, cited in Baker, 2010:20). Seeing that pneumonia and diarrhoea together are responsible for more than one-third of all under-five deaths worldwide, immunising against these diseases encourages the effective avoidance and healing of these diseases (WHO, UNICEF & World Bank, 2009:xxv).

Lastly, the new combination diphtheria, tetanus, pertussis, inactivated polio vaccine, haemophilus influenza type b-vaccine (DTP-IPV/Hib) replaced OPV in the new revised schedule because the IPV does not carry the danger of vaccine-associated paralytic polio associated with OPV (Baker, 2010:19). All these changes make the EPI-SA schedule more suitable and effective in reaching Millennium Development Goal 4 (MDG 4), which is to reduce the under-five rate of death by two-thirds by 2015 (UN, 2010:26).

### **2.3 CURRENT GLOBAL IMMUNISATION COVERAGE RATES**

Duclos, Okwo-Bele, Gacic-Dobo and Cherian (2009:S2) reviewed the global advances and demands of public immunisation programmes. Their review reported a marked reduction in worldwide measles deaths between 2000 and 2007, with most regions achieving above 80% with three doses of DTP vaccines. According to the Immunisation Summary compiled by the WHO and UNICEF (2010:xii-xiii), global coverage with an MCV increased from 72%

in 2000 to 83% in 2008 (see Table 2.2), and diphtheria, tetanus toxoids and pertussis third dose (DTP3) coverage rates improved from 74% to 82% (see Table 2.3) for the same time period (WHO & UNICEF, 2010:xii-xiii).

**Table 2.2**  
**Trends: regional progress MCV coverage toward MDG 4, 1980-2008**

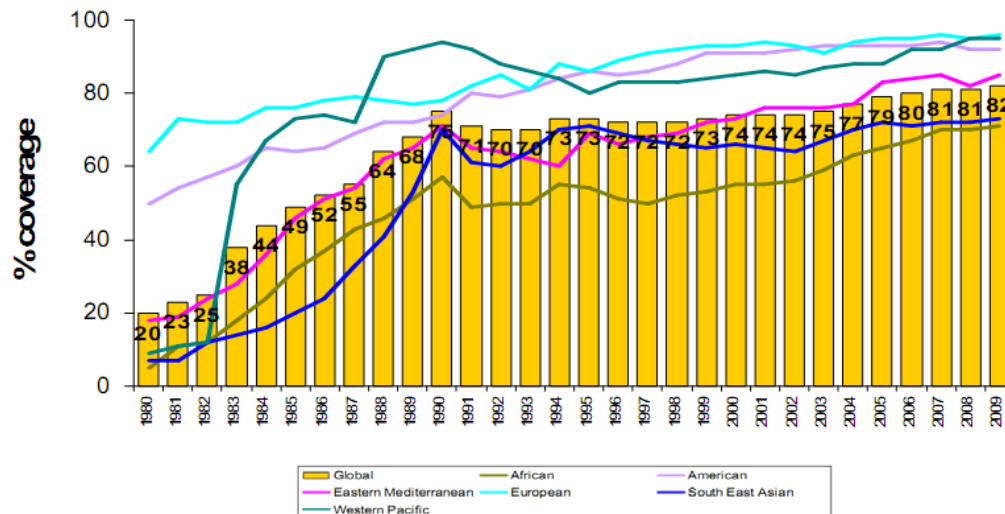
MCV Coverage	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Global	83	82	81	78	77	75	73	73	72	71	71	71	73	73	71	70	69	69	73	68	62	53	46	47	41	37	20	19	16
MDG regions																													
Commonwealth of Independent States	96	96	96	96	96	95	95	96	95	95	93	91	89	87	82	86	82	85	85	83	81	79	95	95	95	95	95	95	95
Developed regions	93	93	92	92	92	92	92	92	91	90	90	90	88	86	82	81	81	82	82	80	74	74	71	69	65	58	57	51	
Eastern Asia	94	94	93	87	87	86	86	85	85	85	83	82	84	80	76	82	87	92	98	95	94	76	63	87	82	76	1	1	1
Latin America and Caribbean	93	92	92	92	93	93	92	93	92	91	91	89	84	85	82	82	83	80	76	70	66	60	61	60	52	48	48	49	42
Northern Africa	92	96	96	95	94	93	93	94	93	94	95	92	92	89	89	88	87	85	85	83	75	71	67	38	32	28	22	22	
Oceania	58	62	70	62	61	67	65	63	68	68	65	56	39	52	46	41	73	72	70	58	52	44	42	36	26	8	4	5	4
South-Eastern Asia	88	84	85	84	83	82	79	79	80	81	82	82	82	75	76	75	73	72	70	63	56	47	41	26	15	8	2	0	0
Southern Asia	75	74	74	70	65	63	61	59	58	57	56	58	65	70	67	61	55	49	57	46	35	27	16	9	6	5	4	3	2
Sub-Saharan Africa	72	71	69	67	64	61	58	56	55	52	53	53	53	54	54	50	50	53	56	55	48	43	39	32	26	21	14	12	6
Western Asia	83	83	83	82	81	78	80	85	84	83	82	78	76	73	74	74	75	75	79	75	72	64	62	55	46	42	41	30	19
UNICEF regions																													
Central and Eastern Europe and CIS	96	96	96	95	92	90	92	94	93	90	89	88	85	82	81	82	81	79	80	79	79	76	73	84	84	84	80	78	73
East Asia and Pacific	91	90	90	85	85	84	83	83	83	83	83	82	83	78	76	79	83	86	89	85	82	67	56	68	60	53	1	1	1
Eastern and Southern Africa	77	75	73	70	70	69	68	67	65	65	67	66	67	64	66	60	58	59	62	59	54	52	49	43	39	34	21	18	9
Industrialised Countries	93	92	92	92	92	92	92	91	90	90	90	90	88	86	82	81	82	84	84	82	75	75	72	70	66	61	60	53	53
Latin America and the Caribbean	93	92	92	92	93	93	92	93	92	91	91	89	84	85	82	82	83	80	76	70	66	60	61	60	52	48	48	49	42
Middle East and North Africa	86	87	87	86	86	85	84	85	86	86	85	83	84	81	80	80	80	79	80	78	74	61	58	55	33	29	30	23	20
South Asia	74	74	73	69	64	61	59	58	57	55	54	57	65	69	66	59	53	47	56	44	33	25	14	6	5	3	1	0	0
West and Central Africa	66	67	65	63	58	54	48	46	45	39	41	40	40	44	43	41	41	47	50	50	43	37	32	24	15	9	9	8	4
WHO regions																													
African	73	72	70	67	64	62	59	57	56	53	54	54	54	55	56	52	51	54	57	56	50	46	42	35	26	21	14	12	6
American	93	92	92	92	93	93	93	93	92	91	91	90	86	86	84	83	83	82	80	76	74	66	69	68	62	59	59	59	51
Eastern Mediterranean	83	82	82	81	77	74	74	72	72	72	71	69	69	66	68	67	67	66	67	65	63	53	50	47	34	27	23	17	15
European	94	94	94	93	91	90	91	92	91	89	88	88	86	84	83	83	82	80	80	78	76	74	70	74	72	69	65	62	56
South East Asian	75	75	74	70	67	65	62	61	61	60	59	61	69	72	69	63	56	51	59	47	34	26	16	6	3	1	0	0	0
Western Pacific	93	92	92	87	87	86	85	86	85	84	83	84	81	77	80	85	89	94	90	88	73	61	78	73	66	5	4	5	5

(WHO & UNICEF, 2010:xii)

**Table 2.3**  
**Trends: regional progress DTP3 coverage toward MDG 4, 1980-2008**

DTP3 coverage	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980
Global	82	81	81	78	77	75	74	74	73	72	72	72	72	73	73	70	70	71	75	68	64	55	52	49	44	38	25	23	20
MDG regions																													
Commonwealth of Independent States	95	95	96	96	95	94	95	95	96	95	93	91	89	85	83	73	79	79	68	68	72	75	79	85	89	89	92	95	95
Developed regions	96	95	96	95	95	95	94	94	93	94	92	91	94	91	91	87	88	87	87	88	87	87	85	79	78	72	71	69	59
Eastern Asia	97	93	93	87	87	86	86	86	85	84	85	83	83	80	85	88	91	94	96	95	94	75	78	78	73	58	3	3	1
Latin America and Caribbean	90	92	92	92	91	91	91	90	90	88	85	83	82	83	80	78	77	78	68	64	62	59	56	56	56	49	47	42	37
Northern Africa	97	97	97	96	95	94	94	96	96	94	91	90	91	89	86	85	84	81	87	88	86	82	75	73	50	43	37	30	29
Oceania	58	64	77	64	64	71	65	62	65	66	65	53	63	67	67	65	65	73	73	61	58	54	49	46	42	36	35	37	37
South-Eastern Asia	86	83	84	83	83	82	76	81	82	80	81	81	79	77	76	74	73	75	75	70	61	54	49	38	25	21	18	18	16
Southern Asia	72	73	73	68	65	64	63	63	62	62	62	64	65	69	65	60	57	59	68	50	40	31	23	20	17	14	12	7	7
Sub-Saharan Africa	72	71	69	67	64	60	56	54	53	49	49	48	50	52	53	48	48	48	56	50	44	40	34	29	24	18	12	11	5
Western Asia	83	83	81	81	80	73	78	83	82	81	81	77	76	74	79	78	78	76	86	82	77	73	62	56	51	41	41	41	29
UNICEF regions																													
Central and Eastern Europe and CIS	95	95	94	94	92	87	91	93	93	91	90	88	85	82	85	75	80	75	70	69	73	75	70	76	75	75	77	80	75
East Asia and Pacific	92	89	90	85	85	84	82	84	84	83	84	82	81	79	82	83	85	87	90	87	84	68	69	65	57	46	8	8	6
Eastern and Southern Africa	78	76	74	73	72	71	68	67	65	65	66	66	66	67	66	61	57	58	63	56	53	52	45	41	38	32	18	18	10
Industrialised Countries	96	95	96	95	95	95	94	94	93	94	92	91	94	91	91	87	88	89	89	90	89	89	88	80	82	76	75	73	63
Latin America and the Caribbean	90	92	92	92	91	91	91	90	90	88	85	83	82	83	80	78	77	78	68	64	62	59	56	56	56	49	47	42	37
Middle East and North Africa	89	89	88	87	86	85	84	87	87	83	83	82	83	81	78	81	80	79	85	82	77	66	63	57	41	33	32	25	24
South Asia	71	72	72	67	64	63	62	62	61	61	61	62	64	68	64	59	55	57	67	49	38	29	21	18	16	13	11	6	5
West and Central Africa	65	65	62	61	55	50	44	41	40	35	34	32	34	38	42	36	40	37	49	42	36	31	25	20	13	7	6	5	1
WHO regions																													
African	72	71	69	68	64	61	56	55	53	50	51	50	51	54	55	50	50	49	57	51	46	43	37	32	24	18	12	11	5
American	92	93	93	93	92	92	92	91	91	90	88	86	85	86	84	81	79	80	74	72	72	69	65	64	65	60	57	54	50
Eastern Mediterranean	82	85	84	83	77	76	76	75	73	71	70	68	66	69	60	62	64	65	71	65	62	54	51	46	36	28	24	19	18
European	95	95	95	95	93	91	93	94	93	93	92	91	89	86	88	81	85	82	78	77	78	78	76	76	72	72	73	64	
South East Asian	72	72	72	67	67	65	64	65	65	64	65	67	69	71	70	64	60	61	70	53	41	33	24	20	16	14	12	7	7
Western Pacific	95	92	92	88	88	87	85	86	85	84	85	83	83	80	84	86	88	92	94	92	90	72	74	73	67	55	12	11	

The increased coverage and resulting decrease in child mortality, however, happened mostly in developed countries (see Figure 2.1), while an estimated 20% (24 million) of the children born yearly in developing countries still do not receive all the primary schedule immunisations (WHO *et al.*, 2009:xviii, xxvi).



(WHO, 2010:slide 1)

**Figure 2.1**  
**Global immunisation 1980-2009, DTP3 coverage**

The global coverages presented in Figure 2.1 are still well below the 90% coverage goal for 2010, particularly in developing countries like Africa and South East Asia (Duclos *et al.*, 2009:S2).

## 2.4 SOUTH AFRICA'S IMMUNISATION PROFILE

Full immunisation coverage is the indicator used to display the percentage of children under the age of one year who had all their immunisations up to the first measles (Day *et al.*, 2010:46). The national Department of Health (NDoH) has established the national target for full immunisation coverage at 90%, with all districts reaching 80% coverage (Barron & Monticelli, 2007:23).

### 2.4.1 Provincial synopsis

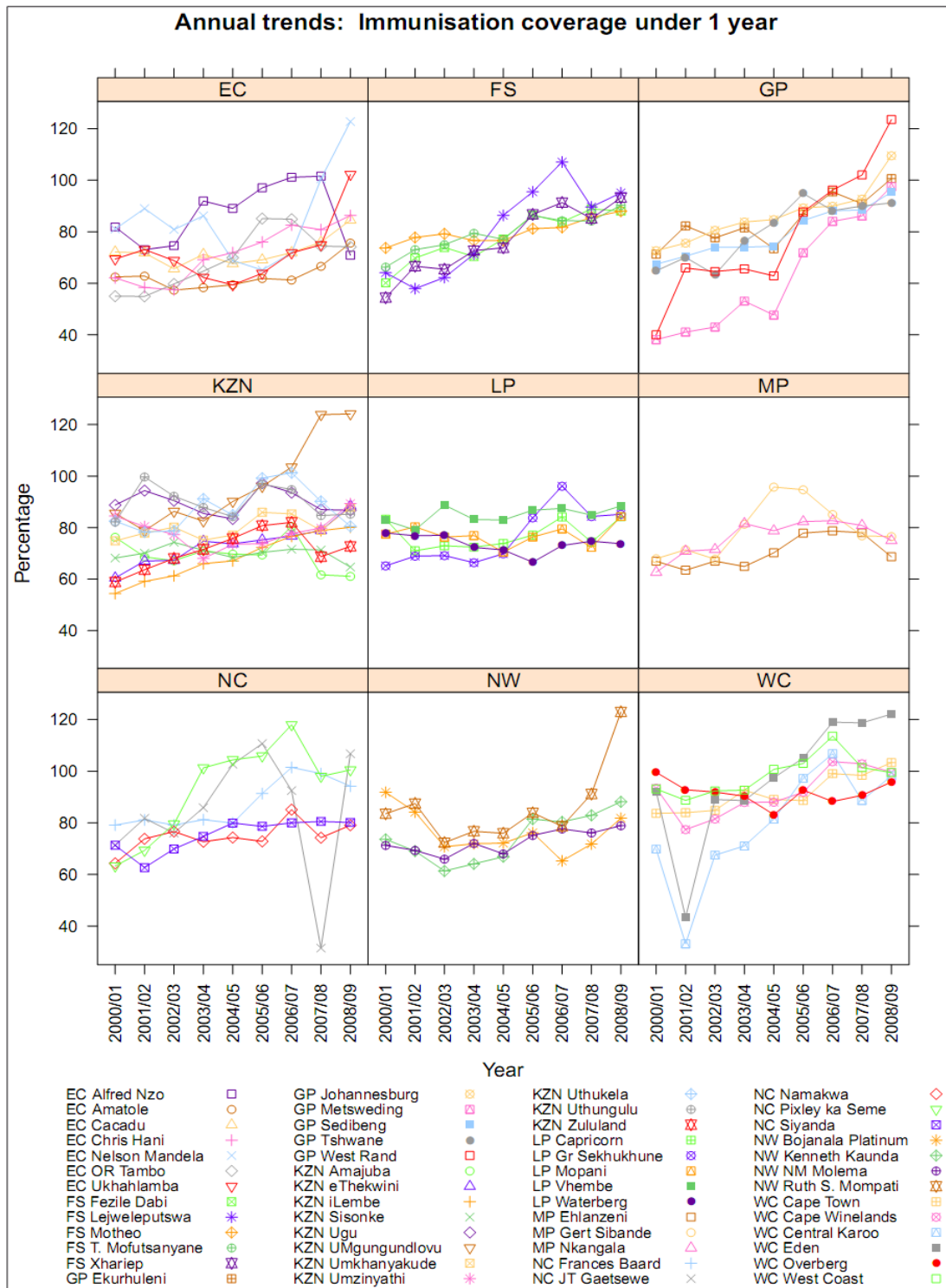
Except for a minor decrease in 2007/2008, the SA DHB (Day *et al.*, 2010:131) reported a steady increase in the South African immunisation coverage rate, from 76.4% in

2003/2004 to 89.5% in 2008/2009. This average was reported to hide differences at provincial level; from a high of 103.9% in the Western Cape to a low of 72.4% in Mpumalanga (MP). Four provinces, namely North West (NW), KwaZulu-Natal (KZN), Eastern Cape (EC) and Limpopo (LP), reached more than 80%, while another four, namely Gauteng (GP), Western Cape, Northern Cape (NC) and Free State (FS) surpassed the national target (Day *et al.*, 2010:46). MP, with an average rate of 72.4% in 2008/2009, was the only province that did not reach 80% immunisation coverage, and also reflected a gradual yearly decrease from 83.4% in 2005/2006 (Day *et al.*, 2010:46, 221).

Day *et al.* (2010:47) further reported that both NW and NC showed a coverage increase of 10% from 2007/2008 to 2008/2009. They did however feel that these figures needed further investigation. The reason was that one district in NW reported an abnormally high average coverage rate of 123% that unnaturally increased the province's average coverage. NC, on the other hand, showed an average coverage rate of 93.2% for 2008/2009 but had a general decrease in coverage from 96.2% in 2006/2007. NC's 10% increase between 2007/2008 and 2008/2009 was attributed to one district not reporting in 2007/2008, which lowered the province's average for that year. That district now shows more realistic data and reached the third highest coverage in South Africa in 2008/2009 (Day *et al.*, 2010:47).

FS showed a gradual increase in its immunisation coverage rate from 74.8% in 2003/2004 to 90.4% in 2008/09 (Day *et al.*, 2010:151). LP also showed an increase from 78.6% in 2007/2008 to 84.3% in 2008/2009. The districts in these two provinces and in MP reported rather firmly grouped coverage rates between their districts for 2008/2009. NW, KZN and EC had the highest and lowest district coverage rates, showing large differences between the provinces' districts. Although they had atypical increases and decreases within their district coverage rates, EC, WC and GP provinces reported consistent and impressive general immunisation coverage advances from 2005/2006 to 2008/2009 (Day *et al.*, 2010:47).

A graph illustrating the annual immunisation coverage trends for South African provinces is provided in Figure 2.2.



(Day *et al.*, 2010:50)

**Figure 2.2**  
**South Africa's provincial immunisation trends**

Indicators of immunisation coverage are hugely influenced by the accuracy of the population estimate. The SA DHB is therefore very careful to attribute the near achievement of the national target to real accomplishments, and rather ascribe it to the District Health Information System's over-estimation thereof. The reasons for the overestimation could be due to their counting more immunisations than what was given and to the known fact that children under one year old are being undercounted (Day *et al.*, 2010:46). This phenomenon might explain why some provinces report immunisation coverage rates over 100%.

#### **2.4.2 Western Cape immunisation coverage**

The high immunisation coverage rate reported for the WC province of South Africa is in contrast to the findings in a study reported by Solarsh and Goga (2004, cited in Corrigan *et al.* 2008:42). This study stated that the WC had an immunisation coverage of 69%, which was one of the lowest immunisation coverages for all the provinces of South Africa, according to the investigators. Corrigan *et al.* (2008:41), whose study was conducted in the WC, investigated whether the WC was at risk for an outbreak of preventable childhood diseases due to the low immunisation coverage. Their study found the immunisation coverage to be insufficient to prevent outbreaks. This conclusion was proven to be correct with the recent 2009 country-wide spread of measles in South Africa. By February 2010, 422 confirmed measles cases were reported in the WC and the spread was officially declared an outbreak in the WC (DoH, 2010).

Although Liebenberg (2008) reported that there had been a marked improvement in the immunisation coverage in the Witzenberg sub-district of the WC during 2007, her opinion was that the increase in coverage was due to facility interventions, such as the auditing of immunisation records, and not to a change in the parents' and/or caregivers' perceptions. She agreed that an in-depth study into the persisting attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule was relevant. Explanations for this phenomenon were lacking and needed further investigation.

### **2.5 FACTORS INFLUENCING PARENTAL ATTITUDES AND COMPLIANCE**

It is evident from the above discussion that there are persisting factors that influence parental attitudes and compliance with the routine childhood immunisation. Parents and/or caregivers all over the world are expected to comply with existing childhood immunisation

programmes in order to prevent outbreaks of preventable childhood diseases. Even though parents and/or caregivers do take their children to be immunised, many still seem to be reluctant about having their children immunised. This reluctance influences parental uptake of immunisation from time to time and needs to be understood.

### **2.5.1 Socio-economic influences**

The age and educational level of the parent(s) and/or caregivers have proved to play an important role in immunisation uptake. In Spain, higher coverage rates were reported for mothers above 30 years and mothers with a university education (Borràs, Domínguez, Oviedo, Batalla & Salleras, 2008:71; Borràs *et al.*, 2009:158). Studies done in Saskatoon, Canada, the USA and the UK found under-immunisation to be associated with lower-income families, divorced, estranged or single parents, and with certain cultural groups (Lemstra, Neudorf, Opondo, Toye, Kurji, Kunst & Tournier, 2007:849; Samad, Tate, Dezateux, Peckham, Butler & Bedford, 2006:1312; Smith, Chu & Barker, 2004:187). On the other hand, unimmunised children in the USA were mostly white males from higher-income families who had four or more siblings and whose mothers were married and had a college education (Smith *et al.*, 2004:187). Likewise, mothers of unimmunised children in the UK were older and had a higher education (Samad *et al.*, 2006:1312). The reasons given by parents in the above-mentioned studies are addressed under the relevant headings below.

### **2.5.2 Parental cognisance relating to immunisation**

The following sections discuss the information gained from the reviewed literature with regard to parental understanding relating to immunisation. It further discusses if and how the parents' and/or caregivers' understanding of immunisation influences their attitudes and feelings toward immunisation.

#### **2.5.2.1 Vaccine-preventable diseases**

A consequence of the success with the EPI is that, due to the lowered incidence of vaccine preventable diseases, parents do not see these diseases as health threats and therefore consider immunising against them unnecessary (Sanou *et al.*, 2009:10). Regular polio and measles awareness campaigns make these diseases and the reasons for immunisation against them to be well known and understood by parents, but that is not true for the other vaccine-preventable diseases (Helman & Yogeswaran, 2004:836; Sanou

*et al.*, 2009:10). Knowledge of all vaccine-preventable diseases therefore plays an important role in parental understanding of the reasons for immunisation. Borràs *et al.* (2008:71) found higher immunisation coverage rates with parents who obtained information about vaccines, as well as with parents who received information directly from paediatricians.

#### **2.5.2.2 Immunisation and its safety**

The main aim of studies conducted by Bardenheier, Yusuf, Schwartz *et al.* (2004:569), and Borràs *et al.* (2009:154) was to determine parental cognisance relating to vaccines and their safety. In the USA, Bardenheier, Yusuf, Schwartz *et al.* (2004:569) sampled children between the ages of 19 and 35 months from participants in the 2000/2001 National Immunisation Survey and conducted a case-control survey study. The study measured the coverage of three vaccines, namely MMR, DTP (or DTaP), and HepB. These researchers concluded that although most parents believed immunisations to be important to their children's health, a significant difference existed between the vaccination coverage of children whose parents had specific concerns about side-effects and getting too many shots, and those parents who did not. In addition, studies found that even parents of fully vaccinated children have concerns about vaccine safety and are afraid of illnesses, the unknown, as well as the danger surrounding under-immunised children (Austin, Campion-Smith, Thomas & Ward, 2008:33; Bardenheier, Yusuf, Schwartz *et al.*, 2004:569).

Immunisation is a preventative treatment given to healthy children on a routine schedule. As vaccine-preventable diseases become less prevalent, parents are more conscious and fearful of the side-effects of immunisation, resulting in lowered immunisation coverage (Austin *et al.*, 2008:33; Borràs *et al.*, 2009:154; Dannetun *et al.*, 2005:1; Gust *et al.*, 2004:16). Many parents whose children were under-vaccinated feared the risk of immunisation more than the risk of the disease (Austin *et al.*, 2008:34; Gullion, Henry & Gullion, 2008:406) because major known, unknown and long-term side-effects are linked to immunisation (Lemstra *et al.*, 2007:849; Sporton & Francis, 2001:184). Concerns about side-effects are reported to be related to the newer vaccines, leading to parental refusal of those vaccines (Freed, Clark, Butchart, Singer & Davis, 2010:657). Moreover, although immunisation services are rendered free of charge, these possible side-effects may lead to additional travel and medical expenses (Fourn, Haddad, Fournier & Gansey, 2009:S14).

Gust *et al.* (2004:16) and Dannetun *et al.* (2005:1) looked at the attitudes, beliefs and behaviour of parents of under-immunised children and the reasons for postponement or abstinence respectively. While Bardenheier, Yusuf, Schwartz *et al.* (2004:570) and Gust *et al.* (2004:17) conducted case-control studies using telephone surveys, Dannetun *et al.* (2005:1) did a telephonic survey by using a structured questionnaire with the specific aim of determining the attitudes of the parents regarding their postponement or non-vaccination with the MMR vaccine. All these studies, including the study by Smith *et al.* (2004:187, 189), found that concerns about the safety of vaccines were the major reason for under- or non-immunisation.

### **2.5.2.3 Communication problems**

The above-mentioned fear may also be the result of a lack of information regarding possible adverse effects of vaccines (Dugas, 2006; Ralisy & Radanielina, 2005, both cited in Dugas, Dubé, Kouyaté, Sanou & Bibeau, 2009:2). In Catalonia, Spain, Borràs *et al.* (2009:154) did a survey among parents of children under three years regarding vaccination. Another reason that was been found for vaccine non-compliance was a lack of information (Borràs *et al.*, 2009:154) and parents' lack of understanding the expectations of health workers, or believing their children to be fully immunised (Sanou *et al.*, 2009:6). Sanou *et al.* (2009:10) found that when parents experienced communication difficulties the child immunisation rate dropped by half.

Corrigall *et al.* (2008:41) also found that a lack of information was a common reason given by parents for non-completion of the immunisation schedule. The study revealed that this lack of information resulted in a significant dropout between the 9- and 18-month vaccinations.

### **2.5.2.4 Misconceptions**

Communication problems often lead to misconceptions. A study conducted in Benin found the lack of information to be the reason behind the parental belief that immunisation causes anaemia (Fourn *et al.*, 2009:7). Other parents believed OPV immunisation was not effective, that it would lead to disease and infertility, and that it was a conspiracy by the government to control Muslim and Hindu population increase (Cockcroft, Andersson, Omer, Ansari, Khan, Chaudhry & Ansari, 2009:5; Obregón, Chitnis, Morry, Feek, Bates, Galway & Ogden, 2009:624). As some normal childhood symptoms like fever and diarrhoea often occur with fatal diseases, parents believe that these symptoms actually cause death. This

in turn leads to negative perceptions of immunisation when a fully vaccinated child presents with these symptoms (Dugas *et al.*, 2009:8).

Lemstra *et al.* (2007:849) found that parents were convinced that immunisation weakened the immune system and therefore preferred using natural medicine to help the child build natural immunity. They also found that more than half of parents of under-immunised children did not know their children were not on schedule with immunisation and believed them to be fully immunised (Lemstra *et al.*, 2007:850). Gust, Darling, Kennedy and Schwartz (2008:720) found that parents mistakenly believed that their children could not be immunised while they suffered from minor illnesses.

### **2.5.2.5 Issues of mistrust**

For immunisation to be effective in building immunity, the EPI schedule requires repeated dosages of certain vaccines. This led to parents to mistrust the effectiveness of OPV and feeling burdened by the need for repeated visits to the health facilities (Obregón *et al.*, 2009:625). Borràs *et al.* (2009:158) also reported that parents believed that immunisation was promoted by companies seeking financial gain; causing them to mistrust the proclaimed importance of immunisation. This explains the parental mistrust of healthcare providers and the government as they are not believed to provide unbiased information (Sporton & Francis, 2001:181; Gullion *et al.*, 2008:406). Parents preferring complementary and alternative medicine do so because of intense criticism and mistrust of conventional medicine as well as concerns about vaccine safety (Ernst, 2002:S90). The more concerned about the vaccine safety, the less parents are likely to take their children for immunisation: 'Nowhere is distrust more apparent and understandable than among parents who believe their child has been injured by immunization' (Cooper, Larson & Katz, 2008:150).

### **2.5.3 Clinic-related factors**

The literature was also reviewed to determine existing knowledge about the experiences of the parents and/or caregivers within the health service environment. The findings are discussed under the relevant headings below.

#### **2.5.3.1 Missed opportunities**

Coverage or default rates and the reasons associated therewith were investigated in studies conducted by Bardenheier, Yusuf, Rosenthal *et al.* (2004:479), Onyiriuka

(2005:71), and Corrigan *et al.* (2008:41). All three of these studies used a cross-sectional household survey study design and found missed opportunities to be the main reason for low immunisation coverage. Onyiriuka (2005:72) noted that an opportunity was missed 'when a child who needed an immunisation had contact with the health service but was not given the vaccination'. Corrigan *et al.* (2008:45) point out that opportunities are missed when clinic staff tells parents and/or caregivers to come back at another time and give them the wrong return dates. Corrigan *et al.* (2008:41) found that these clinic-related factors were the most common reasons given by parents for non-completion of the immunisation schedule.

### **2.5.3.2 The immunisation process**

In a study conducted by Harrington *et al.* (2000:394) the main focus was to examine mothers' satisfaction with the immunisation process and its possible effect on low immunisation uptake. Sanou *et al.* (2009:1) investigated factors related to complete immunisation coverage in Burkina Faso. It was found in these studies that the mothers experienced major emotional distress due to the hastiness of the immunisation process (Harrington *et al.*, 2000:394) and would have preferred the vaccinators to stay longer in their village during immunisation visits (Sanou *et al.*, 2009:6). It was also concluded that the mothers would have preferred a more empathic immunisation environment, which would include time to discuss their fears and questions with the health provider. The mothers preferred general practitioners to health centres as immunisation providers mainly because they spent less time at the general practitioner's rooms and found the environment there to be more empathic (Harrington *et al.*, 2000:394).

### **2.5.4 The health care provider**

Fourn *et al.* (2009:7) identified similar attitudes to those discussed in the preceding paragraph. They found that mothers complained about the immunisation sessions and the associated 'bureaucratic hassles'. Because of prior experience with health workers' negative attitudes and conduct, mothers were not motivated to access immunisation services and preferred outreach sessions over fixed clinics as the health workers were seen as being more attentive and committed to their work (Fourn *et al.*, 2009:7).

A survey conducted by Smith *et al.* (2006:1287) took a slightly different approach than the other studies reviewed. Rather than exploring the influence of the parents' beliefs about vaccine safety, they specifically aimed at determining the health care providers' influence

on the parents' decision to vaccinate their children. The authors knew parents had concerns about vaccine safety and wanted to determine the extent to which the health care providers influenced the vaccine coverage rates through their attitudes and conduct. The study found that health care providers had a positive influence on parents' decisions to have their children vaccinated. This was in contrast to findings from the study done by Smith *et al.* (2004:189), where parents of unimmunised children stated their immunisation decision had not been influenced by a doctor.

### **2.5.5 The employer's influence**

There is a gap in understanding and knowing the perceptions and feelings of the employer of a parent and/or caregiver whose child needs to be immunised, as seen and experienced by the parent and/or caregiver, and the influence it has on vaccination coverage rates. Those perceptions can play a major role in the immunisation compliance of the parent and/or caregiver as most of the immunisation services are rendered during daytime working hours. No studies could be found that investigated this specific gap. The only studies found investigated whether employers provided health insurance plans that cover vaccinations, and if that influenced immunisation uptake (Chernew, Gowrisankaran, McLaughlin & Gibson, 2004:471; Hunsaker, Veselovskiy & Gazmararian, 2009:S532).

### **2.5.6 Personal barriers**

Personal factors influencing immunisation compliance were stated as mothers either not feeling motivated or not having time to attend immunisation clinics because of their working conditions (Dugas *et al.*, 2009:6). Mothers also stated fear of harm and pain to their child associated with immunisation injections as being a deterrent in complying with immunisation (Dugas *et al.*, 2009:6; Logullo, De Carvalho, Saconi & Massad, 2008:169). Mothers experienced the following access problems: parents not being able to pay for transport to health facilities; parents not having anyone to take the child for immunisation when they had to work; not having someone to tend to other children at home (Helman & Yogeswaran, 2004:838; Lemstra *et al.*, 2007:849). In this regard, Borràs *et al.* (2008:71) found that children attending day care centres were more likely to be fully immunised.

Medical factors concerning the child or family were stated as reasons for under-immunisation, while the convictions or mindsets of mothers were given as reasons for no immunisation (Samad *et al.*, 2006:1312). The researchers provided no further explanations of these factors.

Personal religious and moral beliefs also play a role in parental reluctance in complying with immunisation. Fourn *et al.* (2009:1) mentioned that some parents were found to think it against God's will and therefore a sin to immunise their child. Others had moral issues when they discovered that the rubella vaccine originated from an aborted foetus (Sporton & Francis, 2001:184).

### **2.5.7 Reasons for full immunisation**

Sanou *et al.* (2009:10) found complete immunisation coverage to be much higher with non-educated parents who understood the reasons for immunisation than those who did not understand the reasons. It was also found that good communication between the parents and/or caregivers and the health workers led to complete immunisation in the urban area of Nouna, Burkina Faso (Sanou *et al.*, 2009:6). Other factors found to contribute to complete uptake were closer distances to immunisation clinics, higher educational and literacy levels of mothers, as well as religion (Sanou *et al.*, 2009:10).

One of the gaps identified in the literature was a clear understanding of reasons why parents and/or caregivers of fully immunised children chose to do so regardless of their feelings of reluctance towards immunisation (Vernon, 2003:400). Vaccinators will be better able to plan interventions for parents and/or caregivers choosing not to immunise if they understand the reasons motivating those parents and/or caregivers who do. An exhaustive literature search was done to find reasons why parents of fully immunised children chose to do so although they were reluctant toward immunisation, but none was found.

## **2.6 SUMMARY**

In this chapter some of the relevant literature on the concept of factors influencing immunisation uptake was reviewed. The EPI was explained and discussed first as this is the programme used globally to bring immunisation to all children. Seeing that this study was done in South Africa, a brief overview was provided of South Africa's immunisation profile. Factors that might play a role in immunisation uptake as identified in the literature search were the following: parental cognisance of immunisation and vaccines, clinic-related factors, the influence of health care providers and employers, personal and societal influences, and reasons for complete immunisation.

The methodology used to explore these above-mentioned concepts is discussed in detail in Chapter 3.

## CHAPTER 3

### RESEARCH METHODOLOGY

#### 3.1 INTRODUCTION

Polit and Beck (2009:16) define research methodology as the procedures used by a researcher to plan a study and to collect and interpret information applicable to the research question. This chapter describes the research methods used to answer the research question derived from the aim and objectives of the study.

##### 3.1.1 Aim of the study

The aim of the study was to determine definite factors contributing to parent and/or caregiver attitudes to the routine childhood immunisation schedule in the Witzenberg sub-district of the Cape Winelands district of the Western Cape, as well as the nature of and reasons for the identified factors.

##### 3.1.2 Objectives of the study

The objectives for this study were to:

- gain knowledge of and insight into factors which promote or impede parent and/or caregiver uptake of routine childhood immunisation in the above-mentioned area;
- determine the attitudes and feelings of the parents and/or caregivers regarding immunisation;
- describe the experiences of the parents and/or caregivers within the health service environment at the CHCs in the study area.

##### 3.1.3 Research question

The primary research question in this study was the following:

What are the factors influencing parents and/or caregivers to comply with the routine childhood immunisation schedule in the Witzenberg sub-district?

### 3.2 RESEARCH APPROACH AND DESIGN

Quantitative research is a meticulously organised and methodical process that aims to give unbiased explanations of variables by using assigned numerical values, while qualitative research is subjective with the purpose of providing meaningful explanations of life experiences (Burns & Grove, 2007:17, 18).

A quantitative research approach, with a smaller qualitative component, was selected for this study. The reason for choosing this approach was to improve the chances of exploring all facets of the phenomena under study. De Vos *et al.* (2005:361) refer to this intentional combination of quantitative and qualitative approaches as triangulation. As the use of both quantitative and qualitative data in one study is not always cost-effective and can be time-consuming, the researcher opted to make use of Creswell's dominant-less-dominant model as described by De Vos *et al.* (2001:360) in the data-generating phase. The quantitative information took preference in using this model in this study.

Burns and Grove (2007:553) define research design as a draft for managing a study in order to increase command over components that could obstruct the soundness of the results, and to direct the planning and execution of the study in the best way to reach the goal in mind. This study followed a descriptive-exploratory design in order to describe and explore the immunisation experiences of the parents and/or caregivers within the health service environment and their subsequent influence on their decision to immunise the child or not. Burns and Grove (2007:240) explain that a descriptive study is set to gather more information about aspects within a particular field of study, and that it aims to give an image of a phenomenon as it occurs naturally, while exploratory research aims to acquire awareness and understanding of a phenomenon (De Vos *et al.*, 2005:134).

Bless and Higson-Smith (1995, cited in De Vos *et al.*, 2005:104) defines the unit of analysis as the individual or object from which the researcher gathers information. In this study the primary unit of analysis was the parents and/or caregivers of children aged 0 to 60 months in the Witzenberg sub-district of the WC who had to receive routine childhood immunisation from vaccinators at CHCs.

### 3.3 TARGET POPULATION AND SAMPLING

De Vos *et al.* (2005:294) define a population as all those components related to the research problem under investigation.

The population targeted for data collection in this study included:

- parents and/or caregivers of children aged 0 to 60 months in the Witzenberg sub-district (N=8374) (Statistics South Africa, 2001); and
- CHCs providing immunisation and/or other primary health care services in the above-mentioned sub-district (N=16).

### **3.3.1 Sampling techniques**

Kerlinger (1986, cited in De Vos *et al.*, 2005:193) describes sampling as 'taking any portion of a population or universe as representative of that population or universe'. The researcher chose the following two sampling methods for this study:

#### **3.3.1.1 Non-probability convenience sampling of parents and/or caregivers**

A 4,5% non-probability convenience sampling was taken of parents and/or caregivers from among those with children aged 0 to 60 months attending the sampled CHCs in the Witzenberg sub-district (n=376).

According to Gravetter and Forzano (2003, cited in De Vos *et al.*, 2005:201) non-probability sampling is used when the chances of choosing a specific individual are not known. Therefore, because the population size was known to the researcher but not the members of the population, this sampling method was proposed.

Any parent and/or caregiver of children aged 0 to 60 months available at or near the chosen CHCs were asked to participate until the designated sample size was reached. Singleton (1988, cited in De Vos *et al.*, 2005:202) calls this method convenience sampling.

The sample size for this study was determined by the generally accepted opinion that the bigger the population, the smaller the proportion of that population the sample needs to be, and vice versa (Neuman, 2003, cited in De Vos *et al.*, 2005:194). The researcher opted to follow Stoker's guidelines of what the size of the sample should be, namely a maximum 4,5% sample (n=376) (De Vos *et al.*, 2001:192).

#### **3.3.1.2 Systematic sampling of the CHCs**

Systematic sampling of the CHCs providing immunisation and/or other primary health care services in the Witzenberg sub-district was done by methodically selecting every second

facility from an alphabetical list of these facilities after randomly choosing a starting point, in order to ensure equal representation thereof in the study ( $n=8$ ) (De Vos *et al.*, 2005:200).

### **3.4 INCLUSION AND EXCLUSION CRITERIA**

Only parents and/or caregivers of children aged 0 to 60 months living in the Witzenberg sub-district for longer than six months were included in this study. Parents and/or caregivers who resided in this area for less than six months were excluded because they had not had enough experience with services rendered by CHCs in this chosen sub-district in order to participate meaningfully in this study.

### **3.5 DATA COLLECTION INSTRUMENT**

The measuring instrument used as the data collection technique for this study was a self-administered questionnaire (Addendum B). A questionnaire was considered to be the most effective tool in obtaining the set objectives for this study, as an objective of a questionnaire is to gather facts and impressions associated with a given phenomenon from people with experience thereof (De Vos *et al.*, 2005:166).

The questions contained in the questionnaire were aimed at gaining information regarding the parents' and/or caregivers' knowledge, insights, perceptions, attitudes, and experiences of all aspects of routine childhood immunisation in the Witzenberg sub-district, thereby achieving the objectives for this study. The questions were also grounded on information gained from the reviewed literature, and included both closed and open-ended questions in order to give depth to the study. An outline of the questionnaire's headings, its content and the reason for the inclusion of questions are discussed below.

## **SECTION A: DEMOGRAPHIC DATA**

This section consisted of nine (9) questions and was used to gain information with regard to the following variables: participants' gender, age, race, home language, marital status, educational levels and employment status, as well as their relation to the child.

The above-mentioned questions were aimed at determining if and how these variables influenced the parents' and/or caregivers' decision to immunise their child, and to determine whether similarities and/or differences existed between them.

The last question in this section, question 9, asked participants to indicate the number and age of children less than five years old in his or her care. This question was included as a reference for parents while completing the form, as well as to determine possible reasons for the immunisation status of their children.

## **SECTION B: SPECIFIC DATA**

This section contained nineteen (19) questions focused on gathering specific data on factors and attitudes influencing parents' and/or caregivers' attitude to routine childhood immunisation, and included both closed and open-ended questions.

Question 10 focused on determining where participants had first heard about immunisation. This was done in order to ascertain if the initial source had any influence on participants' decision-making process with regard to immunisation uptake.

Questions 11 to 13 focused on determining participants' true conviction with regard to immunisation and the reason for their conviction.

Questions 14 to 15 focused on determining which kind of facilities participants chose to access for immunisation and why.

Questions 16 to 20 focused on participants' knowledge, perceptions and experience of the following aspects of immunisation:

- its aim and purpose (question 16)
- whether participants think it safe, the reason for their answer and how this perception influences their decision to immunise (questions 17 and 18)
- contra-indications (question 19)
- side-effects (question 20)
- missed opportunities (question 21 and 22)

Question 23 focused on determining health workers' influence on immunisation uptake.

Questions 24 to 26 focused on determining whether participants experienced emotional distress related to immunisation, its cause and its effect on their decision-making process.

Questions 27 to 28 focused on determining employer influence on immunisation uptake.

### **3.6 PILOT STUDY**

Bless and Higson-Smith (2000, cited in De Vos *et al.*, 2005:206) define a pilot study as a modest study executed before the major research with the purpose of establishing the suitability and sufficiency of its methodology, sampling, instruments and analysis.

A pre-test of the questionnaire was conducted which included five respondents (n=5) from within the same population as the main study in order to rectify any confusing and/or superfluous questions in the questionnaire during August 2009. The researcher used the information gained through this pre-test to compile better questions where indicated, thereby improving its reliability and validity (De Vos *et al.*, 2005:210). Data collected from the pre-test was not incorporated into the main study findings or conclusions.

### **3.7 RELIABILITY AND VALIDITY**

Validity is achieved when a measuring instrument essentially and precisely measures the research concept, while reliability has to do with the measurement's trustworthiness (De Vos *et al.*, 2005:160).

The reliability and validity of the study design and data collection instrument was tested by submitting it for review to research experts in methodology and nursing, and also by submitting the questionnaire to a statistician for review prior to collecting the data. It was then further tested by conducting a pre-test of the data collection instrument prior to the main study. All questions in the questionnaire were based on the study objectives and on the information gained from the reviewed literature in order to ensure content validity. The researcher was also guided by supervisors during all stages of the study.

Credibility was ensured by adhering to the sampling as described earlier, and by keeping to the subject selected. This was reflected in the data derived from the questionnaires when investigating the attitudes and factors influencing parental compliance with routine childhood immunisation.

### **3.8 ETHICAL CONSIDERATIONS**

Silva (2005:177) defines ethics of research as what is morally required when conducting, distributing, and implementing findings from a study or academic investigation. The ethical considerations for this study were based on the ethical principles as described in Burkhardt and Nathaniel (2002:41) and on the summary of the fundamental ethical principles that are shared by most professional codes of conduct, as noted by Mouton (2005:239).

With these ethical principles in mind, written informed consent was obtained from all participants before the start of the data collection interventions in order to ensure the participant's right to personal autonomy. This was done after the purpose and aim of the study had been explained to the prospective participants, and after it had been made clear to them that they could withdraw from the study at any time without any ramifications. There were no study interventions and although participants were asked to provide their names in order to establish relationship, it was not documented on the data, thereby ensuring their anonymity. Mouton (2005:243) notes that in doing this the researcher ensures the participants' rights to privacy, anonymity, confidentiality, as well as their right to full knowledge about the research.

This research proposal was also submitted to the HREC of Stellenbosch University for ethical approval, after which it was presented to the Western Cape DoH for consent to execute the study. Ethical approval for the study was granted by the HREC on July 29, 2010 (Addendum E).

### **3.9 DATA COLLECTION PROCESS**

The ethical approval letter was submitted to the Western Cape DoH on August 23, 2010, and the researcher received their letter of permission to execute the study on December 6, 2010 (Addendum G). The researcher further requested and obtained electronic permission to conduct research in the Witzenberg sub-district from the Director: Cape Winelands District, Dr Lizette Phillips in June 2010, and from the Assistant Director: Comprehensive Health, Mrs E. Prins in July 2010.

Data for the study was collected during the researcher's three-week vacation, from August 2 to August 20, 2010. The researcher went to all the sampled CHCs to ask permission to enter their premises, and to explain the extent of the study to the staff. After obtaining the

relevant consent from the vaccinators in charge at each facility, general information about the study was given to prospective participants in the sampled CHCs' waiting areas. These information sessions included an explanation of the study purpose and aim, prospective participants' right to withdraw from the study at any chosen time, and of the questionnaire's layout and content. Translators at the CHCs were used to translate the information to Xhosa-speaking parents and/or caregivers and to answer any of their questions.

The researcher then distributed the questionnaires to the parents and/or caregivers who volunteered to participate. Participants were asked to start completing Section A of the forms where after the researcher helped individual participants who needed help in completing the rest of the questionnaire. Participants who needed help were mothers with babies in their arms who found it difficult to write as well as participants who could not write. These participants' answers to the questions were written verbatim on the questionnaire form. The researcher again collected each questionnaire on its completion for data analysis and interpretation.

It was clear during the pilot study that the sample size would not be reached by only targeting parents and/or caregivers at the CHCs as most parents and/or caregivers visited the CHCs in the morning, and by the time the researcher had finished at one CHC and reached the next, all prospective participants would already have left the facility. The researcher therefore recruited field workers who lived within the communities where the sampled CHCs were located and who spoke the language of the members of these communities. The researcher individually trained these fieldworkers (lay health care workers) by explaining how the questionnaire should be completed by the respondents. They were then given questionnaires to hand out to parents and/or caregivers of children under five years living within the community served by the CHC. The researcher visited the areas that had no fieldworkers. The researcher also visited all the fieldworkers every other day in order to give support, and to collect the completed questionnaires for data capturing.

Of the 430 questionnaires handed out to participating parents and/or caregivers over the three week data collection period, 366 (85%) of the questionnaires were returned and could be used in this study.

### **3.10 DATA ANALYSIS AND INTERPRETATION**

According to Burns and Grove (2007:41) data analysis is directed at decreasing and arranging the data and providing significance to the data. The following two paragraphs provide a description of the methods used by the researcher in analysing the quantitative and qualitative data in this study.

#### **3.10.1 Quantitative data analysis**

MS Excel was used to capture the data and STATISTICA version 9 software was used to analyse the quantitative data. Given that a descriptive design was chosen for this study, descriptive statistics were used in analysing the data. Burns and Groves (2007:420) describe the purpose of descriptive analysis as depicting the dissimilarity of variables rather than examining for causality, and explain that investigating distinctions between variables will portray their connectedness. Summary statistics were used to describe the variables. Distributions of variables were presented with histograms and/or frequency tables.

#### **3.10.2 Qualitative data analysis**

Patton (2002, cited in De Vos *et al.*, 2005:333) describes qualitative data analysis as the process of converting data into findings by decreasing the bulk of raw data into recognisable patterns from related connotations and then building a frame for relaying the essence of what the data unveils.

Burns and Grove (2007:81) describe data reduction as the process of decreasing large amounts of information in order for it to be examined. It may include isolating, focusing, clarifying and converting information (Miles & Huberman, 1994:10, cited in Burns & Grove, 2007:81). The researcher opted to use Tesch's approach to qualitative data analysis (De Vos *et al.*, 2001:343) as a guideline in reducing the study data. This approach consists of the following eight steps:

Step 1: The researcher carefully reads through all the data in order to get an idea of the data as a whole and writes down ideas as they come to mind.

Step 2: The researcher contemplates the underlying meaning of the information and notes abstracts in the margin.

Step 3: The researcher then compiles a list of all the topics. Similar topics are clustered together and formed into categories.

Step 4: The researcher returns to the data with the compiled list. The topics are then abbreviated as codes and the codes are noted opposite the appropriate segments of the text. This initial organising scheme is then tested to see if new categories and codes emerge.

Step 5: The researcher selects the most descriptive wording for the topics and creates categories, based on the topics. The total lists of categories are then reduced by grouping related topics together. Lines are drawn between categories to show interesting relationships.

Step 6: A final decision is made on the abbreviation for each category and the codes are alphabetised.

Step 7: The researcher compiles the data material for each category in one place and performs the initial analysis.

Step 8: The researcher re-codes current data if required.

Following Tesch's guideline, the researcher began with the first open-ended question in each questionnaire and searched for the main theme and trend in all the questionnaires. A second person read through the respondents' written answers while the researcher did the coding thereof. The main theme was then written on an index card, followed by similar topics from the rest of the responses, which were clustered together and formed into sub-categories. These themes and categories were tested against the data and new categories were added as they emerged. Next, the researcher chose the most descriptive wording for each response, categorised it and looked for the relationship between them. The researcher then chose the final description for each category and compiled it into an explanatory framework. The most representative quotes were used and the core themes were underlined. Re-coding of the data was done when the researcher saw the need to do so. This process of analysis and interpretation was repeated for each of the open-ended questions in the questionnaire.

Guba's model (as cited in De Vos *et al.*, 2005:346) to ensure validity and reliability (trustworthiness) in qualitative research was taken into consideration namely truth value; applicability; consistency; and neutrality.

### **3.11 SUMMARY**

This chapter described the research methods used by the researcher in conducting this study. It explained the research approach and design selected and the target population and sampling methods used. This was followed by a description of the data collection instrument and process, which included a discussion of the pilot study, the study's reliability and validity, and the ethical considerations. Finally, the chapter concluded with an explanation of the data analysis and interpretation methods.

In Chapter 4 the results of the study are provided, discussed and contextualised.

## **CHAPTER 4**

### **DATA ANALYSIS AND RESULTS**

#### **4.1 INTRODUCTION**

According to Burns and Grove (2007:41) data analysis is directed towards decreasing, arranging and providing significance to the data. In this chapter, the study data is analysed and discussed under relevant headings according to the outlay of the questionnaire used for data collection.

#### **4.2 DATA ANALYSIS**

A quantitative research approach, with a smaller qualitative component, was selected for this study. Different methods, as discussed in paragraph 3.10, were used in analysing the quantitative and qualitative data.

##### **4.2.1 Quantitative data analysis**

The quantitative data was first captured on MS Excel and then analysed by a statistician from the Statistical Consultation Department of Stellenbosch University, using STATISTICA version 9 software. Given that a descriptive design was chosen for this study, descriptive statistics in the form of histograms and frequencies were used in displaying the data.

##### **4.2.1.1 The data-capturing instrument**

The measuring instrument used for data collection in this study was self-administered questionnaires. The questions therein were aimed at gaining information regarding the respondents' knowledge, insights, perceptions, attitudes, and experiences with regard to all aspects of routine childhood immunisation in the Witzenberg sub-district, thereby achieving the objectives for this study. Both closed and open-ended questions were posed in the questionnaire.

A total of 430 questionnaires were handed out to participants for completion. Only 366 (85%) of the questionnaires were collected and could be used in this study.

**SECTION A: DEMOGRAPHIC DATA****Question 1: Your gender**

As indicated in Table 4.1, the majority of the respondents (99% or n=361) were female, while only 1% of the respondents (n=5) were male.

**Table 4.1**  
**Gender of the respondents**

<b>Variables</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
Female	361	99
Male	5	1
<b>Total</b>	<b>366</b>	<b>100</b>

**Question 2: Your age**

Two respondents (n=2) did not indicate their age on the questionnaire. As indicated in Table 4.2, the majority of the respondents were either in the 21-30 age group (45% or n=165) or 31-40 age group (31% or n=111). The mode is considered to be the value that occurred most frequently in a distribution (De Vos *et al.*, 2001:215). In this study the highest frequency age of the respondents was 28 years (Mo=28).

**Table 4.2**  
**Age of the respondents**

<b>Variables</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
<20 years	51	14
21-30 years	165	45
31-40 years	111	31
41-50 years	26	7
51-60 years	9	2
>60 years	2	1
<b>Total</b>	<b>364</b>	<b>100</b>

**Question 3: Your race**

The majority of the respondents were coloured (64% or n=235), while the rest were black (36% or n=131). None of the respondents were white or Asian.

**Question 4: Your home language**

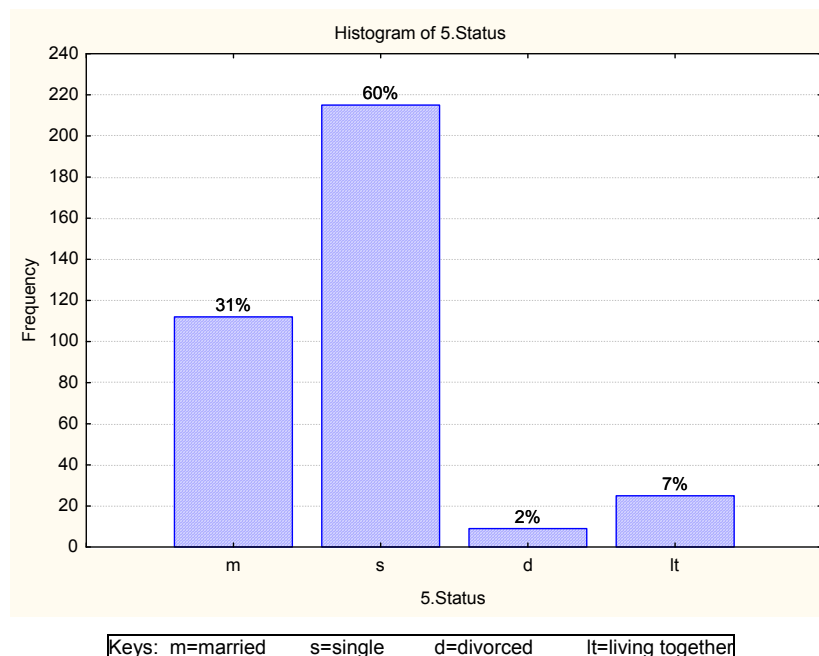
Two respondents (n=2) did not complete this question. As indicated in Table 4.3, the home language of the majority of the respondents was Afrikaans (65% or n=235), whereas 34% (or n=122) were Xhosa-speaking. Only four respondents (1%) mentioned another home language, namely Sotho.

**Table 4.3**  
**Language of the respondents**

<b>Variables</b>	<b>Frequency (f)</b>	<b>Percentage (%)</b>
English	3	1
Afrikaans	235	65
Xhosa	122	33
Other language	4	1
<b>Total</b>	<b>364</b>	<b>100</b>

**Question 5: Marital status**

Five respondents (n=5) did not complete this question. Figure 4.1 indicates that the majority of the respondents were either single (60% or n=215) or married (31% or n=112).

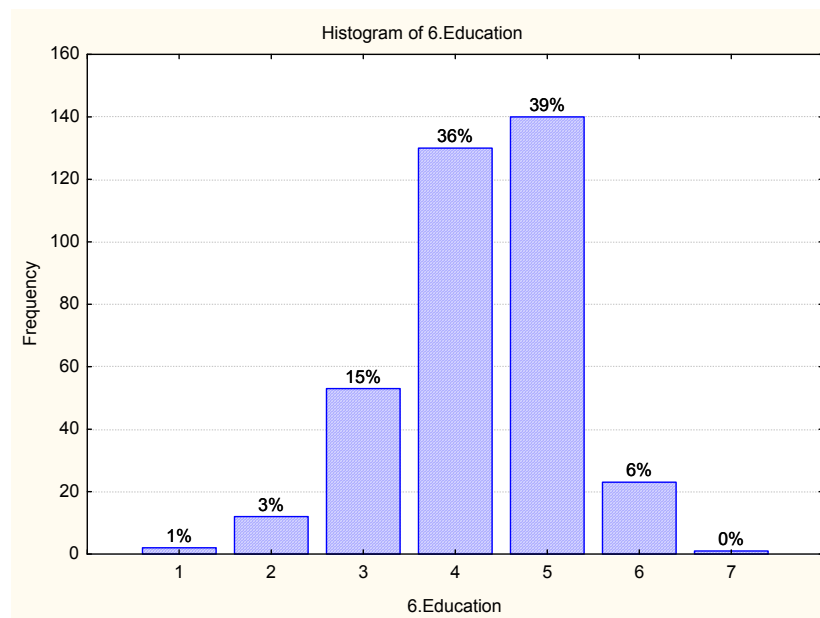


**Figure 4.1**

**Marital status of the respondents**

#### **Question 6: Educational level**

Five respondents (n=5) did not complete this question. As indicated in Figure 4.2, the majority of the respondents either had Grade 11-12 (39% or n=140) or Grade 8-10 (36% or n=130) levels of education.

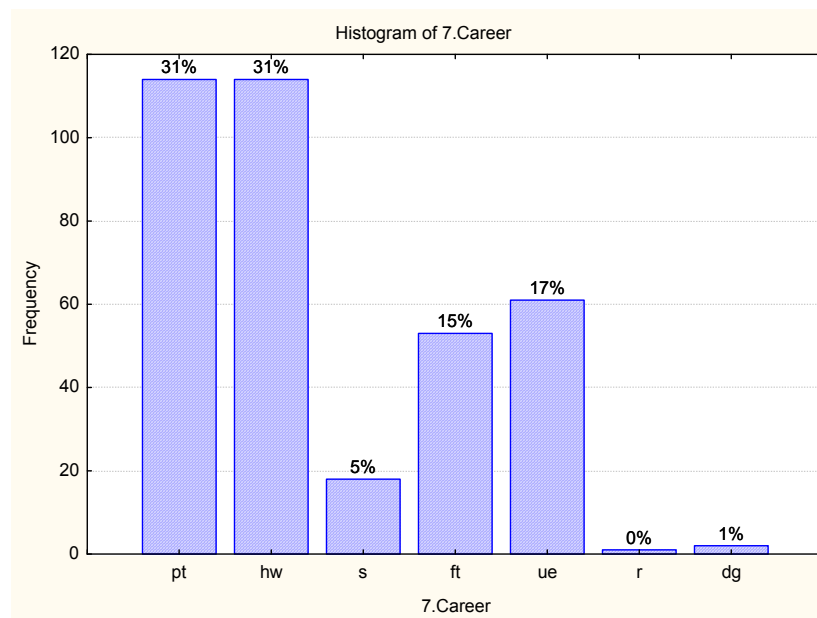


Keys:	1=none	2=Grade 1-3	3=Grade 4-7
	4=Grade 8-10	5=Grade 11-12	6=certificate or diploma
			7=degree

**Figure 4.2**  
**Educational level of the respondents**

### Question 7: Career

Three respondents (n=3) did not complete this question. Figure 4.3 indicates an equal majority of respondents were either part-time workers (31% or n=114) or housewives (31% or n=114).



Keys:	pt=part-time work	hw=housewife	s=student/scholar	ft=full-time work
	ue=unemployed	r=retired	dg=disability grant	

**Figure 4.3**  
**Careers of the respondents**

#### **Question 8: What is your relation to the child?**

One respondent (n=1) did not complete this question. The majority of the respondents mentioned that they were the parents of the child (91% or n=333), whereas 3% (or n=12) were the principal caregivers, and 6% (or n=20) indicated other relations. The other relations were mentioned as being either grandmothers (70% or n=14), aunts (15% or n=3), grandfathers (10% or n=2) or a cousin (5% or n=1).

#### **Question 9: Please indicate the age, gender and immunisation status for each child 5 years and younger in your care.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

#### **Question 9.1: If you answered 'Fully immunised', please explain your reason(s) for choosing to take your child for ALL his/her vaccinations.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 9.2: If you answered 'Not fully immunised', please explain your reason(s) for choosing to take your child for SOME of his/her vaccinations.**

The above question also generated qualitative data and is discussed in paragraph 4.2.2.

**Question 9.3: If you answered 'Not immunised', please explain your reason(s) for choosing NOT to take your child for his/her vaccinations.**

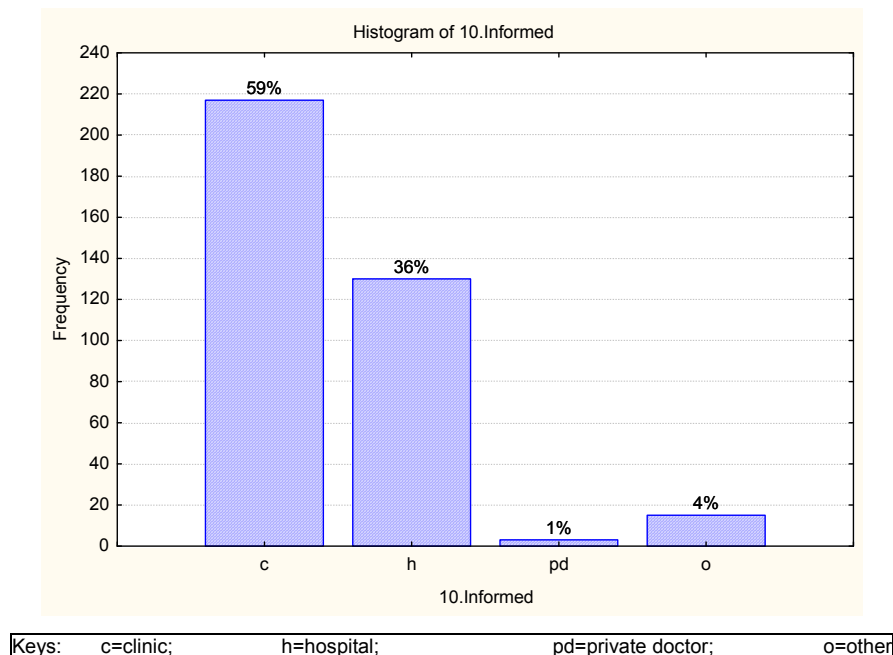
The above question also generated qualitative data and is discussed in paragraph 4.2.2.

## SECTION B: SPECIFIC DATA

**Question 10: Where did you learn or hear about immunisation the first time?**

One respondent (n=1) did not complete this question. As indicated in Figure 4.4, the majority of respondents (59% or n=217) first heard about immunisation at a clinic, while 36% (or n=130) first heard from a hospital.

'Other sources' were indicated as being either mothers (72% or n=11), a grandmother (7% or n=1), parents (7% or n=1), family (7% or n=1), or at school (7% or n=1). None of the respondents indicated private nurses, pharmacies or 'none' as a source of first information.



**Figure 4.4**  
**First heard about immunisation**

**Question 11: Do you agree with having your child immunised? (Choose one.)** Three respondents (n=3) did not complete this question. The majority of the respondents (99% or n=360) indicated that they agreed with having their children immunised, whereas 1% (n=3) did not agree.

**Question 11.1: If you answered 'Yes', specify.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 11.2: If you answered 'No', specify.**

The above question also generated qualitative data and is discussed in paragraph 4.2.2.

**Question 12: Have you ever felt that you didn't want to have your child immunised but had it done anyway?**

Nine respondents (n=9) did not complete this question. The majority of the respondents (73% or n=261) never had feelings of doubt about immunisation, whereas 27% (or n=96) had experienced doubt.

**Question 13: Please give a reason for your answer in question 12.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 14: Where do you mainly prefer to take your child for his/her immunisations? (Choose one.)**

Two respondents (n=2) did not complete this question. The majority of the respondents (95% or n=347) indicated clinics as the place where they mainly preferred to take their child for immunisation, whereas the rest preferred day hospitals (3% or n=9), private doctors (1% or n=5) or hospitals (1% or n=3). None of the respondents indicated private nurses, pharmacies or any other places as places of preference.

**Question 15: Please give a reason for your answer in question 14.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 16: What are the immunisations for? (Choose one.)**

As indicated in Table 4.4, the majority of the respondents (89% or n=325) indicated that immunisation protects their child against dangerous infectious diseases, while 10% (n=36) believed immunisation prevents their child from getting regular illnesses like colds and 'flu. One respondent (n=1) mentioned that immunisation protects against both colds and 'flu and infectious diseases as an 'other' option.

**Table 4.4**  
**Purpose of immunisation**

Variables	Frequency (f)	Percentage (%)
It keeps child from getting regular diseases like colds and 'flu	36	10
It protects child against dangerous infectious diseases	325	88
It is good for nothing	4	1
Other	1	1
<b>Total</b>	<b>366</b>	<b>100</b>

**Question 17: Do you think immunisation is safe?**

The majority of the respondents (99% or n=362) believed immunisation to be safe, whereas 1% (n=4) of the respondents did not believe immunisation was safe.

**Question 17.1: If your answer is 'Yes', specify.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 17.2: If your answer is 'No', specify.**

The above question also generated qualitative data and is discussed in paragraph 4.2.2.

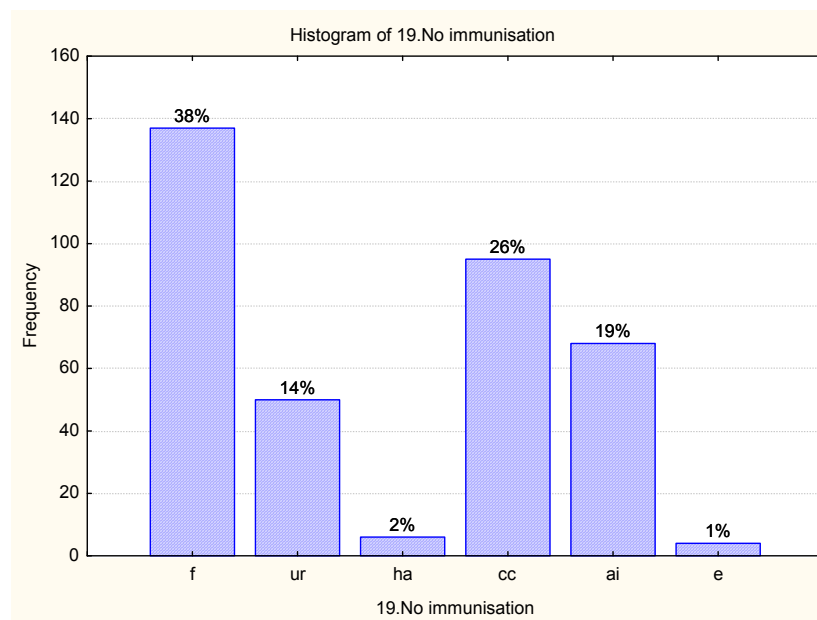
**Question 18: How does your feeling about vaccine safety influence your decision to have your child immunised?**

The majority of respondents (94% or n=347) indicated they believed vaccines to be safe and that they would therefore let their child be immunised with all vaccines, whereas 4% (n=15) believed some vaccines to be safe. They would therefore let their child be immunised with some, but not all vaccines. Only 1% (n=3) believed it is not safe and they indicated that they did not want their child immunised. One respondent (1%) indicated

another choice, which was that a child was ill for some time after immunisation and that led to doubts about immunisation.

**Question 19: When should a child NOT be immunised? (Choose one.)**

Six respondents (n=6) did not complete this question. As indicated in Figure 4.5, the majority of the respondents (38% or n=137) indicated a child should not be immunised while having a fever, whereas 26% (n=95) indicated common cold or 'flu to be a contra-indication for immunisation. None of the respondents indicated 'other' as an option.

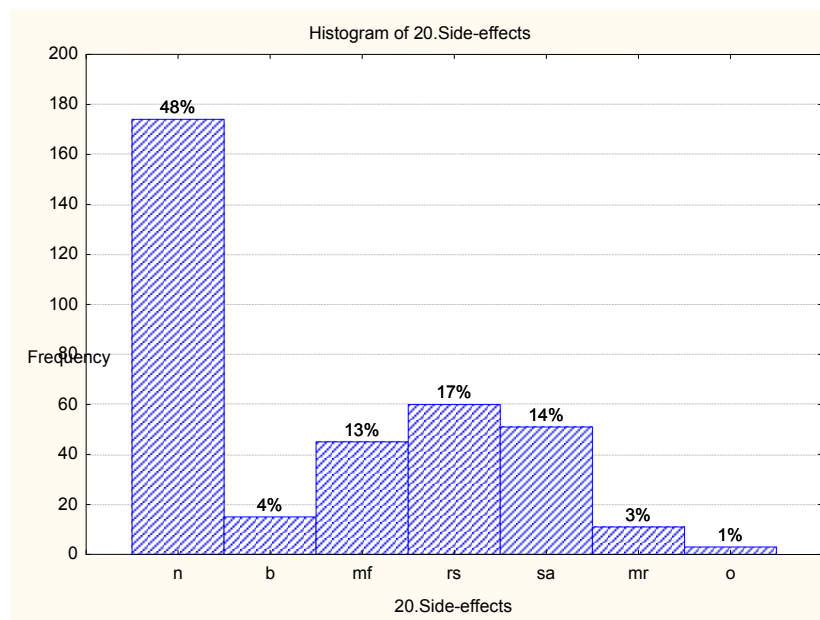


Keys:	f=fever	ur=previous unfavourable reaction to immunisation
	ha=HIV/AIDS	cc=common cold or 'flu
	ai=Child should always be immunised on time irrespective of current health status.	
	e=epilepsy	

**Figure 4.5**  
**Believed contra-indications**

**Question 20: Has your child ever suffered from any of the following conditions due to immunisation? (Choose one option.)**

A significant number of the respondents (48% or n=174) indicated that their children had never suffered side-effects following immunisation, whereas the collective majority of the respondents (52% or n=192) indicated their child had experienced side-effects as indicated in Figure 4.6. Only three respondents mentioned 'other' side-effects, which were actually a combination of more than one side-effect as listed in the questionnaire.



Keys:	n= none of these conditions	b=small blister where child had the TB injection
	mf=mild fever for a day or two	rs=redness and swelling at the injection site
	sa=small abscess at injection site	mr=mild rash after measles injection
	o=other	

**Figure 4.6**  
**Respondent reported side-effects**

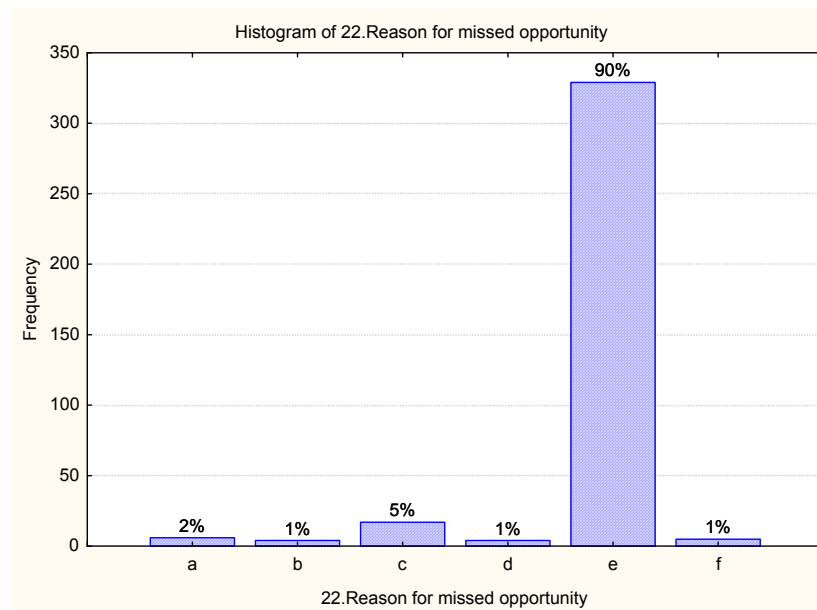
**Question 21: Have you ever visited a health facility when your child needed immunisation, but it was not given to your child?**

One respondent (n=1) did not complete this question. The majority of the respondents (85% or n=310) never had a missed opportunity, whereas 15% (n=55) of the respondents' children did not receive the needed immunisation on their contact with a health facility.

**Question 22: What was the reason for your answer in question 21? (Choose one.)**

One respondent (n=1) did not complete this question. As indicated in Figure 4.7, the majority of the respondents' children (90% or n=329) received the needed immunisation on their visit to the health facility, whereas 5% (n=17) were told by the health workers to come back another time without their child receiving the necessary immunisation. Five respondents (1%) indicated 'other' reasons for missed opportunities, namely no injections at the clinic (20% or n=1); a baby being sick (20% or n=1); being told to come back

because of the child's 'closed up' chest (20% or n=1); the clinic being full (20% or n=1); and because a child had chest 'flu (20% or n=1).



Keys: a= Child had contact with the health care facility when needed immunisation, but did not receive it.  
 b= Some, but not all of the needed immunisations were given on visit to the health care facility.  
 c= Took child to be immunised, but the nurses instructed to come again without giving the immunisation.  
 d= Wrong date was written on card and no immunisation was given to child, only a new date on which to come back.  
 e= Visited the clinic and the needed immunisation was given.  
 f= other

**Figure 4.7**  
**Reasons for missed opportunity**

**Question 23: Is your decision to immunise your child influenced by the health workers' treatment of you or your child?**

Five respondents (n=5) did not complete this question. The majority of the respondents' (79% or n=285) decision to immunise their child was not influenced by the health workers' conduct toward them or their child, whereas 21% of the respondents' (n=76) decision was influenced.

**Question 23.1: If your answer is 'Yes', specify.**

The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 23.2: If your answer in 'No', specify.**

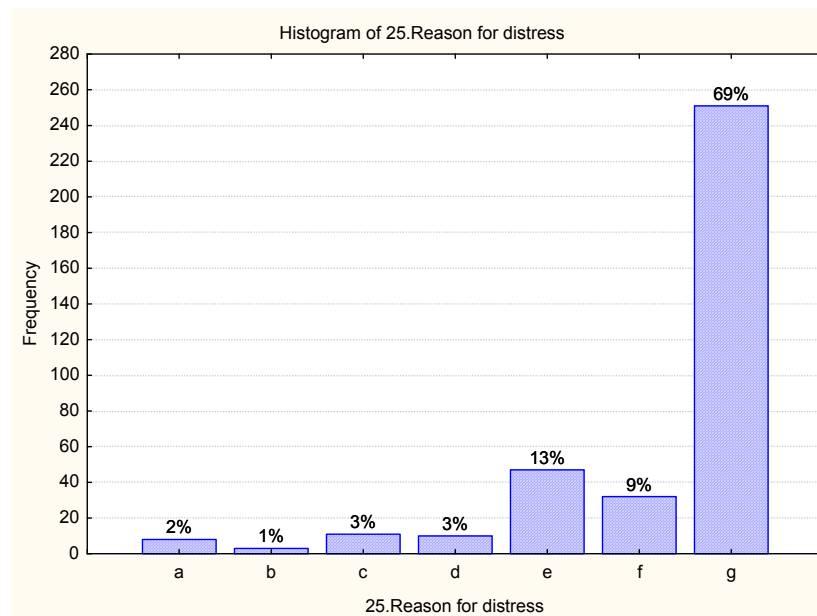
The above question generated qualitative data and is discussed in paragraph 4.2.2.

**Question 24: Have you at any time experienced any emotional distress during an immunisation procedure?**

Four respondents (n=4) did not complete this question. The majority of the respondents (73% or n=263) had not experienced emotional distress, while 27% (n=99) had.

**Question 25: Please give a reason for your answer to question 24 by choosing the most relevant option.**

Four respondents (n=4) did not complete this question. As indicated in Figure 4.8, the majority of the respondents (69% or n=251) had not experienced emotional distress. This corresponds with the finding in question 24. As many as 13% (n=47) of the respondents' emotional distress had been caused by the child's crying after immunisation, whereas 9% (n=32) had feelings of guilt for taking their child to be hurt by someone else.



Keys:

- a=Immunisation process is being done too hastily.
- b=Staff does not give attention to client during immunisation.
- c=No time to discuss questions or fears with the staff.
- d=Too many shots are being given to child at the same time.
- e=Child cries a lot after the immunisation procedure.
- f=Feel guilty for taking child to be hurt by others.
- g=Did not experience emotional distress.

**Figure 4.8**  
**Reasons for emotional distress**

**Question 26: When you experienced emotional distress, did this negative emotional experience influence your decision to go back for the next immunisation appointment?**

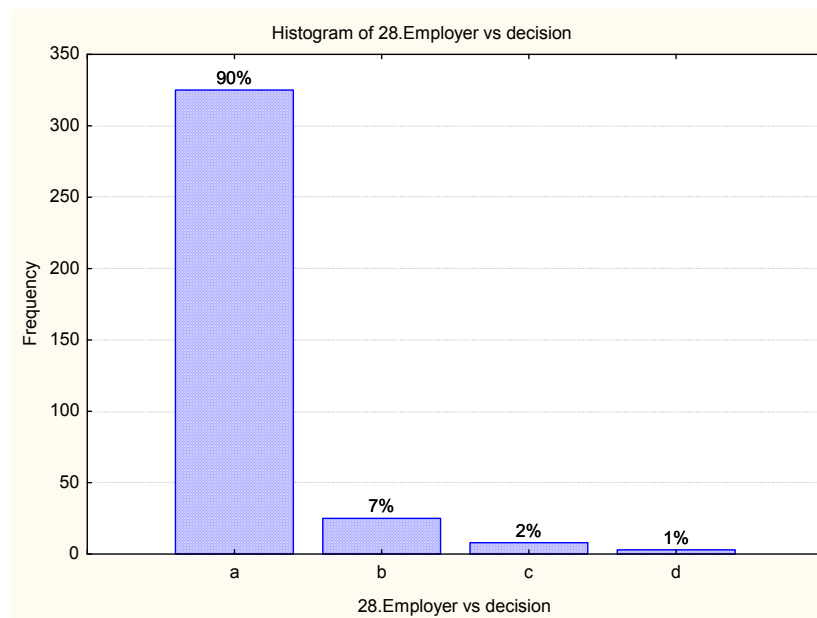
Seven respondents (n=7) did not complete this question. The majority of the respondents' (81% or n=290) emotional distress did not influence their return for immunisation, whereas 19% of the respondents' (n=69) decision was influenced.

**Question 27: Have you ever had any problems with your employer regarding the immunisation requirements of your child?**

Four respondents (n=4) did not complete this question. The majority of the respondents (93% or n=335) never had problems with their employer regarding immunisation, whereas 7% (n=27) had had problems.

**Question 28: How does your employer's attitude about immunisation influence your decision to have your child immunised?**

Five respondents (n=5) did not complete this question. As indicated in Figure 4.9, the majority of the respondents (90% or n=325) had no problems with their employers regarding immunisation so they had their child immunised, while 7% (n=25) had some problems, but still took their child to be immunised. This corresponds with the finding in question 27. Although it is a minority (2% or n=8) that mentioned that they had problems with their employer in having their child immunised, it is of great concern that parents and/or caregivers do not take their children for immunisations if they encounter problems with their employer. Only three respondents indicated 'other' reasons, which included some problems due to missed workdays; the child being taken for immunisation by a caregiver; and a parent who does not work.



Keys:	a=no problems so child is immunised	b=problems, but child is immunised anyway
	c=problems, so child is not taken for immunisation	d=other

**Figure 4.9**  
**Employer attitudes' influence on decision**

#### 4.2.2 Qualitative data analysis

The following questions (Q9.1; Q9.2; Q9.3; Q11.1; Q11.2; Q13; Q15; Q17.1; Q17.2; Q23.1; Q23.2) were open ended questions which generated qualitative data and were analysed by means of data reduction. Tesch's approach to qualitative data analysis (De Vos *et al.*, 2001:343) was used as a guideline in reducing the study data. The core themes that emerged during the qualitative analysis are underlined in the various quotes, and an interpretation of the qualitative data is given at the end of the analysis.

**Question 9: Please indicate the age, gender and immunisation status for each child 5 years and younger in your care.**

Eleven respondents (n=11) did not complete this question. An analysis of the sub-questions is given below under the appropriate headings. All responses are provided verbatim and unedited. Afrikaans responses have been translated to English.

**Question 9.1: Please indicate the age, gender and immunisation status for each child 5 years and younger in your care. If you answered 'Fully immunised', please explain your reason(s) for choosing to take your child for ALL his or her vaccinations.**

Ten respondents (n=10) did not complete this question, while four respondents' (n=4) remarks did not correlate with the question. The majority of the respondents (n=98) opted for full immunisation because they felt immunisation is important in protecting their child against germs and illnesses, whereas 85 respondents (n=85) wanted their child to be healthy. It is important to note that very few respondents (n=19) indicated that immunisation would protect their child from specific infectious diseases, and that a minority (n=3) indicated they thought immunisation would protect their child from getting 'flu.

The responses to the above question were grouped as follows:

... belangrik ... om weerstand te bied teen alle kieme en bakterie. [... important to provide protection against all germs and bacteria.] (n=98)

... sodat sy gesond kan bly. [... so that she can stay healthy.] (n=85)

... omdat dit noodsaaklik is dat sy die inspuitings moet hê. [... because it's important that she has the injection.] (n=41)

... vir keer teen aansteeklike siektes en polio en masels. [... to prevent against infectious diseases and polio and measles.] (n=19)

I want my child to grow well. (n=9)

... to prevent my child from illness and flu. (n=3)

... om te voorkom dat hulle nie so erg siek word nie. [... to prevent them from getting very ill.] (n=3)

... omdat ek hier moes wees soos die datum wat hulle my gegee het. [... because I had to be here according to the date they gave me.] (n=3)

... hulle kry vir haar elke keer by die kliniek of op die plaas. [... they get her at the clinic or on the farm every time.] (n=2)

I was told to come so I came. (n=2)

**Question 9.2: Please indicate the age, gender and immunisation status for each child 5 years and younger in your care. If you answered 'Not fully immunised', please explain your reason(s) for choosing to take your child for SOME of his or her vaccinations.**

Eight respondents (n=8) did not complete this question while one respondent's (n=1) remark did not correlate with the question.

It is interesting to see that the majority of respondents (n=55) who selected this option did so because their children still needed to get more immunisations according to the EPI schedule. It is possible that the respondents did not quite understand the question. They indicated that their child was not fully immunised because they had not received all the immunisations up to five years, although their child was not yet five years old. Some of the children were still under one year old. So these parents might either have misunderstood the question and/or had a wrong perception of what 'not fully immunised' meant.

The responses to the above question were grouped as follows:

... moet nog die ander inspuiting kry. [... still needs to get the other injection.] (n=55)

... kaart weggeraak by crèche. [... (baby's) card got lost at crèche.] (n=1)

... ons mag nie sommer so uit die werk bly nie. [... we're not just allowed to stay out of work like that.] (n=1)

... het nie altyd tyd gehad nie. [... didn't always have time.] (n=1)

... omdat sy het nie gereeld kliniek toe gegaan nie. [... because she did not go to the clinic regularly.] (n=1)

Ek het gewerk en die oppasser van my kind wil haar nie kliniek toe bring nie. [I worked and the baby-sitter don't want to take her to the clinic.] (n=1)

Her mother forget about the date, and she [is] scared to continue with children immunisation. (n=1)

**Question 9.3: Please indicate the age, gender and immunisation status for each child 5 years and younger in your care. If you answered 'Not immunised', please explain your reason(s) for choosing NOT to take your child for his or her vaccinations.**

Only one respondent (n=1) answered this question and gave the reason for not immunising as, 'He is healthy.'

**Question 11.1: Do you agree with having your child immunised? If you answered 'Yes', specify.**

The majority of the respondents (n=360) indicated that they agreed with having their children immunised (see question 11). Fifty respondents (n=50) did not complete this question. The majority of the respondents (n=146) agreed with having their child immunised because it would protect their child against diseases, while a further 98 respondents (n=98) indicated immunisation would keep their child healthy and/or safe. Of

these 98 respondents, 19 (n=19) stated that immunisation protects against getting dangerous diseases, while two respondents (n=2) mentioned it protects against getting 'flu. The responses to the above question were grouped as follows:

... sal haar teen siektes beskerm. [... will protect her against diseases.] (n=146)

... is vir hul eie gesondheid. [It's for their own health.] (n=98)

... is vir my belangrik. [It's important to me.] (n=22)

... because I learned that it's good. (n=22)

... sodat hy niks probleme kan ondervind met sy opgroei ... [... so that he may have no problems with growing up.] (n=6)

My kind is nou nog gesond. [My child is still healthy.] (n=4)

... omdat baie kindertjies raak siek en partykeer help die inspuiting. [... because many children get ill and the injection sometimes helps.] (n=3);

So weet ... mens meer – weet mos nie regtig wat jou kind makeer nie. [This way you know more – you don't really know what's wrong with your child.] (n=2)

Hulle was by die kliniek. [They were at the clinic.] (n=2)

Dit het nog nie probleme opgelewer of kwaad gedoen nie. [It hasn't yet caused problems or harm.] (n=1)

... die kinders nooit koors het daarvan nie. [The children never suffer from fever because of it.] (n=1)

They assist and see to other children. (n=1)

... goed vir baba se liggaamsbou ... [... good for baby's body's growth ...] (n=1)

... omdat sy gereeld moet kom vir ... inspuiting tot sy een jaar en ses maande is.

[... because she has to come regularly for ... injection until she's one year and six months old] (n=1)

### **Question 11.2: Do you agree with having your child immunised? If you answered 'No', specify.**

Three of the respondents (n=3) indicated that they did not agree with having their children immunised (see question 11). The reasons for their answer were given as follows:

Hy is baie gesond. [He is very healthy.] (n=1)

Hy kan dan maklik kieme of enige siektes opneem. [He can easily pick up germs or contract any disease.] (n=1)

Soms huil die kind te veel en dan voel ek kan dit nie hou nie. [Sometimes the child cries too much and then I feel as if I cannot stand it.] (n=1)

**Question 13: Have you ever felt that you didn't want to have your child immunised but had it done anyway (see question 12)? Please give a reason for your answer.**

As indicated previously, 96 of the respondents had experienced doubt about immunisation and answered 'yes' to question 12, but some (n=21) chose not to answer question 13. Ten more respondents' (n=10) remarks did not correlate with the question.

The responses of those respondents (n=65) who had experienced doubts were grouped as follows:

Die inspuitings is vir die (kind) seer, en as die kind huil voel ek om saam te huil. [The injections are painful to the child and if the child cries I want to cry too.] (n=32)

Ek het onseker gevoel. [I felt unsure.] (n=7)

... omdat ek nie altyd so lekker voel nie. [... because I don't always feel so well.] (n=6)

... wou eers nie gaan nie omdat hulle siek word daarvan. [... didn't want to go at first because they get ill from it.] (n=5)

Ek weet nie hoe my kind gaan reageer nie. [I don't know how my child will react.] (n=5)

... sometimes because used the whole day (n=2)

Ek het bevrees (senuweeagtig) gevoel" [I felt anxious (nervous).] (n=2)

... wil nie gaan nie maar gaan oor hy siek is. [... don't want to go but I go because he is ill.] (n=2)

Sometimes if the baby is sick he gets worse if he comes to the clinic. (n=1)

Die personeel se optrede was nie na wense. [The staff's conduct was not acceptable.] (n=1)

... omdat hulle dit nodig het maar (ek) het nie die inspuiting lekker verstaan nie.

[... because they need it but I didn't understand the injection.] (n=1)

... dit was wanneer sy verkouedig was en ek getwyfel het of hulle haar sou spuit.

[It was when she had a slight cold and I was unsure whether they would give her an injection.] (n=1)

Sixty of the respondents (n=60) who answered 'no' in question 12 (n=261) chose not to give a reason in question 13, while four respondents' (n=4) remarks did not correlate with the question. This may be because the respondents who indicated they never had doubts about immunisation did not feel it was necessary to give a reason for it as they had not experienced any doubt. This may be proved by two respondents (n=2) who indicated 'no reason' in answer to their 'no' option.

The responses for the respondents who had no doubts about immunisation (n=197) were grouped as follows:

They are supposed to be injected so I never felt this way (n=118)

... belangrik is vir die kind se gesondheid as gevolg van al die siektes in die land. [It's important for the child's health because of all the diseases in the country.] (n=71)

If my child have something wrong (he) must be checked (n=2)

geen rede [no reason] (n=2)

Ek het reeds inligting gekry oor immunisasie. [I had already received information about immunisation.] (n=1)

... they assist my child (and) is always fresh. (n=1)

When I was growing up every child even me was going for immunisation. (n=1)

My kind is so gesond met die immunisering ek dink dis definitief goed. [My child is so healthy with the immunisation that I think it is definitely good.] (n=1)

**Question 15: Where do you mainly prefer to take your child for his/her immunisations (see question 14)? Please give a reason for your answer.**

Forty-three respondents (n=43) did not answer this question.

The main responses to this question are categorised and listed as follows:

For those respondents who chose 'clinic':

Dis naby ... en ek bespaar baie tyd en kan ... by my werk uitkom as ek klaar is. [It is close by and I save time and can get to work when I have finished.] (n=215)

Dis verniet. [It's free.] (n=19)

... because clinics are good. (n=16)

Dis oop vir almal in publiek. [It's open to the public.] (n=13)

... omdat al die kinders maar hierheen kom. [... because all the children come here] (n=8)

... omdat dit deel is van ons lewe om die kliniek te besoek. [... because it's part of our life to visit the clinic.] (n=6)

Die kliniek is daar vir babas se gesondheid. [The clinic is there for the babies' health.] (n=5)

Dit is waar dit (immunisasie) daaglik plaasvind. [It is where immunisation is given daily.] (n=5)

... omdat die kliniek is bereid om tot op die plase te kom. [... because the clinic is willing to come out to the farms.] (n=5)

This is where I get the information about immunisation. (n=4)

Ek voel gemaklik want ek ken (en vertrou) die susters hier. [I feel comfortable because I know (and trust) the sisters here.] (n=4)

... were referred to the clinic at hospital. (n=4)

... want dis baie veilig vir my kind. [... because it's very safe for my child.] (n=2)

... spaar tyd en geld. [... saves time and money.] (n=2)

Daar is nie 'n ander plek in (my dorp) nie. [There is no other place (in my town).] (n=1)

Although a few respondents also indicated day hospitals or hospitals as their place of preference, the reasons correlate with those of the respondents who indicated clinics as their option. This might be because all of the respondents were lay people and most did not make a distinction in their language between a clinic and a day hospital.

For the respondents who indicated 'day hospital':

... want dis beter vir my en dit is ook baie naby vir my. [... because it's better and very near for me.] (n=3)

... omdat die daghospitaal altyd beskikbaar is. [... because the day hospital is always available.] (n=2)

... voel meer gerief en veilig. [... feel more comfortable and safe.] (n=2)

For the respondents who indicated 'private doctor':

They give better care. (n=2)

(My child's) on medical aid. (n=1)

Baie maal is daar 'n knoppie omdat hulle nie genoeg die inspuiting gevryf het nie. [Very often there's swelling because they (the sisters) didn't rub the injection site.] (n=1)

Met my swangerskap het ek maandeliks 'n privaat dokter besoek, dus sou ek graag die beste mediese sorg vir my kind ook wou hê. [I went for monthly visits to a private doctor during my pregnancy and would therefore also want the best medical care for my child.] (n=1)

#### **Question 17.1: Do you think immunisation is safe? If your answer is 'Yes', specify.**

A total of 362 respondents indicated in question 17 that immunisation is safe. Forty-three respondents (n=43) did not specify why.

The respondent responses for this question were grouped as follows:

Hier's baie (wat) siektes het en nie gaan vir behandeling nie, so as jou kind ingespuut is hou dit hulle veilig teen siektes. [There are many who have diseases that don't go for treatment, so if your child is immunised it keeps them safe against diseases.] (n=195)

Van my kinders het nog nie enige gevaarlike siektes of komplikasies gekry nie. [None of my children have yet suffered from any dangerous diseases or had any complications.] (n=47)

... omdat die dokters en susters dit so higiënies (en veilig) moontlik toedien. [... because the doctors and sisters administer the immunisation as hygienically and safely as possible.] (n=29)

Geen kind was al benadeel deur immunisasie. [No child has ever been harmed by immunisation.] (n=15)

Ek vertrou die susters. [I trust the sisters.] (n=18)

... die kind word siek maar nie swak of dodelik siek nie. [... the child gets ill but not weak or deadly ill.] (n=4)

... omdat dit deur professionele en opgeleide mense gedoen word. [... because it is administered by professional and trained people.] (n=4)

Dit laat my soms twyfel. [It makes me doubt sometimes.] (n=4)

Baie babatjies raak gesond van inspuitings en kom niks oor nie. [Many babies get well from the injections and nothing bad happens to them.] (n=2)

... aangesien jy weet as die kind nie 'n allergie teen die inspuiting het nie, is dit veilig.

[... because you know that if the child is not allergic to the injection, it is safe.] (n=1)

**Question 17.2: Do you think immunisation is safe? If your answer is 'No', specify.**

One respondent (n=1) did not answer this question. All three respondents (n=3) who answered this question indicated that their child became ill after immunisation as the reason for their answer. This is explained by one respondent who wrote: 'Sommige kere wat my kind ingeënt was, was hy koorsig.' [My child sometimes had a fever after immunisation.]

**Question 23.1: Is your decision to immunise your child influenced by the health workers' treatment of you or your child? If your answer is 'Yes', specify.**

A total of 76 respondents indicated in question 23 that their decision to immunise their child was influenced by the health workers' treatment. One respondent (n=1) did not specify why.

The respondents' responses to this question were grouped as follows:

They advise me to take my child and I (as the mother) ... decided about that ... and ... because it helps my child's health. (n=48)

Wanneer jy goed behandel word voel jy vry om weer terug te gaan. [You feel free to go back when they treat you well.] (n=11)

As hulle maniere reg is en hulle behandel my reg, dan bly ek. As nie gaan ek huis toe. [If their manner toward me is right and they treat me well, I stay. If not, I go home] (n=11)

... because they know what (they) do, they have experience (n=2)

... because they refuse to give the medicine even though it's there. They said (the) clinic is closed but it was 12 o' clock" (n=2)

Soms kan ek nie af kry om my kind te neem nie en moet ek iemand anders vra. [Sometimes I can't get off from work to take my child and need to ask someone else.] (n=1)

**Question 23.2: Is your decision to immunise your child influenced by the health workers' treatment of you or your child? If your answer is 'No', specify.**

A total of 285 respondents indicated in question 23 that their decision to immunise their child was not influenced by the health workers' treatment. Forty-nine respondents (n=49) did not specify why.

The respondents' responses to this question were grouped as follows:

Dis my eie besluit as ouer. [It's my own decision as a parent.] (n=92)

Die gesondheidswerkers was nog altyd baie geduldig, behulpsaam en vriendelik. [The health workers have always been very patient, helpful and friendly.] (n=86)

Dit is belangrik vir my kind om al sy immuniserings te kry ter wille van sy gesondheid. [It is important for my child's health that he gets all the immunisations.] (n=26)

Op die ou end gaan dit om die gesondheid van my kind en nie oor die (gesondheidswerkers se) optrede en gedrag nie. [Ultimately it's all about my child's health and not about the health workers' conduct toward me.] (n=24)

Nee, daar word 'n datum gegee vir wanneer ek my kind se inspuiting moet kom haal. [No, they give me a date on which I need to bring my child for his/her immunisation] (n=4)

Hulle is dié wat ons eintlik aanmoedig om ons kinders te bring; ek stem saam. [They are the ones who encourage us to bring our children and I agree.] (n=3)

Die gesondheidsmense doen net wat vir hulle gesê word. [The health workers do as they're told.] (n=1)

The analysis of the qualitative data revealed that the respondents' main tendency was to adhere to immunisation because they feared diseases posed by untreated people in the community. Respondents further tended to have positive attitudes and feelings toward immunisation as it was considered essential in keeping their child healthy and free from disease. Lastly, the overall experience within their health service environment tended to be positive.

### 4.3 SUMMARY

This concludes the data analysis and results part of the study. The discussion was done by first analysing the quantitative data, which was the main component of the study, using histograms and frequency tables. This was followed by a discussion of the qualitative data

analysis. The outlay of the data-capturing instrument was used as a guide in discussing the collected data.

In Chapter 5 the conclusions and recommendations are discussed in detail.

## CHAPTER 5

### CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 INTRODUCTION

Chapters 1 to 4 of this report provide discussions on the scientific foundation of the study, the literature reviewed, the methodology and analysis procedures used, and the study results. In this final chapter, the study report is concluded and recommendations are made based on the empirical findings and literature review of the study.

Supported by the literature, it seemed that attitudes and factors that influence parent and/or caregiver compliance with the routine childhood immunisation schedule for children aged 0 to 60 months in the Witzenberg sub-district of the Western Cape persist. The purpose in formulating the primary research question for this study was to determine what those factors were that influence parents and/or caregivers to comply with the routine immunisation schedule in the sub-district in question. This study aimed to determine, understand and describe the attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule, as well as the nature of and reasons for the identified factors.

#### 5.2 CONCLUSIONS

The following conclusions were grounded on the study objectives as set out in paragraph 1.4, which were to gain knowledge of and insight into the factors influencing participants' adherence with routine childhood immunisation; and the feelings, attitudes, and experiences surrounding immunisation within the context of the health care environment in the Witzenberg sub-district of the Cape Winelands district.

The data analysis as discussed in paragraph 4.2.1.1 revealed the following respondent profile: It showed that the majority of respondents in this study were female (99% or n=361), and more than half of them were single (60% or n=215). Most of the study respondents were coloured (64% or n=235) and the majority spoke Afrikaans at home (65% or n=235). It further indicated that the highest frequency age of respondents was 28 years (Mo=28), with the majority of respondents falling either in the 21–30 age group (45% or n=165) or the 31–40 age group (31% or n=111). Furthermore, most of the respondents

had attained either a Grade 11–12 (39% or n=140) or a Grade 8–10 (36% or n=130) level of education, and an equal majority of respondents were either part-time workers (31% or n=114), or housewives (31% or n=114). The study revealed that 91% (n=333) of the respondents who participated in this study were the parents of the child.

### **5.2.1 Factors influencing parental immunisation uptake**

Both quantitative data (see paragraph 4.2.1.1), generated by closed-ended questions in the questionnaire, and qualitative data (see paragraph 4.2.2), generated by open-ended questions in the questionnaire, was collected to indicate factors influencing parental immunisation uptake. The conclusions drawn from the quantitative and qualitative data are discussed under the relevant headings below.

#### **5.2.1.1 Parental knowledge of vaccine-preventable diseases**

Qualitative data, generated by open-ended questions in the questionnaire, revealed the following about parental knowledge of vaccine preventable diseases: While the majority of the respondents indicated their children were fully immunised (n=265) (see question 9, paragraph 4.2.2) and that they agreed with having their children immunised (99% or n=360) (see question 11, paragraph 4.2.1.1), it is important to note that, when first asked, very few respondents (n=19) thought immunisation would protect their child from specific infectious diseases. The majority of these respondents agreed with immunisation because they believed it provided protection against all germs and illnesses (n=98), while 85 (n=85) thought immunisation kept their children healthy (see question 11, paragraph 4.2.2). This finding differs from those in the study done by Sanou *et al.* (2009:10). They found that, due to the lowered incidence of vaccine-preventable diseases, parents do not see many of these diseases as health threats and therefore consider immunising against them unnecessary. Only one parent in this study (n=1) indicated that she did not take her child for any vaccinations, because ‘he is healthy’ (see question 9.3, paragraph 4.2.2), which correlates with the finding of Sanou *et al.* (2009:10) as mentioned above.

When the respondents had to indicate their perceived purpose of immunisation (see Table 4.4, paragraph 4.2.1.1), the majority indicated that immunisation protects their child against dangerous infectious diseases (89% or n=325), while 10% (n=36) believed immunisation prevents their child from getting regular illnesses like colds and flu. Whereas Sanou *et al.* (2009:10) found complete immunisation coverage to be much higher with non-educated parents and how they understood the reasons for immunisation, qualitative

data generated by open-ended questions in the questionnaire for this study revealed that parents (n=265) opted for full immunisation even though they had misperceptions about the reasons for immunisation.

It is reassuring to find that most parents and/or caregivers of children under the age of five in this study opted for full immunisation (n=265) and agreed with having their children immunised (99% or n=360). However, since there were some parents and/or caregivers (10% or n=36) who believed that immunisation protects against common colds and 'flu, this is a matter that needs to be addressed as these misconceptions may lead to future decline in immunisation uptake.

#### **5.2.1.2 Immunisation and its safety**

The majority of respondents in this study (99% or n=362) believed immunisation to be safe (see question 17, paragraph 4.2.1.1). According to the qualitative data generated by open-ended questions in the questionnaire, the main reason for this provided by most of the respondents (n=195) had to do with their fear of disease and the possible danger posed by the untreated sick in their community, as the following quote demonstrates: 'Hier's baie (wat) siektes het en nie gaan vir behandeling nie, so as jou kind ingespuit is hou dit hulle veilig teen siektes.' [There are many who have diseases that don't go for treatment, so if your child is immunised it keeps them safe against diseases.] (see question 17.1, paragraph 4.2.2). This is partially in contrast with findings by Bardenheier, Yusuf, Schwartz *et al.* (2004:569) and Austin *et al.* (2008:33), namely that even parents of fully vaccinated children had concerns about vaccine safety and were afraid of illnesses, of the unknown, as well as of the danger posed by under-immunised children. This study found that most parents and/or caregivers who took their children for full immunisation had no vaccine safety concerns because they believed that it protects their child from getting sick.

In their studies, Gust *et al.* (2004:16), Dannetun *et al.* (2005:1), Bardenheier, Yusuf, Schwartz *et al.* (2004:570) and Smith *et al.* (2004:187, 189) all found vaccine safety concerns to be the major reason for under- or non-immunisation(see paragraph 2.5.3.2). However, the results of this study have indicated that the respondents did not have the same concerns and that immunisation uptake was not influenced by such concerns.

The majority (94% or n=347) of those respondents who believed immunisation to be safe indicated that they would let their child be immunised with all the vaccines in the EPI-SA schedule (see question 18, paragraph 4.2.1.1). A 4% minority (n=15) believed that only

some vaccines are safe and therefore indicated they would allow their child to be immunised with some, but not all vaccines, while only three respondents (1%) believed immunisation was unsafe and would therefore not immunise their children.

With regard to contra-indications of immunisation, the majority of respondents (38% or n=137) indicated that children should not be immunised when they have a fever, while a further 26% (n=95) indicated common cold or 'flu to be contra-indications for immunisation (see Figure 4.5, paragraph 4.2.1.1). This correlates with findings in the study by Gust *et al.* (2008:720) that parents mistakenly believed that their children could not be immunised while they suffered from minor illnesses. This current study thus found parental knowledge of contra-indications of immunisation to be insufficient.

While a significant number of respondents (48% or n=174) indicated that their children had never suffered any side-effect following immunisation, a collective majority (52% or n=192) indicated that their children had experienced different side-effects (see Figure 4.6, paragraph 4.2.1.1). Where other studies (Austin *et al.*, 2008:33; Borràs *et al.*, 2009:154; Dannetun *et al.*, 2005:1; Gust *et al.*, 2004:16) found lower immunisation coverage rates with parents and/or caregivers who were more conscious and fearful of side-effects, the finding in this study seem to be different, as the majority of parents opted for full immunisation (see paragraph 5.2.1.1).

Dugas *et al.* (2009:8) found that because some normal childhood symptoms like fever and diarrhoea often occur with fatal diseases, parents believed these symptoms actually cause death. Such a view could lead to negative perceptions of immunisation when a fully vaccinated child presents with these symptoms. The insufficient knowledge of contra-indications combined with the side-effects experienced by the majority of the respondents in this study might therefore lead to future problems with immunisation uptake.

### **5.2.2 Attitudes and feelings of the parents and/or caregivers regarding immunisation**

The majority of respondents in this study (73% or n=261) never had feelings of doubt about immunisation (see question 12, paragraph 4.2.1.1). Qualitative data generated by open-ended questions in the questionnaire indicated that the main reasons provided by most of the respondents were that immunisation was something children are supposed to have (n=118) and that, because of the various diseases in the country, it was important for the child's health (n=71) (see question 13, paragraph 4.2.2).

The qualitative data further disclosed that, of those respondents who had experienced doubts (27% or n=96), the majority (n=32) indicated it was because of the pain that immunisation causes the child. This was also found by Dugas *et al.* (2009:6) and Logullo *et al.* (2008:169) where mothers stated the fear of harm and pain to the child associated with immunisation as being a deterrent in complying with immunisation. Some other related reasons in this current study were that parents felt unsure about immunisation (n=7); did not know how the child would react to the immunisation (n=5), or were concerned about the side-effects of immunisation (n=6) (see question 13, paragraph 4.2.2).

Previous studies have found that mothers experienced major emotional distress due to the hastiness of the immunisation process and would have preferred a more empathic immunisation environment with time to discuss their fears and questions with the health providers (Harrington *et al.*, 2000:394; Sanou *et al.*, 2009:1). In this study, however, the majority of the respondents (73% or n=263) indicated that they had not experienced emotional distress (see question 24, paragraph 4.2.1.1).

Of the 27% (n=99) who had experienced emotional stress, most reported that it was because of the child's crying after immunisation (13% or n=47), while others (9% or n=32) expressed feelings of guilt for taking their child to be hurt by another person (see Figure 4.8, paragraph 4.2.1.1). These findings correlate with the reasons for their feelings of doubt as discussed above. The majority of respondents (82% or n=290) in this study further reported that their feelings of doubt had not influenced their decision to return for immunisation (see question 26, paragraph 4.2.1.1).

This study also investigated the experiences that parents had with their employer with regard to the immunisation needs of their children. The purpose was to determine the influence of this experience on their feelings and attitudes toward immunisation. The majority of the respondents (93% or n=335) never had problems with their employer regarding immunisation, while a minority of 7% (n=27) did have some problems (see question 27, paragraph 4.2.1.1). Figure 4.9 (see paragraph 4.2.1.1) further indicates that a majority of 90% (n=325) of the respondents had their children immunised because they had no problems with their employers, while 7% (n=25) had some problems, but still took their children to be immunised.

Although only a minority (2% or n=8) mentioned that they had problems with their employer in having their child immunised (see Figure 4.9, paragraph 4.2.1.1), it is of great

concern that parents do not take their children for immunisations when they encounter problems with their employer. Only three respondents indicated 'other' reasons, which included some problems due to missed workdays, the child being taken for immunisation by a caregiver, and a parent who does not work.

### 5.2.3 Parental experiences within the health service environment

The majority of respondents (59% or n=217) indicated that they had first learned about immunisation at a clinic, while 36% (n=130) had first heard about immunisations from a hospital (see Figure 4.4, paragraph 4.2.1.1). These findings are in contrast with the findings of Borràs *et al.* (2008:71). These authors found higher immunisation coverage rates with parents attending private centres, parents who obtained information about vaccines, and parents who received the information directly from child specialists.

Furthermore, the majority of the respondents (95% or n=347) indicated that they mainly preferred to take their children to a clinic for their immunisations (see question 14, paragraph 4.2.1.1). According to qualitative data generated by open-ended questions in the questionnaire, the main reason given by the majority of respondents (n=215) was that the clinic was the nearest to where they lived and they could therefore save time and get back to work (see question 15, paragraph 4.2.2). This concurs with findings from a study by Sanou *et al.* (2009:10). These authors found that one of the factors that contributed to complete immunisation uptake was a closer distance to immunisation clinics. The parents and/or caregiver in the current study did not report any access problems, as was also found by Helman and Yogeswaran (2004:838) and Lemstra *et al.* (2007:849). Other reasons of note were that the clinics were free (n=19); the 'clinics are good' (n=16); and that 'it is open to the public' (n=13).

Although a few respondents also indicated day hospitals (3% or n=9) or hospitals (1% or n=3) as their place of preference, the reasons correlated with those of respondents who indicated clinics as their option. This might be because all of the respondents were lay people and most did not make a distinction in their language between a clinic and a day hospital (see question 15, paragraph 4.2.2).

Bardenheier, Yusuf, Rosenthal *et al.* (2004:479), Onyiriuka (2005:71) and Corrigall *et al.* (2008:41) found missed opportunities to be the main reason for low immunisation coverage in their studies. The current study, however, found different results in that the majority of the respondents (85% or n=310) indicated they never had a missed opportunity

as opposed to the 15% (n=55) whose children did not receive the necessary immunisation on their visit to a CHC (see question 21, paragraph 4.2.1.1). The main reason for these missed opportunities was reported as being told by the health workers to come back another time (5% or n=17). This was the same reason found by Corrigan *et al.* (2008:41) whose study was conducted in the Western Cape, and included the same sub-district as was targeted in this study (see Figure 4.7, paragraph 4.2.1.1).

The majority of the respondents in this study (79% or n=285) reported that their decision to immunise their child had not been influenced by the health workers' conduct toward them or their child, while 21% (n=76) indicated it had indeed been influenced (see question 23, paragraph 4.2.1.1). According to qualitative data generated by open-ended questions in the questionnaire, the main reasons provided for not being influenced by the health workers were that, as the parent and/or caregiver, immunisation was their own decision to make (n=92); that they had always found the health workers to be very patient, helpful and friendly (n=86); that getting all the immunisations is important for their child's health (n=26); and that, in the end, it was all about their child's health and not about the health workers' conduct toward them (n=24) (see question 23.2, paragraph 4.2.2).

However, the reason why the respondents indicated that their decision to immunise had been influenced by the health workers' conduct toward them was mainly that the health workers had advised them to. Furthermore, as mothers, they complied because they believed it would help their child to stay healthy (n=48). Other reasons given were that they felt free to go back to the clinic because they had been treated well (n=11), but they went home when they were treated poorly (n=11) (see question 23.1, paragraph 4.2.2).

Overall, the participants in this study showed a positive attitude toward immunisation, and reported positive experiences within the health care environment. This correlates with what Smith *et al.* (2006:1287) found, namely that health care providers have a positive influence on parents' decision to immunise. However, these study findings are in contrast to those of Fourn *et al.* (2009:7), who found that mothers complained about the immunisation sessions and the associated 'bureaucratic hassles', and were not motivated to access immunisation services.

### **5.3 LIMITATIONS OF THE STUDY**

This study was limited by the fact that information was gained from parents and/or caregivers only. A more comprehensive understanding of all the factors and phenomena

influencing immunisation uptake would have been achieved if the researcher had been able to include the vaccinators and employers in this study. However, this was not possible due to time constraints.

A further limitation due to time constraints was that not many parents and/or caregivers could be reached at the sampled mobile immunisation points. The main reason was that few parents and/or caregivers of children in the sampled age group needed to visit the mobile immunisation points during that time, and were therefore just not available. In order to gain a clear understanding of the factors and attitudes influencing parents in remote areas, the researcher needed more time to make repeated visits to the same area.

#### **5.4 RECOMMENDATIONS FOR FURTHER STUDIES**

There is a gap in knowing and understanding the perceptions and feelings of the employer of a parent and/or caregiver whose child needs to be immunised, and the influence it has on vaccination coverage rates (see paragraph 1.1.2). Those perceptions can play a major role in the immunisation compliance of the parent and/or caregiver as most of the immunisation services are rendered during daytime working hours. No studies could be found that investigated this specific gap.

Another gap identified in the literature was a clear understanding of reasons why parents and/or caregivers of fully immunised children chose to do so regardless of their feelings of reluctance towards immunisation. However, this study did not explore why parents and/or caregivers opted for full immunisation regardless of their feelings of reluctance.

#### **5.5 SUMMARY**

In conducting this study a quantitative research approach with a smaller qualitative component was used in order to increase the chances of viewing all facets of attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape. It followed a descriptive exploratory design with the purpose of describing and exploring the immunisation experiences of parents and/or caregivers within the health service environment, and the influence of these experiences on their decision to immunise their child or not.

Chapter 1 identified the problem statement and rationale (see paragraph 1.2) as well as the aim and objectives (see paragraphs 1.3 and 1.4) for the study. These were supported by an extensive literature review on the topic as described in Chapter 2. The selection and implementation of an appropriate research methodology for this study was discussed in Chapter 3, while the data analysis and findings were presented in Chapter 4. In this final chapter of the study report, conclusions were drawn and recommendations were made based on the empirical findings and literature review of the study, while including a description of the study limitations and recommendations for further study.

The overall conclusion was that the parents and/or caregivers in this study primarily had positive attitudes and feelings with regard to immunisation. Moreover, their experience with immunisation within their health service environment proved to be positive, with health workers at the CHCs playing an important and positive role in their decision-making process. However, even though the parents and/or caregivers opted for full immunisation and agreed with having their children immunised, it was found that their knowledge regarding the purpose of and contra-indications for immunisation were insufficient. Furthermore, most parents reported that their child had experienced side-effects after immunisation. It therefore seems as if inadequate knowledge on the part of parents and/or caregivers with regard to contra-indications, combined with the side-effects reported by the majority of the respondents in this study, might lead to future problems with immunisation uptake.

The overall recommendation was that the parents and/or caregivers should be provided with clear, accurate and specific information regarding the infectious diseases covered by immunisation, as well as regarding the contra-indications of immunisation in order to prevent further misconceptions. Parents and/or caregivers should furthermore be informed and advised about the side-effects of immunisation and the treatment thereof before each immunisation session. They should also be given an opportunity to discuss their experiences of immunisation and their fear of side-effects. It is also recommended that the vaccinators and managers be made aware of this persistent problem with side-effects, and that refresher courses be provided on infection control, administration techniques and the reporting of adverse effects.

In conclusion: this study achieved the research aim, answered the research question and met the set objectives.

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**ADDENDUM A:  
PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM**

**TITLE OF THE RESEARCH PROJECT:**

An exploration of attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape

**REFERENCE NUMBER:**

Ethics Reference No: N10/06/208  
DOH: RP 101

**PRINCIPAL INVESTIGATOR:**

E. Dyson

**ADDRESS:**

Division of Nursing  
Faculty of Health Sciences  
Stellenbosch University

**CONTACT INFORMATION:**

elisia\_dyson@yahoo.com

Dear Ms/Mr

You are being invited to take part in a research project. Please take some time to read the information presented here, which will explain the details of this project. Please ask the researcher any questions about any part of this project that you do not fully understand. It is very important that you are fully satisfied that you clearly understand what this research entails and how you could be involved. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from the study at any point, even if you do agree to take part.

This study has been approved by the **Health Research Ethics Committee at the Stellenbosch University (HREC)** and will be conducted according to the ethical guidelines and principles as described in Burkhardt and Nathaniel (2002:41) and on the fundamental ethical principles that are shared by most professional codes of conduct, as noted in Mouton (2005:239).

**What is this research study all about?**

- ❖ *This research project is being conducted at several health care facilities in the Witzenberg sub-district. A total of 376 people will be asked to complete the questionnaire.*
- ❖ *The aim of this study is to determine attitudes and experiences of parents and/or caregivers with routine childhood immunisation (baby injections).*
- ❖ *Please answer all questions as honestly and accurately as possible. Please do not leave any questions unanswered. If you need help with any of the questions, please feel free to ask the researcher for help.*

**Why have you been invited to participate?**

- ❖ *You have been invited to participate in this study because you are the parent and/or caregiver of a child who needs to be immunised (injected and given drops) and you can explain how you feel and think about immunisation.*

**What will your responsibilities be?**

- ❖ *After you have completed all the questions, you are requested to hand in the questionnaire to the researcher.*

**Will you benefit from taking part in this research?**

- ❖ *There is no immediate personal benefit to you from this research project. The information gathered from this study will be used to improve the immunisation service and its usage by parents and/or caregivers of eligible children.*

**Are there in risks involved in your taking part in this research?**

- ❖ *There are no risks in participating in this research project.*

**Who will have access to your medical records?**

- ❖ *The information collected in this research project will be treated as confidential and will be protected. If the information is used in a thesis or publication, your identity will remain anonymous. Only the researcher, her supervisor and the statistician at the Stellenbosch University will have access to the information.*

**Will you be paid to take part in this study and are there any costs involved?**

- ❖ *You will not be paid to take part in the study and there will be no costs involved for you, if you do take part.*

**Is there anything else that you should know or do?**

- ❖ *You can contact Mrs E. Dyson at [elisia\\_dyson@yahoo.com](mailto:elisia_dyson@yahoo.com) if you have any further queries or encounter any problems.*
- ❖ *You can contact the **Health Research Ethics Committee** at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by the study staff.*

**Declaration by participant**

By signing below, I ..... agree to take part in a research study entitled '*An exploration of attitudes and factors influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape*'.

I declare that:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is voluntary and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.

Signed at (*place*) ..... on (*date*) ..... 2010.

.....  
**Signature of participant**

.....  
**Signature of witness**

---

**Declaration by investigator**

I (*name*) ..... declare that:

- I explained the information in this document to .....
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use a translator. (Please delete words that are not applicable.) (*If a translator is used then the translator must sign the declaration below.*)

Signed at (*place*) ..... on (*date*) ..... 2010.

.....  
**Signature of investigator**

.....  
**Signature of witness**

**Declaration by translator**

I (*name*) ..... declare that:

- I assisted the investigator (*name*) ..... to explain the information in this document to (*name of participant*) ..... using the language medium of Afrikaans/Xhosa.
- We encouraged him/her to ask questions and took adequate time to answer them.
- I conveyed a factually correct version of what was related to me.
- I am satisfied that the participant fully understands the content of this informed consent document and has had all his/her question satisfactorily answered.

Signed at (*place*) ..... on (*date*) .....2010.

.....  
**Signature of translator**

.....  
**Signature of witness**

# **ADDENDUM B:** **RESEARCH QUESTIONNAIRE**

#

**PLEASE INDICATE YOUR ANSWER BY PLACING A TICK (✓) IN THE APPROPRIATE BLOCK BELOW OR COMPLETE WHERE NECESSARY**

## **SECTION A: DEMOGRAPHIC DETAIL**

**1. Your gender:**

f ☐ Female    m ☐ Male

**2. Your age:**

Years

**3. Your race:**

c ☐ Coloured    b ☐ Black    w ☐ White    a ☐ Asian

**4. Your home language:**

e ☐ English    a ☐ Afrikaans    x ☐ Xhosa    o ☐ Other – specify.....

**5. Marital status:**

s ☐ Single    m ☐ Married    d ☐ Divorced    lt ☐ Living together

**6. Educational level:**

1 ☐ 0    2 ☐ Grade 1-3    3 ☐ Grade 4-7    4 ☐ Grade 8-10    5 ☐ Grade 11-12

6 ☐ certificate or diploma    7 ☐ degree

**7. Career**

hw ☐ Housewife    Pt ☐ Part-time work    Ft ☐ Full-time work    Ue ☐ Unemployed

s ☐ Student/scholar    Dg ☐ Disability grant    R ☐ Retired

## 8. What is your relation to the child?

p ☐ Parent      c ☐ Principle caregiver      o ☐ Other - specify.....

## 9. \*Please indicate the age, gender and immunisation status for each child 5 years and younger in your care:

Age	Gender		Immunisation status (indicate your answer by placing a √ in the appropriate column)		
Months	M	F	Fully immunised	Not fully immunised	No immunisation

(\* table for use of parent and/or caregiver)

## 9.1 If your answered 'Fully immunised', please explain your reason(s) for choosing to take your child for ALL his/her vaccinations.

.....

.....

.....

## 9.2 If you answered 'Not fully immunised', please explain your reason(s) for choosing to take your child for SOME of his/her vaccinations.

.....

.....

.....

## 9.3 If you answered 'No immunisation', please explain your reasons for choosing NOT to take your child for his/her vaccinations.

.....

.....

.....

**SECTION B: SPECIFIC DATA**

**10. Where did you hear about immunisation the first time? (Choose one)**

- ☐<sub>h</sub> Hospital     ☐<sub>c</sub> Clinic     ☐<sub>pd</sub> Private doctor     ☐<sub>pn</sub> Private nurse     ☐<sub>p</sub> Pharmacy  
☐<sub>n</sub> None     ☐<sub>o</sub> Other – specify.....

**11. Do you agree with having your child immunised?**

- ☐<sub>y</sub> Yes     ☐<sub>n</sub> No

**11.1 If your answer is 'Yes', specify** .....

.....

**11.2 If your answer is 'No', specify** .....

.....

**12. Have you ever felt that you didn't want to have your child immunised but had it done anyway?**

- ☐<sub>y</sub> Yes     ☐<sub>n</sub> No

**13. Please give a reason for your answer in question 12.**

.....

.....

.....

**14. Where do you mainly prefer to take your child for his/her immunisations? (choose one)**

- ☐<sub>c</sub> Clinic     ☐<sub>dh</sub> Day hospital     ☐<sub>h</sub> Hospital     ☐<sub>pd</sub> Private doctor  
☐<sub>pn</sub> Private nurse     ☐<sub>p</sub> Pharmacy     ☐<sub>o</sub> Other – specify.....

**15. Please give a reason for your answer in question 14.**

.....

.....

.....

**16. What are the immunisations for? (choose one)**

- a ☐ It keeps my child from getting regular illnesses like colds and 'flu.
- b ☐ It protects my child against dangerous infectious diseases.
- c ☐ It is not good for anything.
- d ☐ Other – specify .....
- .....

**17. Do you think immunisation is safe?**

- y ☐ Yes      n ☐ No

**17.1 If your answer is 'Yes', specify** .....

.....

**17.2 If your answer is 'No', specify** .....

.....

**18. How does your feeling about vaccine safety influence your decision to have your child immunised?**

- ns ☐ It's not safe at all so I do not want to have my child immunised.
- ss ☐ Some vaccines are safe so I will let my child have some of the vaccines but not all.
- s ☐ It is safe so I will let my child have all the vaccinations.
- o ☐ Other – specify .....

**19. When should a child NOT be immunised? (Choose one option)**

- f ☐ Fever
- cc ☐ Common cold or 'flu
- e ☐ Epilepsy
- ha ☐ HIV/AIDS
- ur ☐ Previous unfavourable reaction to immunisation  
(more options on next page)

- ai ☐ A child should always be immunised on time, irrespective of his/her health status at the time.
- o ☐ Other - specify.....

**20. Has your child ever suffered from any of the following conditions due to immunisation? (Choose one option)**

- b ☐ A small blister where he/she had the TB injection
- mf ☐ Mild fever for a day or two
- s ☐ Redness and swelling at the injection site
- sa ☐ A small abscess at the injection site
- mr ☐ Mild rash after measles injection
- o ☐ Other – specify.....
- n ☐ My child had none of these conditions.

**21. Have you ever visited a health facility when your child needed immunisation, but it was not given to your child?**

- y ☐ Yes      n ☐ No

**22. What was the reason for your answer in question 21? (Choose one)**

- a ☐ My child had contact with the health care facility when he needed immunisation, but did not receive it.
- b ☐ Some but not all of the needed immunisations were given on our visit to the health care facility.
- c ☐ I took my child to be immunised, but the nurses told me to come again without giving the immunisation.
- d ☐ The wrong date was written on my card so they did not give the immunisation to my child, only a new date to come back.
- e ☐ I visited the clinic and the needed immunisation was given.
- f ☐ Other – specify.....
- .....

- 23 Is your decision to immunise your child influenced by the health care workers' treatment of you or your child?**

y ☐ Yes      n ☐ No

**23.1 If your answer is 'Yes', specify** .....

.....

.....

**23.2 If your answer is 'No', specify** .....

.....

.....

- 24. Have you at any time experienced any emotional distress during an immunisation procedure?**

y ☐ Yes      n ☐ No

- 25. Please give a reason for your answer to question 24 by choosing the most relevant option.**

a ☐ Immunisation process is being done too hastily.

b ☐ The staff does not give attention to me or my child during immunisation.

c ☐ I have questions and concerns, but there is no time to discuss questions or fears with the staff.

d ☐ Too many shots are being given to my child at the same time.

e ☐ My child cries a lot after the immunisation procedure.

f ☐ I feel guilty for taking my child to be hurt by others.

g ☐ I did not experience any emotional distress.

h ☐ Other – specify .....

.....

- 26. When you experienced emotional distress, did this negative emotional experience influence your decision to go back for the next immunisation appointment?**

y ☐ Yes      n ☐ No

**27. Have you ever had any problems with your employer regarding the immunisation requirements of your child?**

y ☐ Yes      n ☐ No

**28. How does your employer's attitude about immunisation influence your decision to have your child immunised?**

a ☐ No problems so I have my child immunised

b ☐ Problems, but I take my child anyway

c ☐ Problems, so I don't take my child for his/her immunisations

d ☐ Other – specify.....  
.....  
.....

Thank you for your participation in this study and for taking the time to complete this questionnaire.

Elisia Dyson  
Researcher

## **ADDENDUM C:**

### **DEELNEMERINLIGTINGSBLAD EN -TOESTEMMINGSVORM**

#### **TITEL VAN DIE NAVORSINGSPROJEK:**

'n Verkenning van gesindhede en faktore wat ouer en/of versorger se insiklikheid met die roetine kinder-immunisasieskedule in die Witzenberg sub-distrik van die Wes-Kaap beïnvloed.

#### **VERWYSINGSNOMMER:**

Etiese Verwysingsnommer: N10/06/208  
DOH: RP 101

#### **NAVORSER:**

E. Dyson

#### **ADRES:**

Afdeling Verpleegkunde  
Fakulteit Gesondheidswetenskappe  
Universiteit Stellenbosch

#### **KONTAK INLIGTING:**

[elisia\\_dyson@yahoo.com](mailto:elisia_dyson@yahoo.com)

Geagte Me/Mnr.

U word genooi om deel te neem aan 'n navorsingsprojek. Lees asseblief hierdie inligtingsblad op u tyd deur aangesien die besonderhede van die navorsingsprojek daarin verduidelik word. Indien daar enige deel van die navorsingsprojek is wat u nie ten volle verstaan nie, is u welkom om die navorser daaroor uit te vra. Dit is baie belangrik dat u ten volle moet verstaan wat die navorsingsprojek behels en hoe u daarby betrokke kan wees. U deelname is ook volkome vrywillig en dit staan u vry om deelname te weier. U sal op geen wyse hoegenaamd benadeel word indien u sou weier om deel te neem nie. U mag ook enige tyd aan die navorsingsprojek onttrek, selfs al het u ingestem om deel te neem.

Hierdie navorsingsprojek is deur die **Etiese Komitee vir Gesondheidsnavorsing van die Universiteit Stellenbosch** goedgekeur en sal uitgevoer word volgens die Etiese Riglyne en Beginsels soos beskryf deur Burkardt en Nathaniel (2002:41), sowel as die Fundamentele Etiese Beginsels onderhou deur meerderheid Professionele Etiese Kodes soos aangeteken deur Mouton (2005:239).

**Wat behels hierdie navorsingsprojek?**

- ❖ *Hierdie navorsingsprojek word uitgevoer in verskeie gesondheidsorgfasiliteite in die Witzenberg sub-distrik. 'n Totaal van 376 mense sal gevra word om die vraelys te voltooi.*
- ❖ *Die doel van hierdie navorsing is om die gesindhede en ondervindings van ouers en/of versorgers met roetine kinder-immunisasie (baba inspuitings) te bepaal.*
- ❖ *U word gevra om al die vrae asb. so eerlik en akkuraat moontlik te antwoord. Moet asb. geen vrae uit laat nie. Indien u hulp nodig het met enige van die vrae, voel asb. vry om die navorser vir hulp te vra.*

**Waarom is u uitgenooi om deel te neem?**

- ❖ *U is uitgenooi om deel te neem aan die studie omdat u 'n ouer en/of versorger is van 'n kind wat immunisasie (baba inspuitings en druppels) nodig het en kan verduidelik hoe u oor immunisasie dink en voel.*

**Wat sal u verantwoordelikhede wees?**

- ❖ *U word versoek om die vraelys aan die betrokke navorser te oorhandig ná voltooiing daarvan.*

**Sal u voordeel trek deur deel te neem aan hierdie navorsingsprojek?**

- ❖ *Daar is geen onmiddellike persoonlike voordeel vir u om aan hierdie projek deel te neem nie. Die inligting bekom deur die studie sal gebruik word om kinder-immunisasiedienste en die gebruik daarvan deur die ouers en/of versorgers te verbeter.*

**Is daar risiko's verbonde aan u deelname aan hierdie navorsingsprojek?**

- ❖ *Daar is geen risiko's verbonde aan u deelname nie.*

**Wie sal toegang hê tot u mediese rekords?**

- ❖ *Die ingesamelde inligting sal vertroulik hanteer en beskerm word. Indien die inligting in 'n tesis of publikasie gebruik sou word, sal u identiteit anoniem bly. Slegs die navorser, toesighouer en statistikus by Universiteit Stellenbosch sal toegang tot die inligting hê.*

**Sal u betaal word vir deelname aan die navorsingsprojek en is daar enige koste verbonde aan deelname?**

- ❖ *U sal nie betaal word vir deelname aan die navorsingsprojek nie. Deelname aan die navorsingsprojek sal u ook niks kos nie.*

**Is daar enigiets anders wat u moet weet of doen?**

- ❖ *U kan Mev E Dyson kontak by [elisia\\_dyson@yahoo.com](mailto:elisia_dyson@yahoo.com) indien u enige verdere vrae het of enige probleme ondervind.*
- ❖ *U kan die **Etiese Komitee vir Gesondheidsnavorsing** kontak by 021-938 9207 indien u enige probleme of klagtes het wat nie volkome deur die navorsingspersoneel beantwoord is nie.*

### Verklaring deur deelnemer

Met die ondertekening van hierdie dokument onderneem ek, ....., om deel te neem aan 'n navorsingsprojek getiteld *'n Verkenning van gesindhede en faktore wat ouer en/of versorger se insiklikheid met die roetine kinder-immunisasieskedule in die Witzenberg sub-distrik in die Wes-Kaap beïnvloed'*.

Ek verklaar dat:

- Ek hierdie inligtings- en toestemmingsvorm gelees of aan my laat voorlees het en dat dit in 'n taal geskryf is waarin ek vaardig en gemaklik mee is.
- Ek geleentheid gehad het om vrae te stel en dat al my vrae bevredigend beantwoord is.
- Ek verstaan dat deelname aan hierdie navorsingsprojek vrywillig is en dat daar geen druk op my geplaas is om deel te neem nie.
- Ek te eniger tyd aan die navorsingsprojek mag onttrek en dat ek nie op enige wyse daardeur benadeel sal word nie.

Onderteken te (plek) ..... op (datum) ..... 2010.

.....  
**Handtekening van deelnemer**

.....  
**Handtekening van getuie**

### Verklaring deur navorser

Ek (naam) ..... verklaar dat:

- Ek die inligting in hierdie dokument verduidelik het aan .....
- Ek hom/haar aangemoedig het om vrae te vra en voldoende tyd gebruik het om dit te beantwoord.
- Ek tevrede is dat hy/sy al die aspekte van die navorsingsprojek soos hierbo bespreek, voldoende verstaan.
- Ek 'n tolk gebruik het/nie 'n tolk gebruik het nie. (Trek asb die ontoepaslike woorde dood.) (*Indien 'n tolk gebruik is, moet die tolk die onderstaande verklaring teken.*)

Geteken te (plek) ..... op (datum) ..... 2010.

.....  
**Handtekening van navorser**

.....  
**Handtekening van getuie**

### Verklaring deur tolk

Ek (*naam*) ..... verklaar dat:

- Ek die navorser (*naam*) ..... bygestaan het om die inligting in hierdie dokument in Engels/Xhosa aan (*naam van deelnemer*) ..... te verduidelik.
- Ek haar aangemoedig het om vrae te vra en voldoende tyd gebruik het om dit te beantwoord.
- Ek 'n feitelik korrekte weergawe oorgedra het van wat aan my vertel is.
- Ek tevrede is dat die deelnemer die inhoud van hierdie dokument ten volle verstaan en dat al haar vrae bevredigend beantwoord is.

Geteken te (*plek*) ..... op (*datum*) ..... 2010.

.....  
**Handtekening van tolk**

.....  
**Handtekening van getuie**

# **ADDENDUM D:** **NAVORSINGSVRAELYS**

#

**DUI ASB U ANTWOORDE AAN DEUR 'N (✓) IN DIE BETROKKE BLOK HIERONDER AAN TE BRING OF VOLTOOI WAAR NODIG**

## **AFDELING A: DEMOGRAFIESE INLIGTING**

**1. U geslag:**

f ☐ Vroulik    m ☐ Manlik

**2. U ouderdom:**

Jaar

**3. Ras:**

c ☐ Kleurling    b ☐ Swart    w ☐ Wit    a ☐ Asiër

**4. U moedertaal:**

e ☐ Engels    a ☐ Afrikaans    x ☐ Xhosa    o ☐ Ander - spesifiseer.....

**5. Huwelikstatus:**

s ☐ Enkel    m ☐ Getroud    d ☐ Geskei    lt ☐ Leef saam

**6. Opvoedingsvlak:**

1 ☐ 0    2 ☐ Graad 1-3    3 ☐ Graad 4-7    4 ☐ Graad 8-10    5 ☐ Graad 11-12

6 ☐ Sertifikaat of diploma    7 ☐ Universiteitsgraad

**7. Beroep**

hw ☐ Huisvrou    pt ☐ Deeltydse werk    ft ☐ Voltydse werk    uel ☐ Werkloos

s ☐ Student/skolier    dg ☐ Ongeskiktheidspensioen    r ☐ Afgetree

8. Wat is u verwantskap met die kind?

p ☐ Ouer      c ☐ Versorger      o ☐ Ander - spesifiseer.....

9. \*Dui asb. die ouderdom, geslag en immunisasie (baba inspuiting) status aan vir elke kind onder 5 jaar in u sorg:

Ouderdom	Geslag		Immunisasiestatus (dui u antwoord aan deur 'n ✓ in die toepaslike kolom aan te bring)		
Maande	M	V	Volle immunisasie	Gedeeltelike immunisasie	Geen immunisasie

(\*tabel vir ouer/versorger se verwysing)

9.1 Indien u 'Volle immunisasie' geantwoord het, verduidelik asb. die redes waarom u gekies het om u kind te neem vir AL sy/haar immunisasies.

.....  
 .....  
 .....

9.2 Indien u 'Gedeeltelike immunisasie' geantwoord het, verduidelik asb. die redes waarom u gekies het om u kind slegs vir SOMMIGE van sy/haar immunisasies te neem.

.....  
 .....  
 .....

9.3 Indien u 'Geen immunisasie' geantwoord het, verduidelik asb. die redes waarom u gekies het om NIE u kind te neem vir sy/haar immunisasies nie.

.....  
 .....  
 .....

**AFDELING B: SPESIFIEKE INLIGTING**

10. Waar het u vir die eerste keer van kinder-immunisasie (baba inspuitings) gehoor? (Kies een)

<sub>h</sub> ☐ Hospitaal    <sub>c</sub> ☐ Kliniek    <sub>pd</sub> ☐ Privaat dokter    <sub>pn</sub> ☐ Privaat verpleegkundige  
<sub>p</sub> ☐ Apteek    <sub>n</sub> ☐ Nêrens    <sub>o</sub> ☐ Ander - spesifiseer.....

11. Stem u daarmee saam om u kind te laat immuniseer?

<sub>y</sub> ☐ Ja    <sub>n</sub> ☐ Nee

- 11.1 Indien 'Ja' geantwoord, spesifiseer asb

.....  
.....

- 11.2 Indien 'Nee' geantwoord, spesifiseer asb

.....  
.....

12. Het u al ooit gevoel dat u nie u kind wil laat immuniseer nie, maar dit tog laat doen het?

<sub>y</sub> ☐ Ja    <sub>n</sub> ☐ Nee

13. Gee asb. redes vir u antwoord in vraag 12.

.....  
.....  
.....

14. Waar verkies u hoofsaaklik om u kind te neem vir sy/haar immunisasies? (Kies een)

<sub>c</sub> ☐ Kliniek    <sub>dh</sub> ☐ Daghospitaal    <sub>h</sub> ☐ Hospitaal    <sub>pd</sub> ☐ Privaat dokter  
<sub>pn</sub> ☐ Privaat verpleegkundige    <sub>p</sub> ☐ Apteek    <sub>o</sub> ☐ Ander - spesifiseer.....

15. Gee asb. redes vir u antwoord in vraag 14.

.....  
.....  
.....

**16. Waarvoor is die immunisasies? (Kies een)**

a ☐ Dit keer dat my kind gewone siektes soos verkoue en griep kry.

b ☐ Dit beskerm my kind teen gevaarlike aansteeklike siektes.

c ☐ Dit help teen niks.

d ☐ Ander - spesifiseer

.....  
 .....

**17. Dink u immunisasie is veilig?**

y ☐ Ja

n ☐ Nee

**17.1 Indien 'Ja' geantwoord, spesifiseer asb.**

.....  
 .....

**17.2 Indien 'Nee' geantwoord, spesifiseer asb.**

.....  
 .....

**18. Hoe beïnvloed u gevoel oor die veiligheid van immunisasie u besluit om u kind te laat immuniseer?**

ns ☐ Dit is glad nie veilig nie so ek wil nie my kind laat immuniseer nie.

ss ☐ Sommige vaksines is veilig daarom kan my kind van die vaksines kry, maar nie almal nie.

s ☐ Dit is veilig so ek sal my kind neem vir al die immunisasies.

o ☐ Ander - spesifiseer .....

**19. Wanneer moet 'n kind NIE geïmmuniseer te word nie? (Kies een opsie)**

f ☐ Koors

cc ☐ Verkoue of griep

e ☐ Epilepsie

ha ☐ MIV/VIGS

(meer opsies op volgende bladsy)

- ur ☐ Vorige ongunstige reaksies tot immunisasie
- ai ☐ 'n Kind moet altyd op tyd geïmmuniseer word, ongeag sy/of haar gesondheidstoestand.
- o ☐ Ander - spesifiseer.....

**20. Het u kind ooit met enige van die volgende toestande gesukkel as gevolg van immunisasie? (Kies een opsie)**

- b ☐ 'n Klein blasie waar die TB-inspuiting toegedien was
- mf ☐ Geringe koors vir een of twee dae
- s ☐ Rooiheid en swelling by die inspuitingsarea
- sa ☐ 'n Klein abses by die inspuitingsarea
- mr ☐ Geringe uitslag ná die maselinspuiting
- o ☐ Ander - spesifiseer.....
- n ☐ My kind het geen van die toestande gehad nie

**21. Het u ooit 'n gesondheidsorgfasiliteit besoek om u kind te laat immuniseer, maar die immunisasie is nie aan u kind toegedien nie?**

- y ☐ Ja                      n ☐ Nee

**22. Wat was die rede vir u antwoord in vraag 21? (Kies een)**

- a ☐ My kind was by 'n gesondheidsorgfasiliteit en het immunisasie nodig gehad, maar dit is nie aan hom/haar gegee nie
- b ☐ Sommige, maar nie al die nodige immunisasies is met ons besoek aan die gesondheidsorgfasiliteit aan my kind gegee.
- c ☐ Ek het my kind geneem vir sy/haar immunisasie, maar die personeel het nie die immunisasie toegedien nie en het gesê ek moet 'n volgende keer weer.
- d ☐ Die verkeerde datum was op my kind se kaart geskryf, dus is die immunisasie nie aan my kind gegee nie, slegs 'n nuwe terugkeerdatum.
- e ☐ Die nodige immunisasie is gegee met my besoek aan die kliniek.  
(meer opsies op volgende bladsy)

f ☐ Ander - spesifiseer.....  
.....

**23. Word u besluit om u kind te laat immuniseer beïnvloed deur die gesondheidsorgwerkers se optrede teenoor u?**

y ☐ Ja                      n ☐ Nee

**23.1 Indien 'Ja' geantwoord, spesifiseer asb.**

.....  
.....

**23.2 Indien 'Nee' geantwoord, spesifiseer asb.**

.....  
.....

**24. Het u op enige tydstip enige emosionele stres ervaar tydens die immunisasieproses?**

y ☐ Ja                      n ☐ Nee

**25. Verskaf asb. 'n rede(s) vir u antwoord in vraag 24 deur die mees relevante opsies te kies:**

a ☐ Die mmunisasieproses is te vinnig.

b ☐ Die personeel gee nie aandag aan my of my kind tydens die immunisasieproses nie.

c ☐ Ek het soms vrae en bekommernisse, maar daar is nie tyd om dit met die personeel te bespreek nie.

d ☐ Te veel inspuitings word gelykertyd aan my kind toegedien.

e ☐ My kind huil baie nadat die immunisasie toegedien is.

f ☐ Ek voel skuldig omdat ek my kind deur andere laat seermaak.

g ☐ Ek het geen emosionele stress ervaar nie.

h ☐ Ander - spesifiseer.....

26. Het hierdie negatiewe emosionele ervaring (vraag 25) u besluit enigsins beïnvloed om u kind terug te neem vir sy/haar volgende immunisering?

y ☐ Ja                      n ☐ Nee

27. Het u al ooit enige probleme gehad met u werkgever aangaande die immunisasievereistes van u kind?

y ☐ Ja                      n ☐ Nee

28. Hoe beïnvloed u werkgever se gesindheid teenoor immunisasie u besluit om u kind te laat immuniseer?

a ☐ Daar is geen probleme nie, dus laat ek my kind immuniseer.

b ☐ Daar is probleme, maar ek neem my kind in elk geval.


c ☐ Daar is probleme, dus neem ek nie my kind vir sy/haar immunisasie nie.

d ☐ Ander - spesifiseer.....

Dankie vir u deelname aan hierdie studie en dat u tyd gemaak het om hierdie vraeys te voltooi.

Elisia Dyson  
Navorser

**ADDENDUM E:**  
**LETTER OF APPROVAL FROM THE HEALTH RESEARCH ETHICS COMMITTEE**

  
**UNIVERSITEIT • STELLENBOSCH • UNIVERSITY**  
jou kennisvenoot • your knowledge partner

03 August 2010 **MAILED**

Mrs E Dyson  
Department of Nursing  
2nd Floor  
Teaching Block

Dear Mrs Dyson

An exploration of factors and phenomena influencing parent and/or caregiver compliance with the routine childhood immunisations schedule in the Witzenberg sub-district of the Western Cape.

**ETHICS REFERENCE NO: N10/06/208**

**RE : APPROVAL**

A panel of the Health Research Ethics Committee reviewed this project on 15 July 2010; the above project was approved on condition that further information is submitted.

This information was supplied and the project was finally approved on 29 July 2010 for a period of one year from this date. This project is therefore now registered and you can proceed with the work.

Please quote the above-mentioned project number in ALL future correspondence.



Please note that a progress report (obtainable on the website of our Division: [www.sun.ac.za/rds](http://www.sun.ac.za/rds)) should be submitted to the Committee before the year has expired. The Committee will then consider the continuation of the project for a further year (if necessary). Annually a number of projects may be selected randomly and subjected to an external audit. Translations of the consent document in the languages applicable to the study participants should be submitted.

Federal Wide Assurance Number: 00001372  
Institutional Review Board (IRB) Number: IRB0005239  
The Health Research Ethics Committee complies with the SA National Health Act No.61 2003 as it pertains to health research and the United States Code of Federal Regulations Title 45 Part 46. This committee abides by the ethical norms and principles for research, established by the Declaration of Helsinki, the South African Medical Research Council Guidelines as well as the Guidelines for Ethical Research: Principles Structures and Processes 2004 (Department of Health).

Please note that for research at a primary or secondary healthcare facility permission must still be obtained from the relevant authorities (Western Cape Department of Health and/or City Health) to conduct the research as stated in the protocol. Contact persons are Ms Claudette Abrahams at Western Cape Department of Health ([healthres@pgwc.gov.za](mailto:healthres@pgwc.gov.za) Tel: +27 21 483 9907) and Dr Hélène Visser at City Health ([Helene.Visser@capetown.gov.za](mailto:Helene.Visser@capetown.gov.za) Tel: +27 21 400 3981). Research that will be conducted at any tertiary academic institution requires approval from the relevant hospital manager. Ethics approval is required BEFORE approval can be obtained from these health authorities.

Approval Date: 29 July 2010 Expiry Date: 29 July 2011

03 August 2010 09:15 Page 1 of 2

 **Fakulteit Gesondheidswetenskappe · Faculty of Health Sciences** 

Verbind tot Optimale Gesondheid · Committed to Optimal Health  
**Afdeling Navorsingsontwikkeling en -steun · Division of Research Development and Support**  
Posbus/PO Box 19063 · Tygerberg 7505 · Suid-Afrika/South Africa  
Tel.: +27 21 938 9075 · Faks/Fax: +27 21 931 3352

**ADDENDUM F:**  
**LETTER REQUESTING CONSENT FOR RESEARCH**

Boseong Jutak  
Apartment 303  
Nammun-ri 724-7  
Taeon-gun  
Chungcheongnam-do  
South Korea

06 Jun. 2010

Dr Lizette Phillips  
Director: Cape Winelands District  
Private Bag X 3079  
Worcester 6849, South Africa

Dear Dr Phillips

I am a Master's student under the direction of Drs I. Smit, F. Marais and E. Stellenberg at the Division of Nursing, Faculty of Health Science at Stellenbosch University. I plan to conduct a study to explore the factors and phenomena influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape.

I am hereby requesting your permission to conduct this study at the following eight health care facilities in the Witzenberg sub-district:

1. Bella Vista Clinic;
2. Ceres Hospital;
3. Karoo Mobile;
4. Nduli Clinic;
5. Prince Alfred Hamlet Clinic;
6. Tulbagh Clinic;
7. Warm Bokkeveld Mobile;
8. Wolseley Mobile.

The study will involve the completing of a questionnaire comprising 30 questions by parents and/or caregivers of children under 5 years attending the facilities. It will take approximately 20 minutes to complete the questionnaire. I have included the proposal for the study and the questionnaire for your attention.

Participation in the research study is voluntary and the complete anonymity and confidentiality is guaranteed. The results of the study may be published, but the name of the health care facilities as well as the identity of the participants will not be disclosed in any publication, report, or presentation resulting from this research.

If you need more information or have any questions concerning the study please contact me at +8210 2660 2939, or via email at [elisiad@gmail.com](mailto:elisiad@gmail.com).

Thank you for your assistance. I look forward to hearing from you.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Elisia Dyson', written in a cursive style.

Elisia Dyson

**ADDENDUM G:**  
**LETTER OF CONSENT FROM THE WESTERN CAPE**  
**DEPARTMENT OF HEALTH**

06/12/2010 10:25 0214839895

FINANCE

PAGE 01/02



**DEPARTMENT  
of HEALTH**

Provincial Government of the Western Cape

**COMPONENT**

claudabr@pgwc.gov.za  
tel: +27 21 483 9907; fax: +27 21 483 9895  
1<sup>st</sup> Floor, Southern Life Centre, 8 Riebeeck Street, Cape Town, 8001  
[www.capegateway.gov.za](http://www.capegateway.gov.za)

**REFERENCE:** 18/19/RP101/2010

**ENQUIRIES:** Dr N Peer

**University of Stellenbosch**  
**P.O.Box 150**  
**Somerset East**  
**5850**

**For attention: E Dyson**

**An exploration of factors and phenomena influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape**

Thank you for submitting your proposal to undertake the above-mentioned study. We are pleased to inform you that the department has granted you approval for your research. Please contact the following members of staff to assist you with access to the facilities:

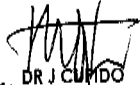
<b>Bella Vista Clinic</b>	Mrs Handri Liebenberg	(023) 316 9626
<b>Karoo Mobile</b>		
<b>Nduli Clinic</b>		
<b>Prince Alfred Hamlet Clinic</b>		
<b>Tulbach Clinic</b>		
<b>Warm Bokkeveld Mobile</b>		
<b>Wolseley Mobile</b>		

Kindly ensure that the following are adhered to:

1. Arrangements can be made with managers, providing that normal activities at requested facilities are not interrupted.
2. Researchers, in accessing provincial health facilities, are expressing consent to provide the department with an electronic copy of the final report within six months of completion of research. This can be submitted to the provincial Research Co-ordinator ([healthres@pgwc.gov.za](mailto:healthres@pgwc.gov.za)).
3. The reference number above should be quoted in all future correspondence.

We look forward to hearing from you.

Yours sincerely

  
pp DR J CUMDO  
DEPUTY-DIRECTOR GENERAL  
DISTRICT HEALTH SERVICES AND PROGRAMMES  
DATE: 06/12/2010.

CC:

DR L PHILLIPS

DIRECTOR: CAPE WINELANDS DISTRICT

**ADDENDUM H:  
LANGUAGE EDITOR'S DECLARATION**

Ella Belcher  
Language Editor and Translator  
46 Brandwacht Street  
Stellenbosch

Member of the South African Translators' Institute  
Member of the Professional Editors' Group  
☎ +27-21-8870572    📱 +27-0832948393    📠 +27- 088-021-8870572  
Postal address: P.O. Box 12570 Die Boord 7613 South Africa

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**DECLARATION**

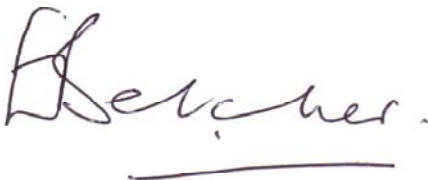
I hereby certify that the Master's thesis named below has been properly language edited.

**Title of thesis**

An exploration of factors and phenomena influencing parent and/or caregiver compliance with the routine childhood immunisation schedule in the Witzenberg sub-district of the Western Cape

**Candidate**

Elisia Dyson

A handwritten signature in dark ink, appearing to read 'E. Belcher', with a horizontal line drawn underneath the name.

ELLA BELCHER  
Stellenbosch  
2 June 2011