

MOTHERS' UNDERSTANDING OF CHILDHOOD IMMUNIZATION

AT

JOHAN HEYNES COMMUNITY HEALTH CENTRE

VAN DER BIJLPARK, SEDIBENG.

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DECLARATION

I **EGBERT EMAKE WENEGIEME** declare that this research is my original work. It is being submitted for the degree of Master of Family Medicine (MMED), at the University of the Witwatersrand, Johannesburg.

Part or whole of this report has not been submitted for any other degree at the University of the Witwatersrand or any other University for any purpose. Neither do I intend to do so in the future. All the sources I have used or quoted have been appropriately acknowledged by means of complete referencing.

..... day of2014

DEDICATION

In memoriam, I wish to dedicate my work to my parents, namely the late Mr S.O WENEGIEME, my father who encouraged me to do medicine before he met his untimely death and my mother, Mrs H.A.WENEGIEME, who has been a tremendous support to me.

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- My wife and partner in the journey, Mrs. Florence B. Wenegieme for her love and support.
- My children: Elberta, Grace and Isaac for affording me the joy of fatherhood.

ABSTRACT

KEYWORDS: Knowledge, childhood immunization, mothers, cross-sectional survey.

INTRODUCTION: The Under-5 Clinic in Johan Heynes Community Health Centre is always packed and has high immunization rates (104%). Despite this, during clinical consultation, the family physician researcher suspected that mothers were poorly informed about childhood immunization, which immunization the child had received and symptoms of common side effects.

OBJECTIVES: This study assessed mothers understanding of indications, benefits, adverse effects of childhood immunization, how to catch-up on missed vaccinations, and how they obtained information about childhood immunization.

METHODS: A cross sectional descriptive study was undertaken of all mothers attending immunization services at the clinic. Systematic sampling of 302 mothers using face to face interviews was done. The instrument questions were obtained from 2 similar validated studies, adapted to suit the setting, and piloted. Data was collected from 15th November to 15th December 2012. Data was analyzed using Epi-info.

RESULTS: Ninety seven percent of mothers brought their children for immunization because they feared their children could develop illnesses. Seven percent of mothers knew what vaccines their children would receive on the day of immunization and what diseases these vaccines prevent. Nearly all mothers were given information on when to immunize their children. Fourteen percent were given information on why they need to immunize their children.

CONCLUSION: Most mothers knew that immunization prevented certain illnesses, but did not know which illnesses were being immunized against. Further, most mothers didn't know about the common side effects of childhood immunization. However, most mothers were well informed about the timing of immunization.

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CHAPTER 1 INTRODUCTION

1.1 Background

Infant and child immunization is one of the most effective health interventions of the 20th Century, credited with a substantial portion of the overall increase in life expectancy during this period.¹ Immunization has drastically reduced childhood morbidity and mortality from vaccine-preventable disease.²

Since the 1980s, information about the effectiveness, safety, and long-term effects of vaccines has become readily available in popular media, causing some parents to question the status quo.³ A study in the United State of America which mainly surveyed African-American parents in Baltimore found that parents understanding of immunization did not explain their child's immunization status as much as socio-demographic characteristics.⁴ The above should place a mandate on providers to look inwards as regards how immunization is being provided. The researcher wonders what kind of information these parents receive, considering that they still had appalling understanding of immunization.

1.2 Motivation / Rationale

The Under-5 clinic in Johan Heynes Community Health Centre is like a beehive, always packed full with mothers and their babies attending immunization services which attest that immunization services are now being well attended. However, the researcher has in the recent past come across mothers who bring their babies back with side effects of immunization to the clinic. Further probe reveals that they are not aware of the cause and also do not know what vaccines prevent what illnesses. One thing mothers seem to know well is their next appointment date. This is worrisome to the researcher who, as a family physician, believes in patient centeredness.

One may ask; "Are we paternalistic in the approach to childhood immunization? Do these mothers understand what childhood immunization really is?" The above prompted the researcher to question the status quo, despite latest statistics that demonstrate vaccine coverage in Sedibeng district of 104%.⁵

There are concerns that mothers are not fully informed and do not understand childhood immunization even though they bring their children for immunization. The researcher is convinced that this study will reinforce good behaviour and complement efforts made by the facility to improve mothers' understanding of childhood immunisation. The findings of this study will lead to sustainable immunization programme and influence health education programmes at Primary Health Care (PHC) level. Therefore, purpose of this study is to determine mothers' understanding

about childhood immunization with focus on indications, benefits, missed opportunities, source of information and adverse effects.

1.3 Aim and

objectives 1.3.1 Aim

To determine what mothers understand about immunization at the Under-5 clinic in Johan Heyns Community Health Centre, Vanderbijlpark.

1.3.2 Objectives

1.3.2.1 To assess mothers understanding of indications, benefits and adverse effects of immunization.

1.3.2.2 To assess mothers understanding of the need to catch-up missed vaccinations.

1.3.2.3 To determine how mothers obtain information about childhood immunization

CHAPTER 2 LITERATURE REVIEW

2.1 Introduction

Literature was searched from the Pub Med, Cochrane reviews, and Google scholar databases and search engines. Keywords used were: “mothers understanding of the indications of childhood immunization”, “mothers understanding of the benefits of childhood immunization”, “mothers understanding of the adverse effects of childhood immunization”, “mothers understanding of missed childhood immunization”, and “mothers’ sources of information on childhood immunization”.

Specific studies done in Africa were of interest. Few studies were done in South Africa. Related studies done in other part of the world were also studied. There were no substantial work done in South Africa and other parts of the developing world.

Limits for the search were set to publications in journals and reviews and a time limit for literature published within the last ten years (2002 to 2012). Exceptions to the time limit were applied if the study was within the scope of the topic, and methodology and results were relevant to the current review.

2.2 Knowledge and Understanding of childhood immunization among caregivers and mothers.

While most literature discusses factors that are believed to influence caregivers’ decisions to vaccinate their children, few studies focus on caregiver understanding of childhood diseases and vaccination. The major findings from one of these studies which were a descriptive study where 258 caregivers participated indicated a very low level of knowledge among carers presenting their children for vaccination at public health clinic with 23% of carers having no knowledge regarding the vaccinations that their children were receiving and the disease for which the vaccination was administered. Eighteen percent of caregivers were unsure of the relationship between vaccination and the likelihood of their child contracting an infectious disease.⁶

The above study is quite similar to the research in question as they are both descriptive studies and sample size is similar. The major difference is that while the above study used care-givers, this research used mothers because few studies were done on mothers’ understanding which was viewed as a gap in previous studies. The study was done in Australia which might affect the demographics since the majority of our populace are black, but the researchers were able to meet their objectives.

In one qualitative study, only four mothers knew the names and the purposes of the vaccines their children were receiving on the day of immunization out of 30 mothers who were present that day.⁷ Although lack of knowledge has been identified as a barrier to adherence to immunization schedule, the results of this study revealed that mothers’ lack of knowledge about the vaccines per se did not preclude them from bringing their children to the immunization clinic.

The above study used a convenience sample of 15 mothers with one child and another 15 mothers with more than one child; this was in contrast to this research which used quantitative descriptive study and that difference may somehow affect the findings from this study.

An in-depth qualitative study using a semi-structured questionnaire, focus group and free-listing was conducted in the rural Transkei in 1994 where 60 caretakers of children less than 5 years were interviewed by two focus groups.⁸ The result of this study found that caregivers had a widespread acceptance of the value of immunizations in preventing childhood illnesses, but they did not know why they were given and for what illnesses. The above study was done in a rural area of the Eastern Cape Province with low levels of education. The result of this study was however not different from the Australian study cited earlier, which used a quantitative element in its analysis and the above qualitative study.

It is therefore not surprising that in a country like Hong Kong, where the immunization coverage is at par with that of the Western world⁹, study participants also pointed out that they had a poor knowledge and understanding of most vaccine-preventable diseases and immunizations. This was not different from the findings of the above Eastern Cape qualitative study, despite having received information from public health nurses.¹⁰ The major difference is with the sample size and the fact that one study was in Hong-Kong while the other in South Africa!

Six focused groups of Atlanta-area African-American mothers who were very concerned about vaccine safety but whose children were fully immunised found that social norms and or laws supporting immunization and fear of the consequence of not immunizing were major factors that influenced mothers to immunize despite their concerns.¹¹

Vaccination is viewed as a requirement in the community and some feel 'forced' to do it because of school or day-care regulations. In South Africa it is a mixed picture. This is however enforced differently here as some schools want it while others don't before enrolling the child into school.

2.3 Sources of information about childhood immunization.

A qualitative study using semi-structured interviews and focus groups with 10 parents and 16 public health nurses showed that public health nurses were the parents' most important source of information.¹² Of note, however, is that the Road to Health chart was not found to be useful as an educational resource but played a strong influence as a remainder. In one study, 99% of caregivers had the booklet in their possession; but only 8% had referred to it as a source of information. According to the study, major sources of information were identified as child health nurses (44%) and hospital midwives (34%)⁶. The problem with the above studies is that they were done in Europe.

Some mothers do not consider themselves informed about immunization, which may have affected them negatively and a feeling of lack of control over the process. Similar studies of patients with cancer and other chronic diseases have shown that providing information to patients keeps them engaged and gives a sense of self control in health promotion decision-making process.¹³ Parents appreciate having written information even when they have little choice or a passive role in medical decision making, such is the case of immunization.¹⁴

A controlled trial done in northern California to describe how parents actually use federally mandated vaccine information pamphlets' and to evaluate the pamphlets effects on parents' opinions about vaccination. They found that 90% of parents believe that they had enough information to decide whether their child should be vaccinated. It also found that parents who received the pamphlets did not differ in terms of the proportion who would have liked more time to be spent discussing vaccines (34% versus 34%) or who were anxious about how vaccination would affect their child (60% versus 52%). In conclusion, vaccine information pamphlets have little effect on the opinions of well-educated parents.¹⁴

An integrated qualitative-quantitative study in the United States of America found that polio information pamphlets are often written using language that requires a reading and comprehension levels higher than parents of many paediatric patients have achieved. Anecdotal reports suggest that many parents may not readily understand the federally mandated public health service vaccine information pamphlets prepared by the centre for disease control and prevention. The study found that the mean comprehension was 15% lower for centre for disease control, CDC, than for Louisiana State University, LSU (56% versus 72% correct; $p < 0.001$) and reading time was three times longer for CDC than for LSU (13 minutes 47 seconds versus 4 minutes 20 seconds; $p\text{-value} < 0.0001$). The study came up with a recommendation that the American medical community should adopt available techniques for the development of more effective patient-parent educational materials.¹⁵

Another USA study tested the effectiveness of a nursing intervention on immunization knowledge using the revised easy-to-read written education materials in urban low income mothers. Thirty-seven mothers were randomised either to a control group (asked to read the standard vaccine information sheet) or to an experimental group (asked to read the revised immunization pamphlet). Although there was a modest increase in knowledge for both groups, it was not significant.¹⁶ Thus; simplifying information alone may not increase parental knowledge.

A study which used the teach-back technique found that vaccine information statements on inactive poliovirus (IPV) and pneumococcal conjugate vaccine (PCV) had mixed results. More mothers gave correct answers for risks and benefits, but more mothers gave incorrect answers for safety.¹⁷ Inconsistency of the mothers' responses to communicate critical immunization information about vaccines indicates the need to further assess how best to increase parents' vaccine knowledge and understanding.

Communication alone is not a simple solution to the complex problems of health literacy. Unless nurses use effective communication and better strategies, we will experience limited success in increasing maternal health literacy.¹⁸ A focus group discussions with mothers in eastern Zimbabwe confirmed that they were well informed, highly motivated and had many suggestions on how services could be improved, but were rarely given the opportunity to discuss them with health workers.¹⁹ The above study showed that the crude coverage was 86.6%, and only 0.9% of children had not received any vaccination at all. Most children (96.7%) had an immunization card but at one year of age valid coverage was 51.4%. The drop could be possibly because mothers were not given the chance to engage with health workers, thereby affecting their interest in immunization.

Health personnel originally thought tradition and religious beliefs were to blame, the survey however indicated that the problem lay in the poor quality of Expanded Programme on Immunization services. To support parental decision making, health care professionals should be listening carefully to parental concerns, understanding their perspective and discussing both positive and negative information with them.²⁰

An educational intervention study in all fifty states and the district of Columbus now requires completion of a basic series of immunization in order to enrol a child in school, resulting in immunization rates of almost 98% for school-aged children.²¹ A pamphlet was developed, which focuses on the studies that showed that women wanted more information about immunizations during pregnancy. The women who received this pamphlet would be able to: state at least two commonly used alternate names for immunization verbalise and list one reason her baby should be immunised, identify places she can take her baby to be immunised, and verbalised intent to save the pamphlet as a reference to know when to have her baby immunized.

However a systematic review of RCT and cluster RCT which had a sample of 2978 participants found that face to face intervention for informing or educating parents about early childhood vaccination had little or no immunization status or knowledge or understanding of childhood vaccinations.²²

It was noted in one study that, some mothers indicated that fathers were actively involved in the decisions about immunizing their children.²³ However there were inherent limitations to using a qualitative method, such as focus groups, and the results might not be generalized to a larger population. That might influence the excellent immunization schedule seen, since the fathers may insist that mothers bring their children for vaccinations.

2.4 Benefits and side effects of childhood immunization.

A key factor identified by mothers who encouraged immunization uptake was the fear of vaccine-preventable diseases.²⁴ This was one of the major findings of this qualitative descriptive design. Here 28 mothers from two first nation's communities in north-western Ontario, Canada, were interviewed about their perceptions of childhood immunizations and vaccine-preventable diseases. A small proportion of mothers, however, questioned the effectiveness of vaccines in preventing disease. Some of them recounted and even recalled cases of polio and other vaccine-preventable disease and how this reinforced the importance of immunization.

However, in New Zealand, mothers had rarely been exposed to the consequences of vaccine-preventable diseases and only few could describe those diseases.²⁵ Paradoxically, the success of many immunization programmes has undermined their continued existence, as the lowering of the incidence has had an impact of the public's perception of these diseases as a real threat.²⁶ As success of immunization programmes depends on the continued acceptance of vaccines by parents, it is important to develop an in-depth understanding of mechanisms underlying decisions to accept or reject the vaccination of a child.

A survey data in the US showed that most parents, even those whose children receive all of the recommended vaccines, had questions, concerns, or misperceptions about them. It is therefore necessary to give parents information they need and keep the

vaccination programme a success.²⁷ Vaccines, like other pharmaceutical products, are not entirely risk-free. While most known adverse effects are minor and self-limited, some vaccines have been associated with very rare but serious adverse effects. Effectively communicating this uncertainty and continuing to improve understanding of rare risks and risk factors are essential for “mature” immunization programmes to maintain public confidence in immunisation as found in an epidemiological review done in the USA.²⁸

Vaccines are generally considered as being safe and most ‘scares’ have not been substantiated by rigorous scientific studies. However, local reactions in the form of redness and swelling are common and very rarely are serious reactions observed (e.g. anaphylactic shock).²⁶ A prospective descriptive study showed that apart from pain, swelling and redness at injection site, fever, irritability and sterile abscess were also common. Further, the study found that as knowledge of the devastation caused by many vaccine-preventable diseases fades from public memory, attention shifts to the adverse effects and this could lead to a loss of confidence in immunization; thereby an outbreak of diseases may ensue, resulting in resumption of vaccine use. The use of acetaminophen is very helpful in most of this side effects.²⁹

A qualitative study, where semi-structured interviews were conducted with 15 mothers to examine their perceptions and experiences of their immunisation pain and pain management, found that most mothers used distraction to comfort their children post immunization jab. Where medications were used it was mainly oral analgesics to prevent or treat vaccine fevers occurring after immunization. These mothers were largely unaware of topical anaesthetics. They however expressed a willingness to use them if endorsed by their physicians, who were identified as their most trusted source of pain management information.³⁰

Chronic diseases such as autism often are attributed to vaccines because immunizations are given at a time in children’s lives when the signs and symptoms of those diseases first become apparent. Parents are understandably frustrated by the lack of an identifiable cause of their child’s autism and, in their search for answers, may allege that vaccines caused their child’s illness because of the temporal relationship between immunization and disease manifestation.²⁹ Therefore all mothers need to be educated about the benefits and risks of immunization.

In the age of information and disinformation, the importance of properly communicating the benefits and risks of vaccines cannot be overstated.

Providing basic immunization information is not only good medicine, but the appropriate vaccine information statement must be provided each time a vaccine is administered. Mothers who thought vaccines were effective cited the decrease in coughs and colds their children experienced after vaccination as evidence of efficacy.²⁴

Parental concerns about vaccine safety contribute to low immunization rates as shown in a US based National Immunization Survey. Here immunization of children aged 19-35 months remained near all-time highs. In this study, 93% of parents rated vaccines as safe, 6% as neither safe nor unsafe while 1% as unsafe. After adjusting for demographics, parental safety belief was significantly associated with the child’s vaccination status. In parents who believed vaccines were safe; odds of being up to

date (UTD) were 2.9 times the odds of being UTD for children of parents who believed vaccines were unsafe (75% versus 53% respectively).³¹

There remains a parental misconception about the protection offered by vaccines. Many believe that their children should be completely protected from childhood diseases by immunizations as in this case-control study. Here case-controlled subjects were fully immunized while case subjects were under-immunised with respect to 2 or 3 vaccines. Attitudes, beliefs, and behaviours indicative of vaccine safety concerns contributed substantially to under-immunization in the United States³²

When their children fell ill with illnesses that they had been vaccinated for, parents tended to think that vaccines were ineffective.²⁵ It is therefore important for parents to be educated that no vaccine provides a 100% protection.³¹ Studies cited above were mainly from New Zealand and Hong Kong. It may therefore not be a generalised finding to South Africa.

Commonest side effects of immunization are usually minor fever and irritability. However a worrisome thing about this is that parents are more concerned about vaccine side-effects than the actual consequences of the disease as most believed from a qualitative study that fever was caused by immunization and, therefore the later caused illness.³³ Studies examining the impact of side effects on vaccine uptake showed that they often presented a major barrier to immunization uptake.^{34, 35}

Subsequently, in another study, researchers found that side effects were seen as normal consequences of vaccination.¹⁰ The first year of life is not only the busiest with regard to immunization, but also, when many diseases and developmental anomalies are diagnosed. Therefore, immunization is usually implicated as the cause of morbidity and mortality since it provides an explanation,²⁵ making parents forget that the benefit of immunization outweighs the risks.³⁶

2.5 Missed vaccination.

A survey based on interviews at a Brazzaville hospital at discharge, conducted with 306 mothers and caretakers of children less than 2 years, found that the overall rate of missed immunization opportunities was 12.8% for children. The reasons most frequently cited were illness of the child, misinformation, and unavailable vaccines.³⁷ However, another study which used the 1999 National Immunization Survey in the US showed coverage of 73.8% for the serial vaccines among African-American children aged 19-35 months was not a result of limited access to care. On the contrary, 90.5% of African-American children had enough vaccination visits to complete the series.³⁸

A cross sectional studies of children under 2 years, was conducted from six health facilities predominately serving the slums of Nairobi, where 408 caretakers were interviewed as well as extracting information on immunisation cards. Reasons for non-completion of vaccination included caretaker ‘not bothered’, busy or ill and fear of rude health workers. While most caretakers were aware of vaccination and its benefits, none knew the immunization schedule. Major caretaker constraints were low level of formal education, fear of vaccine side effects and perceived contraindication to vaccination.³⁹

A cross-sectional study of mothers whose children were less than 2 years of age was conducted in rural Mozambique, and 668 mothers took part in this study. The road to health card was used to check for completeness and correctness of vaccination schedule. It was found that 28.2% of children had not vaccinated. Twenty five point seven percent (25.7%) had experienced a missed opportunity for vaccination and 14.9% were incorrectly vaccinated. The reasons for incomplete vaccination were associated with accessibility to the vaccination sites, no schooling of mothers and children born at home or outside Mozambique.⁴⁰

A community based prospective cohort study was conducted with the involvement of 696 women.⁴¹ Information was collected on the mothers' education and vaccination status of infants indicated that infants whose mothers had a secondary education were less likely to miss scheduled vaccinations compared to those whose mothers only had primary education. Therefore strategies for childhood vaccinations should specially target women with low formal education.

A cross sectional study among 258 children less than 18 months attending a public day-care centre in Brazil found that 10.9% of those children had incomplete vaccination. It showed that children who were born prematurely (OR 4.27, p-value 0.04) or were malnourished (OR 4.99, p-value 0.049) or lived in inadequate housing (OR 2.88, p-value 0.039) or whose mothers had had poor prenatal care (OR 4.98, p-value 0.040) were more likely to have incomplete vaccination.⁴²

Health workers are often reluctant to immunize a child who is ill and or febrile⁴³ and mothers are unwilling to permit such a child to be immunized. Nevertheless, immunizing ill children does not cause a significant increase in side-effects and the rate of sero-conversion is the same whether ill or well.⁴⁴ Minor illnesses such as otitis media, upper respiratory tract infections, colds, and diarrhoea, with or without fever, are not contraindicated to immunizations.⁴⁵ Studies have shown that some health care professionals are either unaware of, or misinterpret, contraindications to immunization. That has resulted in missed opportunity.⁴⁶ The latter is a problem in immunization because of the said reasons. Studies to disprove above findings have not been done in South Africa, and one sees mothers coming to the clinic refusing that their child be immunized based on issues highlighted above.

Low rates of immunization in the orthodox Jewish community were a result of rumours about vaccination dangers, whose origin lies in the media. Combined with religious indoctrination and perceptions of a possible harm from outside influence, these rumours succeed in heightening anxiety about immunizations.⁴⁷

2.6 Conclusion

Mothers' understanding of childhood immunization varies, as some of those mentioned perceptions, beliefs and understandings have the potential to negatively affect the whole immunization programme. That could lead to emergence of some preventable childhood diseases, thereby increasing infant morbidity and mortality. Therefore, there is great need for health promotion actions and disease prevention strategies in primary health care facilities and day care centres.

Adherence to a recommended vaccination regimen does not necessarily mean that parents are appropriately informed about the decisions they have made.¹² An effort

should be made by public health nurses and doctors especially family physicians dealing with children to include parents in decision-making. This should be balanced, explaining the good and the harm of childhood immunization and should be accompanied by a good recommendation.

CHAPTER 3 METHODOLOGY

3.1 Study Design: The design was a cross sectional descriptive study.

3.2 Study Setting

The study was conducted in the Under-5 Clinic at Johan Heyns Community Health Centre in Vanderbijlpark. The clinic is located in the first floor of 6-storey building of Johan Heyns Community Health Centre. About 10,000 headcount of patients are seen in a month in this Community Health Centre. These represent patients seen in Primary Health Care, HIV clinic, Maternity Obstetric Unit, Integrated Management of Childhood Clinic, and the Under-5 Clinic. The Under-5 Clinic sees about 60-70 children per day. There are two Primary Health Care trained nurses and a staff nurse running this facility from 07:00 to 16:00 hours from Mondays to Fridays except during weekends and public holidays, when it is closed. In addition to immunization services, deworming, HIV testing for exposed infants, early detection of malnutrition, and appropriate referral of cases to the hospital for further care are also being offered.

Health education is achieved in the Under-5 Clinic by gathering mothers in a hall when mothers come in the morning for a brief health talk about immunization. However, when a problem is identified regarding child immunization, mothers are given a one- to-one talk.

3.3 Study Population

The study population were mothers attending immunization services at the Under-5 Clinic of Johan Heyns Community Health Centre.

3.4 Sample Size and Sampling Method

3.4.1 Sample Size

The sample size was calculated using the Raosoft software.⁵¹The total number of children seen in one month was between 1 200 – 1 400. Therefore the calculated sample size was 302 with a 5% margin of error and 95% confidence interval and a response distribution of 50%.

3.4.2 Sampling Method

A systematic sampling was used. The researcher chose from every fourth mother in the queue until the end of that day. In order to allow for a free flow mothers were given tallies and picked according to every fourth person on the queue. It took one month to get to the above sample size of 302. Data was collected from 15th November to 15th December, 2012.

3.5 Inclusion and Exclusion Criteria

3.5.1 Inclusion Criteria

-All biological mothers who gave consent were included in the study. -
Mothers who were 18 years and above were also included in the study.

3.5.2 Exclusion Criteria

- Mothers who were less than 18 years old.
- Mothers who refused to participate in the study.
- All caregivers who were not the biological mothers of the children to be immunized.
- Mothers who could not speak English or Sotho.

3.6 Measuring Tools and Instrument

A structured questionnaire was used. This questionnaire was drawn from two validated study questionnaires and adapted to suit our environment.^{6,7} The tools were validated and the reason the researcher chose this tool was because of the similarity to the study in question. The questionnaire was written in English and translated into Sotho by a trained teacher in Sotho language. This was then back-translated from Sotho into English by another English teacher. (See appendix 1).

The first study⁶, was about influential demographic variables that affected immunisation compliance, care - giver understanding of childhood immunisation, and knowledge of vaccine - preventable diseases and the sources of information used by care-givers. The above is comparable to this study since the latter is about mothers understanding of childhood immunisation. Section B of the questionnaire dealt with reasons for immunization and taken verbatim from the above study questionnaire. The researcher added 'apply for birth certificate' as a possible reason. Section C of the questionnaire on the benefits of immunization was also taken verbatim from the above study questionnaire. The researcher added 'HIV' as a possible disease which can be prevented by immunization to check mothers understanding of immunisation. Further, the researcher used terminologies which were easily recognisable by the local community, for example 'polio' for poliomyelitis, yellow disease for hepatitis and whooping cough for diphtheria. Sections E and F were taken verbatim from the same study questionnaire. The researcher didn't add anything more to the section.

The second study⁷, determined mothers literacy level and knowledge, information needs, and information-seeking behaviours related to the vaccine(s) their children were receiving. That is similar to the present study. Section A in the questionnaire which is on the socio-demographic characteristics came from this study questionnaire. The only change to this section is under race where the researcher added 'others' to the different racial groups. Section D of the questionnaire on the side effects of immunisation was also taken verbatim from this study questionnaire. The researcher added autism as this was not from the questionnaire.

The questionnaire was divided into 6 sections. The first section (A) asked about the demographic characteristics (race, age, level of education, parity, marital status and social economic status).

The other sections (B, C, D, E and F) respectively collected information on mothers understanding of indications, benefits, adverse effects, missed opportunity and source of information on childhood immunization.

3.7 Data Collection

As mothers sat on the queue before their babies got immunized, every fourth mother was approached and given the participant information sheet (see appendix 2) to

explain the purpose of the research by the research assistant. If she declined then the next mother in the queue was approached and the counting continues from there. In addition, a consent form (see appendix 3) was given to willing participants to sign and thereafter the questionnaire was administered in English language by the researcher; and, in Sotho by the trained research assistant fluent in Sotho language. This took place in a private room within the Under-5 clinic. Information that was collected was that described in the questionnaire and took about 15minutes to complete.

Further, a face to face interview was done. The researcher completed the questionnaire in the case where participants spoke English, while the trained research assistant completed the questionnaire in the case of participants who could not communicate well with the researcher. When the participant had finished with the interview, she went back to get her child immunised. All mothers were given tallies, in case they were late for her immunisation. The clinic staff had been informed that such needed to be fast - tracked. This was done every day until the sample size was achieved. Mothers who had no understanding of childhood immunization were offered education about it, there and then. An information leaflet was given to such mothers who participated in the study (Appendix 4). All completed questionnaires were stored in a safely locked office. These questionnaires were later used for data capturing and analysis. The questionnaires were only accessible to the researcher.

3.8 Data Capture and Analysis

3.8.1 Data Capture

Data collected on questionnaires were entered into Epi-info soft ware (version 3.5.3 January 2011) for analysis by the researcher. This was only accessible to the researcher and the supervisor.

3.8.2 Data Analysis

A statistician's help was sought and the data which was entered into the Epi-info programme was analysed depending on the type and number of variables analysed. In general, frequencies, percentages and tables were applied.

3.9 Pilot Study

A Pilot study was done at Sharpeville Clinic which is conveniently 3km from Johan Heynes Community Health Centre to help test if the questions were well understood by the participants. Samples of 20 participants were used in this pilot. The pilot started on 1 November and ended on 8 November 2012. In this pilot, a similar questionnaire was used and it served to modify the content of some of the questions to make it more understandable, as well as to estimate the average time of the interview and also, it served to train the research assistant, who volunteered to help with the language, to become familiar with the study tool.

Data collected, was entered in the Epi-info programme where a minimized analysis of that data was done, as a framework for the larger analysis on the research that followed. The data from the pilot study was not used in the main data.

3.10 Ethics

3.10.1 Identification issues: The current research used a questionnaire where no identification data were entered. The questionnaire was anonymous and only an order number was allocated to enable the retrieval of information and entry into Epi info programme. Once the data from the questionnaire was extracted into the Epi info, the questionnaire form was locked in the researcher's office (lockable drawer), where only the researcher had access to it. The data in the Epi info was secured using the Epi lock utility of the programme, which uses a password and an encryption of the data.

3.10.2 Value of the research to the institution: This research gathered valuable information about Mothers understanding of childhood immunization in Johan Heyns Community Health Centre. No other research has been conducted in this area at this clinic and therefore the results of this investigation can provide information for planning and organisation of the well baby clinic.

3.10.3 Just and fair process: The inclusion and exclusion criteria were highlighted in the relevant section.

3.10.4 Benefits: The researcher did not give monetary or personal value to the individuals included in the research, but their participation was duly acknowledged and feedback was given to all participants who wanted it.

3.10.5 Risks: There was no risk involved with any of the participants.

3.10.6 Respect for participants: A consent form was presented to the relevant participant and after having cleared doubts about the research answered, the candidate signed the consent form and then the questionnaire was applied. The participant was asked at the end of the session if she would like to know the result of study and if the answer was yes, a visit was arranged for the period that the research was due to be completed so that the result could be revealed and explained.

3.10.7 Conflict of interest: There was no personal or profit interest relating to purpose of this research for the researcher. The only conflict would relate to the interest of the researcher in completing the study in order to complete the last part of the master's degree in Family Medicine.

3.10.8 Approval by the Research Ethics Committee: Approval was obtained from the Human Research Ethics Committee (HREC) of the University of the Witwatersrand (see appendix 5)

3.10.9 Other approval or consent: approval was also obtained from the department of health via the permission of director Sedibeng District Health Services to do research involving patients. (See appendix 6)

CHAPTER 4 RESULTS

4.1 Demographics

4.1.1 Age

Ages of the respondents ranged from 18 years to 45 years with a mean and median age of 28.82 years (SD = 7.19) and 29 years respectively.

4.1.2 Race

Table 1: Race

Race	Frequency	Percent
Black	221	73.2%
Coloured	24	7.9%
Indian	26	8.6%
White	31	10.3%
<i>Total</i>	<i>302</i>	<i>100.0%</i>

The racial distribution of the sample is shown above. Blacks were three-quarters of the respondents with the remainder made up of Whites, Coloureds and Indians.

4.1.3 Education Level

Table 2: Education Level

Level of Education	Frequency	Percent
Primary	30	9.9%
Secondary	198	65.6%
Tertiary	74	24.5%
<i>Total</i>	<i>302</i>	<i>100.0%</i>

The level of education is shown in the table above. Secondary education accounts for the highest which is 65%.

4.1.4 Employment Status

Table 3: Employment Status

Employment status	Frequency	Percent
Formally employed	139	46.0%
Informally employed	73	24.2%
Receive grants	16	5.3%
Other	1	0.3%
Unemployed	73	24.2%
Total	302	100.0%

The employment status is shown in the above table. The mothers formally employed where 46% whilst unemployed and those employed in the informal sector accounted for 48.5%.

4.1.5 Marital status

Table 4: Marital Status

Marital status	Frequency	Percent
Co-habiting	77	25.5%
Divorced	10	3.3%
Married	76	25.2%
Separated	19	6.3%
Single	108	35.8%
Widow	12	4.0%
Total	302	100.0%

The marital status is shown in the above table. Mothers who were single participated the most in this study, accounting for 35% of all mothers. Co-habiting and married mothers were next 25.5% and 25.2% respectively.

4.1.6 Number of children

Table 5: Number of Children

Number of children	Frequency	Percent
1	94	31.1%
2	102	33.8%
3	90	29.8%
4	12	4.0%
5	4	1.3%
Total	302	100.0%

The number of children for each mother is shown in the above table. Mothers with 2 children accounted for the majority in the study, namely, 33.8%.

4.2 Reasons mothers' bring children for immunization.

Table 6: Reasons mothers' bring children for immunization?

No	Reason reported	Frequency(n)	Percent
1	In order to obtain birth certificate	2	0.7%
2	At fathers request	130	43%
3	Fear of child dying	39	12.9%
4	Child developing illness	294	97.4%
5	Government advice	14	4.6%
6	Health care workers advice	34	11.3%
7	For school enrolment	105	34.8%
8	Other reason (s)	1	0.3%
9	No reason	7	2.3%

From the above table, total number ('n') is not equal to 302, as there were several reasons why mothers brought their children for immunization. The major reason for bringing children for immunization was fear of child developing an illness which stood at 97.4%. Frequencies depicted are not mutually exclusive.

4.3 Clinical benefit of Childhood Immunization

4.3.1 What Vaccine is the Child getting today?

Mothers who knew what vaccines their children would receive on the day of immunizations were 21 mothers (7%)

4.3.2 What Disease(s) does this Vaccine Prevent?

Mothers who knew what diseases were prevented by the vaccines their children were receiving on that day were 21 mothers (7%)

4.3.3 What Disease(s) do you think can be prevented by immunisation?

Table 7: Diseases prevented by immunization.

Serial number	Diseases prevented by Immunization	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	HIV	---	302	---	100
2	Polio	292	10	96.7	3.3
3	Diarrhoea	119	183	39.4	60.6
4	High Blood Pressure	---	302	---	100
5	Pneumonia	70	232	23.2	76.8
6	TB	110	192	36.4	63.6
7	Measles	271	31	89.7	10.3
8	Tetanus	144	158	47.7	52.3
9	Whooping Cough	54	248	17.9	82.1
10	Hepatitis	51	251	16.9	83.1
11	Other Disease	---	302	---	100
12	Not Known	7	295	2.3	97.3

All mothers in this study said immunization could not prevent HIV and Hypertension. Nearly ninety seven percent of (96.7%) of mothers in this study said that polio could be prevented by immunization. Nearly ninety percent (89.7%) of mothers said measles could be prevented by immunization.

4.4 Side Effects of Childhood Immunization

Table 8; Side effects of Childhood Immunization.

Serial number	Side Effects of Childhood Immunization	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	Allergy	95	207	31.5	68.5
2	Autism	7	295	2.3	97.7
3	Barrenness	2	300	0.7	99.3
4	Blindness	6	296	2	98
5	Deafness	3	299	1	99
6	Fever	168	134	55.6	44.4
7	Fits	34	268	11.3	88.7
8	Loss of Speech	2	299	0.7	99.3
9	Swelling & Redness	293	9	97	3
10	Unknown	6	296	2	98
11	Other Side Effects	1	301	0.3	99.7

Ninety seven percent (97%) of mothers said swelling and redness was the commonest side effect of childhood immunization, followed by 55.6% who mentioned fever was next. Loss of speech and barrenness each accounted for only 0.7% of mothers.

4.4.1 Side Effects after Immunization

Nearly forty-one percent (40.5%) of mothers reported that their kids had a side effect after immunization, while one mother did not answer the question.

4.4.2 What Side Effect

Table 9: Side effects of immunization.

What Side Effect	Frequency	Percent
Allergy	31	25.4%
Fever	49	40.2%
Swelling and Redness	42	34.4%
<i>Total</i>	<i>122</i>	<i>100.0%</i>

From the above table, mothers observed that the commonest side effect noted was fever which was about 40%. 180 mothers did not report side effects .

4.4.3 Management of Side Effects of Immunization

Table 10: Management of Side Effects.

Serial number	Management of Side Effects of Childhood Immunization	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	Breast Feed Child	123	179	40.7	59.3
2	Cold Compress	16	286	5.3	94.7
3	Cuddle Child	108	194	35.8	64.2
4	Give Panadol	183	119	60.6	39.4
5	Give Water	16	286	5.3	94.7
6	Take Child to Hospital	281	21	93	7
7	Use Home Remedy	14	288	4.6	95.4
8	Warm Compress	87	215	28.8	71.2
9	Do Nothing	1	301	0.3	99.7
10	Do Others	2	300	0.7	99.3

About ninety three percent (93%) of mothers in this study said they would take their child to hospital if they developed a side effect of immunization and 60.6% of mothers said they would give panadol when their child developed side effect of immunization. Only 0.3% of mothers said they would do nothing in the event their child got a side effect of immunization.

4.5 Assess Understanding for the Need to Catch up Missed

Vaccine 4.5.1 Ever Missed Immunization Appointment

Mothers who reported that their children had ever missed immunization appointment were 52 Mothers' (17.2%)

4.5.2 Reasons For Missed

Table 11: Reasons for missed immunisations.

Reasons For Missed	Frequency	Percent
Employer refused	8	19.5%
Forgot	27	65.9%
Sickness	6	14.6%
<i>Total</i>	<i>41</i>	<i>100.0%</i>

The commonest reason amongst the 41 mothers who missed their children's immunization appointment was the fact that they forgot and that was about 66% of the mothers. 251 mothers did not give any reason for missed immunization.

4.5.3 What did you do after missing appointment?

4.5.3.1 Continue with Immunization Schedule as usual

Mothers who continue with immunization schedule as usual after missed appointment was 9%. Two (2) mothers did not answer the question. 300 mothers responded to the questionnaire.

4.5.3.2 Do Nothing

Mothers who did nothing after missing their immunization schedule were only four (4), which was, 1.3% of the 300 women who participated in the study. 2 mothers did not answer the question.

4.5.3.3 Go for Next Available Immunization Schedule

Mothers who went for the next available immunization schedule after missing their immunization appointment were 6.7%. Two (2) mothers did not answer the question.

4.5.4 Under what situation would you not allow child to have immunization

Table 12: Situation when child would not be immunised.

Serial number	Under what situation would you not allow child to have immunization	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	Child Asleep	22	280	7.3	92.7
2	Child Has Fever	66	236	21.9	78.1
3	Child Sick	144	158	47.7	52.3
4	Child Visit Other Place	31	271	10.3	89.7
5	Previous Vaccine Allergy	129	173	42.7	57.3
6	No Situation	134	167	44.5	55.5

Mothers who said that they would not allow their child to be immunised when sick were 47.7% followed by mothers who said that their child would get immunised despite the situation at 44.5%.

4.5.5 How frequently should you immunize in first year

Table 13: Frequency of immunization in the first year of life.

Serial number	How frequently should you immunize in first year	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	At Birth	297	5	98.3	1.7
2	At Day 2	8	294	2.6	97.4
3	At 4 Weeks	9	293	3	97
4	At 6 Weeks	294	8	97.4	2.6
5	At 8 Weeks	4	298	1.3	98.7
6	At 10 Weeks	282	20	93.4	6.6
7	At 12 Weeks	13	289	4.3	95.7
8	At 14 Weeks	282	20	93.4	6.6
9	At 6 Months	63	239	20.9	79.1
10	At 9 Months	295	7	97.7	2.3
11	At Other Times	38	---	100	---
12	At No Time	7	295	2.3	97.7

About ninety eight percent (98.3%),(97.4%), (93.4%), (93.4%), and (97.7%) of mothers said they would immunise at birth, 6 weeks, 10 weeks, and 14 weeks and at 9 months respectively at the first year of life.

4.5.6 When should you bring your child after the first year for Immunization?

Table 14: Frequency of immunization after first year of life.

Serial number	How frequently should you immunize after first year	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	At 13 Months	9	293	3	97
2	At 18 Months	291	11	96.4	3.6
3	At 24 Months	47	255	15.6	84.4
4	At 5 years	26	276	8.6	91.4
5	At 6 years	284	18	94	6
6	At 10 years	15	287	5	95
7	At 12 years	279	23	92.4	7.6
8	At No time above 1 year	2	296	0.7	99.3

About ninety six percent (96.4%), (94%), and (92.4%) of mothers said they would immunize their children at 18 months, 6 years, and 12 years respectively after the first year of life. Less than one percent (0.7%) of mothers said they would not immunize their children after one year of life.

4.6 To Determine how Mothers obtain Information about Childhood Immunization

4.6.1 Sources of Information Regarding Childhood Immunization?

Table 15: Sources of Information on Childhood Immunization.

Serial number	Sources of Information Regarding Childhood Immunization	Frequency		Percentage (%)	
		Yes	No	Yes	No
1	Doctor	35	267	11.6	88.4
2	Nurse	297	5	98.3	1.7
3	Midwife	47	255	15.6	84.4
4	Friends & Relatives	147	155	48.7	51.3
5	RTHC	285	17	94.4	5.6
6	Childs' Teacher	37	265	12.3	87.7
7	Religious Leader	16	286	5.3	94.7
8	General Knowledge	182	120	60.3	39.7
9	Pamphlets	196	106	64.9	35.1
10	Media	109	193	36.1	63.9
11	Internet	31	271	10.3	89.7
12	No Other Source of Information	---	302	---	100

Nurses accounted for the major source of information on childhood immunization, which was 98.3%, followed by the RTHC which accounted for 94.4%. Doctors only accounted for 11.6%.

4.6.2 Kind of Information about Childhood Immunization received

4.6.2.1 When to attend Immunization?

Nearly all (99.7%) of mothers in this study reported that they were given information of when to immunize their children.

4.6.2.2 Why attend Immunization?

Only 13.6% of mothers said they were given information on the need to immunize their children.

CHAPTER 5 DISCUSSION

5.1 Socio-demographic characteristics

There were more blacks in this study compared to other races which is in keeping with the population of South Africa (79.5%) and that of white in this study was which is also in keeping with the population of white South Africans i.e. 9%⁴⁸ The number of unemployed mothers in this study is comparable to the national unemployment rate of 25.6%. The remaining 75% are employed either in the formal or informal sectors. These would however be higher if one looks at people doing temporary jobs and getting grants as “unemployed”. However, the researcher considered people who get some income into their hands as opposed to those who did not at all.

Mothers who had two children were the majority in this study. Few mothers had four and five children. The majority of mothers had between one and three, with two accounting for the highest. This compares to the national total fertility rate of 2.35.⁴⁸ In the past mothers had more children than presently, with the high unemployment rate and increasing awareness that few children are better handled both financially and otherwise, most women and even families are striving for between two and three children maximum!

The proportion of married, widowed and divorced mothers in this study are in line with that of Gauteng province statistics of 26.68%, 2.83% and 2.41% respectively.⁴⁸ while in terms of single mothers it was 35.6% as against 58.78% of Gauteng statistics, single mothers accounted for the highest numbers in terms of marital status. A possible explanation for this could be that Sedibeng area of Gauteng is more rural when compared to city of Johannesburg and Pretoria in general as values are still high and the standard of living cheaper here than other parts of Gauteng. So, people tend to rather live together. Co-habiting was higher in this study compared to 9.87% in the provincial statistics. This could be because it is cheaper to stay together and marriage being expensive.

Female educational level was not properly documented in the literature. In 2000, secondary educational qualification accounted for 65.26%⁴⁸, which was about the same with this study. Enrolment of 84.93% at primary level was done but the number of those who graduated could not be accounted for. The same could also be said of tertiary education. When it came to educational status of mothers, statistics in South Africa was not properly documented. One thing the researcher could deduce is that this study was carried out in an urban setting of Sedibeng, probably accounting for high secondary and tertiary education levels.

Further, some mothers might have become pregnant as teenagers and drop out of school mainly in secondary schools but when asked about their level of education they would say secondary and not primary school. The same could be said of the tertiary education levels as those who had dropped out for failing or lack of financial support would not say secondary but tertiary. Therefore further studies will need to be done in order to obtain accurate conclusion on these issues.

5.2 Reasons for childhood immunization.

The major reason identified by the majority of mothers in this study was the fear of child falling ill in line with Tarrant and Gregory²⁴. This research, however, was a small endeavor to examine a complex issue and findings must be interpreted cautiously. Although First Nations communities across Canada share similar experiences, they are, nonetheless, diverse communities.²⁴ The purposive sampling strategy, the small sample size, and the geographical isolation of the two study communities limit the ability to generalize these findings. Hence, the results from this study may not represent the experience of parents in other First Nations communities. The above reason might probably explain the high rate of immunization noted in Sedibeng district⁵. This was a good and valid reason by most mothers.

Another important finding in this study was that of fathers requesting mothers to bring their children for immunization which accounted for a significant finding in this study. This compares to the study by Miller and Cardwell²³ but with some limitations. Only mothers responded to the request for participation and the geographical area of the study was limited to the rural area where those particular public health nurses worked. Participants provided insightful perspectives on the subject of information on child immunization and how that information is conveyed to them. Feedback from the nurses also indicated the results were useful and thought-provoking. Future research in this area, using larger and more diverse populations, would benefit health professionals developing and conveying immunization information to parents. The role of fathers cannot be over-looked even with the fact that in this study 35.8% of mothers were single. It only means that fathers are active players in the drive to immunize children. Further studies should actually target fathers understanding of childhood immunization.

School enrolments accounted for one of the reasons mothers immunize their children. This is in comparison with the findings by Shui et al.¹¹ However, there are inherent limitations to using a qualitative method, such as focus groups, as the results may not be generalised to a larger population. Even though the focus groups were sufficient to reach theoretical saturation but the study was limited to only 3 Atlanta-area countries and participants were selected using convenience samplings.

In South Africa it is a strong requirement before enrolling ones child into crèche or grade 1. The public health implication for this is that mothers are doing it because it is a standard requirement before enrolment into school and not because they see it as important! Schools should therefore not deny children from being enrolled but rather educate their mothers about the benefits of childhood immunization. The clinics also have a role to play in this aspect. They must teach mothers all about childhood immunization rather than paint a picture of, if you do not immunize your child, he or she would not be allowed into school.

The other reason given by one of the mothers is that it helped her child grow well. The researcher believes this is not far from the truth fear of developing as when a child does not fall ill he or she would probably grow well.

5.3 Knowledge and benefits of childhood immunization.

From this study, majority of mothers did not know what vaccines their children were getting on the day of immunization and which diseases the vaccines prevented. A similar study in Australia by Blaire et al, reported that 23% of the mothers did not know what vaccines they were getting and what diseases these vaccines prevented.⁶ A possible explanation in the huge difference in percentage would be that it was a qualitative study and the sample here is usually smaller as compared to the one in this study. Another reason will be that Australia is a developed nation and one would expect a better knowledge since the level of education is also very high. Even at this level though, the knowledge is still unacceptable for a country like Australia.

A similar study like the Australian study was done in rural Transkei in the Eastern Cape of South Africa by Helman and Yogesweran which was a qualitative study and found that despite widespread acceptance of the value of immunization in preventing childhood illnesses, mothers did not know which vaccine would be given to their children and for what illness.⁸ The problem from the above is not with immunisation coverage as this is excellent. The implication of this is that mothers need to be educated about the various vaccines their children are getting and for what diseases, so the mothers are empowered and involved in their children's health.

Majority of the mothers in this study knew that immunization could prevent poliomyelitis and measles as explained by the high campaigns and eradication programmes that took place in the past. The emphasis placed on these two illnesses during these programmes was so much that mothers became very knowledgeable about them. Knowledge of immunization preventing hepatitis B, diphtheria, tuberculosis, pneumonia, diarrhoea and tetanus were less than 50% for each disease. Recently, pneumococcal vaccine for pneumonia is gaining momentum as it is being canvassed to be giving as mopped up doses for children who never got or as booster doses and also rotavirus vaccine for gastroenteritis is being promoted vigorously. The implication for this is that the knowledge base of these vaccines will improve like that of measles and poliomyelitis.

A good knowledge that immunization does not prevent a child from getting infected with HIV and that it can't lead to hypertension was noted, as all mothers who participated in this study said so.

Of special note is that 2.3% of mothers did not even know if immunization could prevent any disease. This shows how ignorant some mothers were as regards childhood immunization. Further it shows the need to intensify immunization education and not just place emphasis on bringing children for immunization.

5.4 Side effects of childhood immunization.

The commonest side effects noted by mothers in this study were allergic reaction, fever, swelling and redness at injection site in increasing order. This compared to one prospective study by Kimmel et al which showed that the most common side effects of immunizations are pain, swelling and redness, fever, and irritability.²⁹ When it came to side effects, mothers seemed well informed. However, 2% of mothers in this study said that they don't know of any side effects of childhood immunization, probably

because they have never witnessed one in their children. The clinical implication of this is that when they see one, they may not know what it is and therefore affect their management of that side-effect.

A mother in this study said another side effect which was not mentioned in the study questionnaire was irritability. This was also noted in a similar study by Keane et al which documented minor fever and irritability as commonest side effect of immunization.³³ Irritability as a common side effect of childhood immunization should be noted for future research purposes as it was not included in this questionnaire.

The researcher was surprised to hear about mothers who thought that barrenness, blindness, deafness and loss of speech were possible side effects of immunization. The finding that some mother (5%) had a poor understanding of childhood immunization side effects means childhood immunization must be included in health talks given to mothers attending the immunization clinics. This would lead to a better understanding of immunization by mothers.

5.5 Management of side effects of immunization.

The commonest management technique in this study was cuddling, breastfeeding, paracetamol ingestion, and to seek help in the hospital or health facility in that increasing order. The qualitative literature by Pravez et al however says distraction was the commonest way mothers manage side effects of immunization.³⁰ If one looks at this study breastfeeding and cuddling fits into distraction which all together accounts for 76.5%, making it now next to seeking help in health facilities. Most mothers breastfeed or cuddle a child for example by singing thereby taking the child's attention away from the pain site.

The said study demonstrated that the mothers interviewed developed various strategies to deal with the pain experienced by their children during routine immunization, including justifying the pain experienced and using no pharmacological approaches to pain management. They are not familiar with pharmacological approaches. The findings demonstrate the need for knowledge translation activities to engage mothers and other caregivers as well as health care providers in a reflection about pain experienced and its potential long-term effects, as well as in a dialogue about the evidence concerning pain during immunization.

Mothers usually gave panadol syrup to their babies to counter the side effects of childhood immunization.²⁹ This is a well-known practise as most mothers would do everything to have acetaminophen syrup at home. Once a child is crying, mothers usually would first reach out for it and administers it, to help relieve pain of any sort. That should not be different with immunization as they even know the source of the problem.

A small percentage of mothers in this study said they used lignocaine cream at the injection site. This is not a common way of managing painful injection side effects as documented in the literature.³⁰ One should therefore promote further study in this area as it is relatively new and any benefits would be highly beneficial to these mothers who are looking for solution to counteract the side effects of immunization.

However, the majority of mothers said they would go to hospital or a health care facility when their babies developed side effects of immunization. That may sound good but could mean that these mothers were not properly informed about management of childhood immunization. The health system implication of this would mean overcrowding for minor 'unexplained' side effects. Most of the mothers need be taught that the health centres should be their last point of call and must try things like distraction, and administer acetaminophen when child is in pain.

5.6 Missed immunization.

A significant number of mothers in this study had missed immunizing their children. It compared to a cross-sectional study among 258 children done in Brazil by Konstantyner et al where these researchers found that 10.9% (CI 95%: 7.3 – 15.3%) had incomplete immunization.⁴² One must remember that they are both emerging economies with similar facilities and ranking, therefore the grouping as “BRICS.” Brazil ranks above South Africa in this grouping, and it is expected that missed opportunities would be fewer in Brazil because of the better health facilities. Looking at Mozambique, which is lower in ranking to South Africa on the African continent, a cross sectional study by Jani et al showed that 25.7% of mothers experienced a missed opportunity for vaccination of their children.⁴⁰

One reason for missing vaccines in this study was mainly due to the fact that most mothers forgot! If the provincial department of Health had a good recall system such as short message system (SMS) this could have been abolished. However, this contrasted to a study at Congo Brazzaville by Talani et al which showed that illness of the child, misinformation and unavailability of vaccines accounted for missing immunization.³⁷

Talani et al found that when a child had fever and was sick, some mothers did not take these children for immunization. This practise, Salsberry et al found is further strengthened by health workers who are usually reluctant to immunise children when they have a fever and minor ailments.⁴³ Clearly, that constitutes poor understanding of childhood immunization as minor illness or even mild fever should not be a contraindication to immunization.^{44,45} This is a public health issue which requires a policy guideline. If health workers refuse to immunize these children at such times then mothers would probably do the same or even worse.

In contrast to the above studies, a cross-sectional study by Tugumisirize et al done in Nairobi gave reasons for missed opportunity such as caretakers not bothered, busy or ill and fear of rude health workers.³⁹ Illness in mothers also contributed to one of the reasons children were not immunized. This should not be a reason as far as the researcher is concerned since a mother could delegate a member of the family to take the child to the clinic for immunization.

Some appalling reasons like child would not be immunized because he/she is asleep, and visits another town shows the poor level of understanding of childhood immunization by mothers. This implies the need to properly educate mothers about the benefits of immunization.

Where mothers were found wanting in terms of missed immunization and general knowledge of immunization. A pamphlet was issued to help that mother. This leaflet can be found in appendix IV.

5.7 Knowledge of timing of immunization visits.

Immunization visits by mothers in this study was well understood as it corresponded to the new immunisation guidelines of the Road to Health Chart currently introduced in South Africa.⁴⁹ This is the new immunization schedule from birth to 12 years. The knowledge of the timings of immunization by most of the mothers was very correct at above 90%.

Few mothers said immunization could be given at six months, one year and at two years, probably because they often brought their children at such times for weighing and deworming but no vaccinations were issued at such time, except for children who had previously missed their schedule as a mop up immunization. It again reemphasises the need to educate these mothers about the different timings and what is obtained at each visit!

The new schedule has changes from 5 years to 6 years and from 10 years to 12 years. Surprisingly, most mothers knew it had changed because only a small percentage said they would still immunize their children at 5 years and at 10 years. This goes a long way to say that the dates for immunization are not the problem with these mothers. It appears as though we are running a system of rushing them in and out of the clinic rather than taking out time to educate them about immunization.

5.8 Sources of information on childhood immunization.

Nurses were found to be the number one source of immunization in this study. This compared to a qualitative study which reported that nurses were the most important source of childhood immunization.¹²In another study,⁵ it recorded 44% as nurses and 34% as midwives. In the same study, the Road to Health Chart only played a strong influence as a reminder! One would argue that the frequency of visits to public health nurses for immunization of their children placed them top as compared to others. If one looks closely at the road to health chart, one finds out that it was second in rank as a source of information in this study. This could be explained as a strong source of reminder as seen from literature. Mothers always referred to it to remind them of the next immunization date.

Midwives were low in this study as a source of information. This could be because they are mainly involved in child birth. They only give BCG and then ask these

mothers to bring their children for subsequent immunization visit where they see the public health nurses, thereby decreasing the number of visits and interaction with them. Mothers probably do not acknowledge them since they only encounter them at that time when they are tired and exhausted following labour.

Of interest in this study is that child's teacher was found to be high on the source of immunization as compared to doctors. Doctors are less involved with childhood immunization. The researcher believes that doctors need to be actively involved in childhood immunization and not just ask if patients have had their vaccines. They should be actively involved in discussing immunization; telling mothers why the need to immunize children and when they need immunize children. This should involve educating them about side effects and benefits of immunizing their children. From what is currently happening, doctors are more paternalistic than corroborative in their approach to childhood immunization.⁵⁰

A proposal will be that doctors need be taught the act of corroborative medicine and should inculcate this when dealing with mothers who bring their children for visits. The family medicine registrar should be made to rotate through the immunization clinic, sitting with these mothers and hear their fears, knowledge, and understanding of immunization and their needs for further education. Doctors involvement would make mothers better equip with the understanding of childhood immunization.

5.9 Kind of information about childhood immunization obtained.

The kind of information received about childhood immunization is very important as mothers are bringing their children for immunization but do they really understand childhood immunization? In this study an overwhelming majority of mothers were told when to immunize their children but only a minute few reported correctly why they must attend immunization.

From the above, one would deduce that mothers were merely told of when next to bring their children for immunization without any education about immunization. Some mothers do not consider themselves well informed about immunization¹³ even though they bring their children for immunization. One could see that these mothers did attend immunization but that did not mean that they were appropriately informed about the decisions they had made.¹² The reasons mothers bring their children for immunization is because of social norms, laws and the consequences of not immunizing their child. Mothers need the opportunity to discuss childhood immunization^{19, 20} These discussions must encompass the benefits and side effects of immunization^{27, 28}

5.10 Limitation of this study.

The researcher's inability to communicate in Sotho language could have caused some problems as mothers understanding of the information in the questionnaire, and thus the answers given. To minimise this, a trained research assistant fluent in the local language was trained on the contents of the questionnaire, so it could best be explained to the participants and the relevant answers obtained.

Another limitation of this study was about the accuracy of the reports gathered from these mothers, due to the timing of attendance, child's condition, honesty on the part of the mothers, socio-economic and educational levels of the participants. The questionnaire was made in a simple language to limit this.

All clinics were not included in Sedibeng, which could have given more robust findings.

Teenage mothers' were not included considering the fact that South Africa has a lot of such pregnancies.

Caregivers were not included, as we know that a good number of children reside with their relatives.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

The present study identified significant findings according to set study objectives. Mothers' understanding of childhood immunisation was generally poor and educational status of mothers did not seem to have changed their understanding of immunization. One important reason noted in this study was the fear of a child falling ill which made most mothers vaccinate their children. Also, most mothers had poor knowledge of what vaccines their children received and what illnesses those vaccines prevented.

Further, knowledge of adverse effects of immunization among mothers seem to be poor. Majority of mothers thought barrenness, blindness, deafness and loss of speech were possible side effects of immunization. They took their children to hospital for minor side effects instead of using cuddling and panadol syrup to alleviate these symptoms.

Missed immunizations were not a big problem in this study as most mothers were very conversant with the vaccination schedule and tended to bring their children for immunization on time. Nurses' were recommendable here as they emphasised timing of vaccinations to those mothers. However nurses were found wanting when it came to issues around the importance and education of mothers about childhood immunization.

6.2 Recommendations

It is recommended that:

- An immunization educational programme should be conducted by the clinic health promoter within the next three months, where mothers would be taught about the benefits of childhood immunization. That should aim at teaching mothers about the benefits of immunizing children and reasons they need to immunize children - not just about the timings of immunization. Mothers should also be taught different types of vaccinations and the diseases those vaccinations prevent. This will help strengthen the already perceived excellent immunization programme.

- Furthermore, mothers should be taught various side effects of immunization and what to do when each complication arises! The above would lead to a decrease in clinic visits in the already overburdened health care facilities.
- The vaccination educational programme should involve all health care workers, teachers, friends, relatives, media, internet, and pastors. The above should be properly educated on childhood immunization. Health care workers should have a collaborative approach and not just paternalistic in their approach to mothers coming to immunize their children.
- A quality improvement project on all the above aspects of immunization is proposed to test and validate the skilling of nurses.
- Lastly, it is recommended that a motivation is made by the nurse facility head to sub-district nursing manager for appointment of more nurses in the wellness baby clinic to enable them cope with work more efficiently. At present nursing staff seem few or short-staffed and barely “pushing” queues!
- For the above to be realized, personnel and training budgets will need to be prioritized. The indicator of programme implementation is the number of training sessions held, attendance registers and training reports.

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Code.....

APPENDIX 1 : QUESTIONNAIRE

**MOTHERS' UNDERSTANDING OF CHILDHOOD IMMUNIZATION AT
JOHAN HEYNS COMMUNITY HEALTH CENTRE, VANDERBIJLPARK,
SEDIBENG DISTRICT.**

SECTION A

SOCIO-DEMOGRAPHIC CHARACTERISTICS

Rec. No....

1. Age as at last birthday (How old are you?)-----

2. How many children have you had? -----

3. What number amongst your children is this child? -----

4. Race

4.1. Black	4.2. White	4.3. Coloured	4.4 Indian	4.5. others
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5. Marital Status

5.1.Single	5.2.Married	5.3.Cohabiting	5.4.Divorced	5.5.Separated	5.6.Widow
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6. What is your highest level of Education?

6.1. None	6.2. Primary	6.3. Secondary	6.4. Tertiary
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7. Employment Status

7.1. Unemployed	7.2. Employed in the formal sector.	7.3. Other source of income.....(specify) i.e. grants or work in the informal sector
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SECTION B

MOTHER'S REASONS FOR WANTING TO IMMUNIZE HER CHILD
(INDICATION)

8.0. What makes you bring your child for immunisation?

8.1 Not known

8. 2. Fear of general illness

8.3. Father of the child asks me to bring the child

8.4. Enrolment for school

8.5. Government says we must give it

8.6. Health Care Workers insist we must have it

8.7. Fear of death

8.8. To apply for birth certificate

8.9. Others (.....specify)

SECTION C

MOTHERS' UNDERSTANDING OF THE BENEFIT OF IMMUNISATION?

9.0. What vaccine(s) is your child supposed to get today? -----

10.0. What disease(s) does this vaccine prevent? -----

11.0. Which disease(s) do you think can be prevented by immunisation?

11.1. HIV

11.2. Polio

11.3. Diarrhoea

11.4. High blood pressure

11.5. Pneumonia

11.6. TB

11.7. Measles

11.8. Tetanus

11.9. Whooping cough

11.10. Hepatitis (yellow disease)

11.11. Others (specify.....)

11.12. Not known

11.13. None

SECTION D

POTENTIAL SIDE EFFECTS OF IMMUNISATIONS

12. What side effects of immunization do you think there are?

12.1. Fever

12.2. Blindness

12.3. Barrenness

12.4. Swelling and redness at injection site

12.5. Loss of speech

12.6. Fits

12.7. Allergy

12.8. Deafness

12.9. Autism

12.10. Others

12.11. None

13.0. Has any of your children ever had a side effect of immunization?

13.1. Yes

13.2. No

14.0. Which side effect did your child have? -----

15.0. What can you do to manage any side effects of Immunisation?

15.1. Give water

15.2. Take child to Sangoma

15.3. Take child to the hospital

15.4. Give home remedy

15.5. Apply warm compress to injection site

15.6. Apply cold compress.

15.7. Breastfeed

15.8. Give panado

15.9. Cuddling

15.10. Others (.....specify)

15.11. None

SECTION E

MISSED OPPORTUNITY.

16.0. Have you ever missed/skipped your child's Immunisation appointment?

16.1. Yes

16.2. No

16.3. If yes, why?

16.4 After the missed appointment, what did you do to make up for the child's vaccine?

16.4.1. Nothing

16.4.2. Go at the next available opportunity to get the missed vaccines.

16.4.3. Continue immunization schedule as usual without a special visit to makeup for the missed vaccines.

16.4.4. Others (specify.....)

16.4.5. Not known.

17.0. Under what situation would you not allow your child to have his/her Immunisation?

17.1. When child is sleeping

17.2. Fever

17.3. A history of Allergy to vaccine components

- 17.4. Prematurity
- 17.5. When child visits another place
- 17.6. When child is very sick
- 17.7. Others (specify.....)
- 17.8. None

18.0. How frequently should you be bringing your child to the clinic for immunization in the first year of life?

- 18.1. At birth
- 18.2. Day 2
- 18.3. 4 weeks
- 18.4. 6 weeks
- 18.5. 8 weeks
- 18.6. 10 weeks
- 18.7. 12 weeks
- 18.8. 14 weeks
- 18.9. 6 months

18.10. 9 months

18.11. Other (.....specify)

18.12. None

19.0. How frequently should you be bringing your child after the first year of life?

19.1. 13 months

19.2. 18 months

19.3. 24 months

19.4. 5 years

19.5. 6 years

19.6. 10 years

19.7. 12 years

19.8. Others (.....specify)

19.9. None

SECTION F

SOURCE(S) OF INFORMATION ABOUT IMMUNIZATION

20.0. What is/are your source(s) of information regarding Immunisation?

20.1. Doctor

20.2. Nurse

20.3. Midwife

20.4. Friends or relatives

20.5. Road to Health

20.6. Child's Teacher

20.7. Religious leader

20.8. General knowledge

20.9. Pamphlets

20.10. Media

20.11. Internet

20.12. Others (.....Specify)

21.0. What kind of information about immunization have you received in the Well Baby Clinic/ Under-5 clinic?

21.1. When to attend immunization

21.2. Why attend immunization

21.3. None

21.4. Others (specify-----)

Code....
Nomoro ya sephiri.....

APPENDIX 1 : DIPOTSO

KUTLWISISO HO BOMME MABAPI LE DI ENTE TSA IMMUNISASHINI TSA BANA

MONA JOHAN HEYNES COMMUNITY HEALTH CENTRE MOO VANDERBIJLPARK

SEDIBENG

NTHLA YA A

MEFUTA LE MA EMO A BATHO KA HO FAPANA

1. Dilemo(O na le dilemo tse kae?).....
2. O kile wa ba lebana ba bakae?.....
3. Ngwana wa hao ke wa bokae baneng ba hao?.....
4. Mmala wa hao

3.1 Mo Afrika	3.2 Lekgowa	3.3 Mo coloured	3.4 Mo India
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5. Ma emo a hao a lenyalo

4.1 O mong	4.2 O nyetswe	4.3 Le dula mmoho	4.4 Tthalano	4.5 ka rohano	4.6 mohlolohadi
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6. O fihlelletse kae dithutong/

5.1 Ha wa kena sekolo	5.2 Sekolo setlase	5.3 Sekolo se phahameng	5.4 Dithuto tse phahameng
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7. Boemo ba mosebetsi

6.1 Ha o Sebetse	6.2 O wa sebetsa ha mmuso	6.3 Mosebetsi o mong.....(specify) grant kappa mosebetsi ofe le ofe
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NTLHA YA B

DINTLHA TSA DI ENTE TSA IMMUNISASHINI

8.0 Mabaka ao a etsang otlise ngwana wa hao ho di ente tsa Immunisashini?

8.1 Ho sa tsebe

8.2 Tshabo ya hokula

8.3 Ntate wa ngwana o nkopile hore ke ise ngwana di enteng tsa Immunisashini

8.4 Hongodisa ngwana sekolong

8.5 Ke molao wa mmuso

8.6 Basebetsi ba bophelo ba qobella ho e etsa

8.7 Tshabo ya lefu

8.8 Ho ba le lengolo la tlhaho

8.9 Ho hong(.....hlalosa)

NTLHA YA C

BOMME BA UTLWISISA KA MOLEMO WA IMMUNISATION

9.0 Ke Vaccini efe ngwana wa hao atlameileng ho ethola ka jeno?

10.0 Vaccini ee ithibela mahloko afe?

11.0 Ke mahloko afe a o nahanang aka thibelleha ka immunisation?

- 11.1 HIV
- 11.2 Polio
- 11.3 Letshollo
- 11.4 High blood
- 11.5 Pneumonia
- 11.6 TB
- 11.7 Masles
- 11.8 Tetanus
- 11.9 Whooping Cough
- 11.10 Hepatitis (Jaundice)
- 11.11 Mahloko amang(hlalosa.....)
- 11.12 Tseo o sa ditsebeng
- 11.13 Letho

NTLHA YA D

MAHLOKO AKA BAKWANG KE IMMUNISATION

12. KE MAHLOKO AFE AO ONAHANANG AKA BAKWA KE IMMUNISATION

12.1 Motjheso

12.2 Bofofu

12.3 Hose tswale

12.4 Ho ruuwa le ho retela moo o hlabuweng injection

12.5 Ho fellwa ke polelo

12.6 Difitsi

12.7 Allergy

12.8 Ho se utlwi

12.9 Bo hole

12.10 Ho hong

12.11 Letho

13.0 Baneng ba hao hona le ba ileng ba eba le mahloko a bakilweng ke Immunisation

13.1 Yes

13.2 No

14.0 Ke mahloko afe ao ngwana wa hao a ileng a wa thola? _____

15.0 O ka etsang ho thibella mahloko a Immunisation

15.1 Mofe metsi

15.2 Moise ngakeng ya Sesotho

15.3 Moise Sepetlele

15.4 O mofa Methokgo ya lapeng

15.5 O mo ama ka lesela le mofuthu moo a hlabuweng injection

15.6 O mo ama ka lesela le batang

15.7 O wa mo nyantsha

15.8 O mofa Panado

15.9 O wa mo haka

15.10 Ho hong(.....Hlalosa)

15.11 Letho

NTHLA YA E

HO TLOLA NAKO YA IMMUNISATION

16.0 O kile wa tlola nako/fetwa ke nako ya ngwana ya Immunisation?

16.1 E

16.2 Tjhe

16.3 Ha karabo ele eya, hobaneng

16.4 Ha wile wa feta ke letsatsi la hae la hlahlobo, o ile wa etsa eng na bakeng sa ngwana?

16.4.1. Letho

16.4.2. Etsa bonnete bahore ha othola moyetla wa holekolwa hape

16.4.3. Tswella pele ka immunization jwale ka tlwaelo ho lokisetsa ho tlola nako ya hao

16.4.4. Hohong (Hlalosa)

16.4.5. E sa tsebahaleng

17.0. Ke mabakang a feng aka etsang hore mora/moradi wa hao aseke a fumana Immunisation?

17.1. Ha ngwana a robetse

17.2. Ha ana le sefuba

17.3. Ha ana le bothata ba tshwayetso ya ente

17.4. Hoba teng pele ho nako

17.5. Ha ngwana a etetse motsaneng omong

17.6. Ha ngwana a kula

17.7. Hohong (Hlalosa.....)

17.8. Letho

18.0. Ke nako e kang o tliša ngwana immunization selemong sa pele sa tswalo?

18.1. Tswalong

18.2. Letsatsi la bobedi la tswalo

18.3. Dibeke tse pedi

- 18.4. Dibeke tse tshetseng
- 18.5. Dibeke tse robedi
- 18.6. Dibeke tse leshome
- 18.7. Dibeke tse leshome le metso e mebedi
- 18.8. Dibeke tse leshome le metso e mene
- 18.9. Dikgwedi tse tshetseng
- 18.10. Dikgwedi tse robong
- 19.11. Ho hong (hlalosa)
- 19.12. Letho
- 19.0. O tliša ngwana magetlo a makaeng selemong sa hae sa tswalo?
- 19.1. Dikgwedi tse leshomo le metso e meraro
- 19.2. Dikgwedi tse leshome le metso e robedi
- 19.3. Dikgwedi tse mashome a mabedi lemeto e mene
- 19.4. Dilemo tse hlano
- 19.5. Dilemo tse tshetseng
- 19.6. Dilemo tse leshome
- 19.7. Dilemo tse leshome le metso e mebedi
- 19.8. Ho hong (hlalosa)
- 19.9. Letho

SECTION F

TSIBISO MABAPI LE IMMUNIZATION

- 20.0. Ke eng tseoditsebang mabapi le immunization
- 20.1. Ngaka
- 20.2. Mooki
- 20.3. Mooki a pepisang
- 20.4. Metswalle/Leloko
- 20.5. Tsela ya bophelo bophelo bobotle
- 20.6. Moruta bana
- 20.7. Moruti
- 20.8. Tsebo
- 20.9. Pampira ya ditsibiso
- 20.10. Baphatlalatsi(Seyalemoya, Dikoranta)
- 20.11. Internete
- 20.12. Ho hong (hlalosa)
- 21.0. O kile wa fumana molaetsa wa bohlokwa tshedimosetsong ya immunization ya bana ba dilomo tse kahlase ho hlano.
- 21.1. Ho yahakae immunization
- 21.2. Bo hlokwa ba immunization ke eng
- 21.3. Letho
- 21.4. Hohong (Hlalosa.....)

Code....

APPENDIX 2 :

INFORMATION SHEET ON MOTHERS UNDERSTANDING OF CHILDHOOD IMMUNIZATION IN JOHAN HEYNS COMMUNITY HEALTH CENTRE, VANDERBIJLPARK IN SEDIBENG.

Good day.

My name is Dr Wenegieme Egbert Emake; I am a registrar in the department of family medicine at the University of the Witwatersrand. I am doing my Mmed degree and this entails I do research. I have chosen to do a study on mothers understanding of childhood immunisation in Johan Heynes Community Health Centre, Vanderbijlpark in Sedibeng.

WHY AM I DOING THIS? I am doing this to gain an understanding on mothers understanding of childhood immunisation. I would like to invite you to join my study.

WHAT PARTICIPATION IN THIS STUDY ENTAILS

If you join the study I will ask you some questions regarding childhood immunization. This should take about 15 minutes.

ARE THERE BENEFITS TO YOU? No not directly. If after the administration of the questionnaire I find out that a mother does not have a good understanding of childhood immunization, I will explain some things to her and issue you with a leaflet which covers what I think you need to know about childhood immunization. Any questions you have on childhood immunization will also be answered.

MAY I WITHDRAW FROM THE STUDY? Participation is voluntary. You don't have to be in this research if you don't want to. It's up to you, if you don't want to be in the research, its okay and nothing changes. This is still your clinic; everything stays the same as before. Even if you say "yes" now you can change your mind later and it's still okay.

WHAT ABOUT CONFIDENTIALITY? Confidentiality will be maintained by not using your name on the data sheets but rather by use of codes, and this will be locked in my office. I would not tell other people that you are in this research and we won't share information about you to anyone who does not work in the study. After the study is over you will be told the results. Information about you that will be collected from the research will be put away and no-one except me will be able to see it. If you have any questions about any area of the research you should feel free to ask the researcher.

I have checked with the participants and they understand the above information
----- (initial)

Contact detail of the Researcher: 0783993190 (for further information)

This research has been approved by the WITS HREC Committee.

Contact details of REC administrator and chair: 011-717 1234 (for reporting of complains and any problems)

Nomoro ya sephiri

APPENDIX 2 :

PAMPIRI YA TSEBO HO BOMME KA HO UTLWISISA KA TSA DI IMMUNISATION TSA BANA MOO JOHAN HEYNES COMMUNITY HEALTH CENTRE, VANDERBIJLPARK MOO SEDIBENG.

Dumelang.

Lebitso laka ke Dr Wenegieme Egbert Emake; ke ngaka e molaong ho tswa lefapeng la bongaka kwa University ya Witwatersrand, ke etsa di patlisiso le kaleng la bongaka hore bomme ba utlwisise ka di Immunisation tsa bana moo Johan Heynes Community Health Centre, Vanderbijlpark moo Sedibeng.

HOBANE KE ETSA SE? Ke etsa se ho una tsebo le ho etse hore bomme ba utlwisise ka di Immunisation tsa bana. Ke rata ho le mema ho ba lenna thutong ena.

KAROLO YA HAO THUTONG ENA KE ENG

Ha onka karolo thutong ena, ke tlo o botsa dipotso mabapi le Immunisation ya bana. Hoo ho tlo nka metsotso e 15.

HONALE SEO O TLO SE THOLA MOO? Tjhe. Ha ebe ke fumane ka mora dipotso tsaka hore mme ha a utlwisise ka tsa di Immunisation tsa bana ke tla mo hlaloseisa ke be ke mofe pampitshana e kenahanang enale tsohle tsa Immunisation ya bana tse batlang ho ditseba. Potso tsohle tseo onaleng tsona ka tsa Immunisation ya bana di tla arabwa.

ANA KE NALE TOKELA YA HOTLOHELA DITHUTO? Batho bohle ke ba ithaopi. Ha o wa tswanela hoba dipatlisisong ha o sabatle, ho tswa ho wena ha o sa batle ho ba dipatlisisong, ho lokile ha ho sefeto hang. Ena entse ele kliniki ya hao. Ntho engwe le engwe e ntse ele ka moo o entse ele kateng. Le ha o ka 'dumela' pele obe ofetola mehopollo ho ntse holokile.

KA TSA LEKUNUTU? O tla tshirelletswa ka ho sa sebedisi le bitso la hao thutong tsa rona, ho tla sebedisa nomoro ya sephiri. Tseo tsohle di tla notlellwa ka

phaphosing ya ka. Ha ke no bolella batho hore o di patlisisong tsaka, ha hona ditaba tsa hao tse tla jwetsa motho ofe kapa ofe asa sebetseng lena dipatlisisong tsena. Ha di patlisiso di fedile o tla bolellwa ripoto ya yona. Ditaba tsa hao tse tla be di hokantshitswe dipatlisisong di tla behellwa hole moo nna fela ke tla lokela ho dibona. Ha ona le potso efe kapa efe eo obatlang ho ebotsa, o amohelehile hore o mmpotse yona.

Ke ile ka botsa ho ba ithaopi hore ana ba utlwisisa tsebo eka hodimo na.....(lebitso)

Dinomoro tsa monga dipatlisiso: 0783993190 (ka tsebo e fetisisang)

Dipatlisiso tsena di dumelletse ka ba ha WITS HREC Committee.

Dinomoro tsa modula setulo REC le ofisi ya hae: 011-717 1234 (oka tlaleha ditlitlebo le mathatha afe kapa afe)

APPENDIX 3: CONSENT FORM

I agree to participate in the study Mothers understanding of childhood immunization in Sedibeng as outlined in the information sheet.

Name _____ Signature _____

Date _____

APPENDIX 3: PAMPIRI YA TUMELLANO

Ke a dumela ho nka karolo patlisisong ya bomme ba isand bana di Enteng tsa immunisation mona Sedibeng, jwalo ka ha o boletswe dipampiring tse ka hosimo.

Lebitso -----boikano(sign)-----

Letsatsi-----

APPENDIX 5



UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
Division of the Deputy Registrar (Research)

HUMAN RESEARCH ETHICS COMMITTEE (MEDICAL)
R14/49 Dr Emake E Wenegieme

CLEARANCE CERTIFICATE

M120946

PROJECT

Mothers Understanding of Childhood
Immunization at Johan Heynes Community
Centre, Vanderbijlpark, Sedibeng

INVESTIGATORS

Dr Emake E Wenegieme.

DEPARTMENT

Department of Family Medicine

DATE CONSIDERED

28/09/2012

DECISION OF THE COMMITTEE*

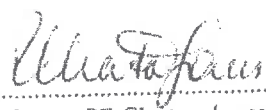
Approved unconditionally

Unless otherwise specified this ethical clearance is valid for 5 years and may be renewed upon application.

DATE

31/10/2012

CHAIRPERSON


(Professor PE Cleaton-Jones)

*Guidelines for written 'informed consent' attached where applicable
cc: Supervisor : Dr John Musonda

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University.

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to resubmit the protocol to the Committee. **I agree to a completion of a yearly progress report.**

PLEASE QUOTE THE PROTOCOL NUMBER IN ALL ENQUIRIES..

APPENDIX 6



Department of Health and Social Services
GARDING PROVINCE

Eng: Dr O.B Omole

016 950 6150

(016) 950 6034

MEMORANDUM

TO : Human Research Ethics Committee

FROM : Dr. O.B Omole – Head of Clinical Unit (Family Medicine)

DATE : 15 August 2012

SUBJECT : PERMISSION TO CONDUCT RESEARCH ON MOTHERS UNDERSTANDING OF CHILDHOOD IMMUNIZATION IN JOHAN HEYNS CHC, VANDERBIJLPARK

This is to confirm that permission has been granted to Dr. Wenegieme to conduct the above study in Johan Heyns CHC Vanderbijlpark provided he has obtained approval from the Human Research Ethics Committee at University of Witwatersrand.

Please accord him your cooperation.

DR. OB. OMOLE
HEAD OF CLINICAL UNIT: (FAMILY MEDICINE)
Date: _____