

Professional nurses' perceptions of skills required for preterm infant assessment

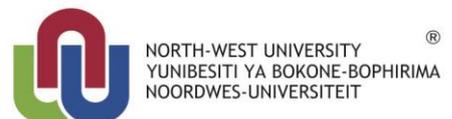
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Dissertation submitted in partial fulfilment of the requirements for the degree *Magister Curationis* in **Nursing** at the Potchefstroom Campus of the North-West University

Supervisor: Dr W Lubbe

November 2015

It all starts here TM



PREFACE

The article format has been selected for this study. The *Magister Curationis* (M.CUR) student, Ms Debbie Cordewener, conducted the research and wrote the article under the supervision of Dr Welma Lubbe.

The references of each chapter are kept separately, as the referencing style of the article differs according to author guidelines.

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DECLARATION FROM STUDENT THAT PLAGIARISM HAS BEEN AVOIDED

I, Ms Debbie Cordewener, ID 800520 0007 087, student number: 11930586, hereby declare that I have read the North-West University's "Policy on Plagiarism and other forms of Academic Dishonesty and Misconduct" (NWU, 2011).

I did my best to acknowledge all the authors that I have cited and I tried to paraphrase their words to the best of my ability, while still portraying the correct meaning of their words.

I also acknowledge that by reading extensively about the topic, some information may have been internalised in my thinking, but I tried my best to give recognition to the original authors of the ideas.

I declare that this dissertation is my own work, although I respect the professional contribution made by my supervisor and I would like to give due recognition to her.

Ms Debbie Cordewener Date: November 2015

ABSTRACT

Key terms

Follow-up assessments of preterm infants, management of preterm infants in South Africa, nurses' preterm infant assessment skills, nursing care of preterm infants

Background

Preterm infants are being cared for under highly specialized medical healthcare workers in the neonatal intensive care unit before discharge. There has been a substantial improvement in the neonatal survival, however the incidence of chronic morbidities, adverse outcomes and increased risk for developmental delays in these survivors remains high (Pandit, 2012:218). After discharge no on-going care and monitoring is evident for these vulnerable infants. Assessments in the well-baby clinics have been identified to make and bring change to these survivors and plays an important role to improve their outcome (Dorling & Field, 2006:151). This can contribute to the millennium goal of lowering the neonatal mortality rate in South Africa.

Objective

The purpose of this study was to explore and describe the nurses'/midwife's perception of skills required for follow-up assessment of the preterm infants in the well-baby clinics. This will give recommendations to the field of nursing as to where improvements in the field can be made to ensure proper assessments on these vulnerable infants.

Methods

This study was conducted in the private and public sector well-baby clinics in Polokwane, Limpopo using a descriptive qualitative research methodology of semi-structured individual interviews for data collection. 13 Semi-structured interviews discussed the perception' of nurses regarding skill of doing assessments on the preterm infant in the clinics.

Results

Important information came out of literature and semi-structured interviews in this study. Six themes was identified; the role of the professional nurse; the importance of preterm infant assessment; lack of skills and knowledge to conduct quality assessments in the well-baby clinics; formal and continuous development training needs, as well as the absence of assessment tools and physical resources to deliver standardized assessments of the preterm infants after discharge from hospitals and finally, support and referral systems. These findings may assist future research on providing guidelines on training or a standard instrument tool to use in the well-baby clinic concerning the preterm infant assessment post discharge.

Conclusion

The study identified gaps where the registered nurses/midwives recommended strategies to improve the current follow-up assessments done on the preterm infants. The participants recommended strategies such as the establishment of training, exposure to working with preterm infants during the basic nursing training and working with experts to guide them, participating in multi-disciplinary team discussions concerning the care of preterm infants and tools (assessment instruments or guidelines) were identified as a mechanism to assist nurses/midwives in the clinic setting, to know when to refer, and how to detect problems early during preterm follow-up assessments. The availability of an experienced nurse/midwife, acting as a resource person in the well-baby clinic, would also help to improve the nurses'/midwives' skills and confidence and enhance the care provided to preterm infants and their parents. Further research is recommended to provide adequate training and instruments for the registered nurse/midwife in well-baby clinics to ensure proper assessments of the vulnerable preterm infant.

OPSOMMING

Sleuteltermes

Opvolg ondersoek van preterm baba, hantering van die preterm baba in Suid-Afrika, verpleegkundiges se persepsies van vaardighede

Agtergrond

Die preterm baba word onder gespesialiseerde behandeling hanteer binne die neonatale intensiewe eenhede binne die hospitaal. Daar was geweldige verbetering in die oorlewing van hierdie babas alhoewel die verbetering van chroniese morbiditeite, nadelige uitkomst en verhoogde risikos van vertraging in ontwikkeling steeds steeds hoog is. Na ontslag van die preterm babas word daar nie voorsiening gemaak om hulle te monitor en op te volg nie. Assesserings in die baba-klinieke speel 'n baie belangrike rol om probleme en tekort kominge te identifiseer om sodoende vroetydig te behandel en te verwys wat die uitkomst sal verbeter.

Doelwitte

Die doelwit van die verhandeling sluit in om die persepsie van vaardighede van die professionele verpleegkundige/vroedvrou in die kliniek opset te verken en te beskryf. Dit sal inligting verskaf om sodoende die veld in verpleging te verbeter en so ook die uitkoms van die preterm baba.

Metodes

Die studie was gedoen in die privaat sowel as staat opset in Polokwane, Limpopo en kwalitatiewe metodologie was gebruik om semi gestruktureerde onderhoude te doen vir die data insameling. 13 semi gestruktureerde onderhoude was gedoen met datasaturasie wat die persepsie van vaardighede van die professionele verpleegkundige/vroedvrou ten op sigte van die assessering van die preterm baba in baba- klinieke bepaal het.

Resultate

Belangrike inligting het uit die literatuur sowel as onderhoude tydens die navorsing uit gekom. Die professionele verpleegkundige/vroedvrou het nie tans selfvertoue of genoegsame kennis om die preterm baba te assesser in die baba-klinieke nie. Deelnemers het ook die behoefte aan opleiding in die verband uitgespreek om nie net die preterm baba te assesser nie, maar ook om behoeftes van ouers te kan identifiseer en sodoende ouers te bemaagtig om die preterm baba tuis te versorg. Die uitkoms van die studie dui dat toekomstige navorsing benodig word ten opsigte van opleiding asook 'n standaard instrument wat gebruik kan word in klinieke om goeie assesserings op die preterm baba in die baba klinieke te verseker.

Gevolgtrekking

Die studie het die tekortkominge uitgewys ten opsigte van die assesering van die preterm baba in die baba klinieke na ontslag. Dit lui tot bekommernis omdat die hoe risiko baba tans ondersoek word in die baba klinieke sonder die nodige kennis. Probleemareas en verwysings geleenthede word so gemis wat die uitkoms van die preterm baba negatief beïnvloed. Toekomstige navorsing word benodig om opleiding in die veld te verbeter asook riglyne daar te stel waarvolgens gewerk kan word.

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LIST OF ABBREVIATIONS

AAP:	American Academy of Paediatrics
APIB:	Assessment of preterm infant behaviour
MDG:	Millennium development goal
NBAS:	Neonatal behavioural assessment scale
NICHD:	National institute of child health and human development
NIDCAP:	Newborn individualized developmental care and assessment program
NICU:	Neonatal intensive care unit
NNASA:	Neonatal Nurse Association of South Africa
RM:	Registered midwife
RN:	Registered nurse
SANC:	South African nursing council
WHO:	World Health Organisation

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CHAPTER 1: OVERVIEW OF STUDY

1.1 Introduction and problem statement

Preterm infants are cared for by highly specialised healthcare professionals in the neonatal intensive care unit (NICU) before discharge. After discharge, there is often no specialised treatment or on-going care and monitoring planned or scheduled for these vulnerable infants. Even though there has been a substantial improvement in neonatal survival rates in South Africa, the incidence of chronic morbidities, adverse outcomes and increased risk for developmental delays in survivors continue to be high (Pandit *et al.*, 2012:218). At the fourth annual conference of the Neonatal Nurses Association of South Africa (NNASA) the need was stressed for neonatal nurses to also focus on immunisations and on-going monitoring, as well as to provide support for mothers and infants, as key interventions to reduce the neonatal mortality rate (Anon, 2011:53).

A baby born before 37 weeks' gestation is regarded as being premature (Lubbe, 2008:26). The World Health Organization (WHO, 2013) further stated that if the baby is born before 28 weeks' gestation, then the baby will be regarded as being extremely preterm. Prematurity is common in South Africa, out of 15 million infants born preterm globally during 2011, 84 000 preterm births occurred in South Africa (Mongale, 2012). The percentage of low birth weight infants in South Africa was as high as 14.6% during 2004 (UNICEF, 2004). With regard to newborn deaths, South Africa ranks 24th out of 184 countries (Mongale, 2012).

The preterm infant has an increased risk for long-term illnesses and neurodevelopmental impairment, including sensory and motor disabilities, intellectual disabilities and behavioural problems (Tang *et al.*, 2012:1027). According to Pandit *et al.* (2012:218) these infants also have a higher incidence of growth failure and on-going medical illnesses. 'Preterm neonates have about a 28% risk of having at least one long term complication and an 8% risk of having multiple impairments. The most common sequelae are learning difficulties, cognitive problems, developmental delays, cerebral palsy, and visual impairments (Pandit *et al.*, 2012:218). The risk for developmental delays significantly increases when these infants do not receive early intervention services (Pandit *et al.*, 2012:218) such as proper follow-up assessments and appropriate interventions.

Early intervention is a process of assessment and therapy provided to children, especially those younger than six years of age, to facilitate normal cognitive and emotional development and to prevent developmental disabilities or delays (Medical-dictionary, 2014). According to the American Academy of Paediatrics (AAP), early identification (assessment tools) and

intervention (follow-up programmes) improve the overall health and well-being of children (Blaggan *et al.*, 2014:55). A proper and appropriate follow-up program would enhance the early detection of these problems, thus paving the way for early interventions (Pandit *et al.*, 2012:219). According to Pandit *et al.* (2012:219) the aim of follow-up assessments is to provide a continuum of specialized care to sick infants discharged from NICU. The objective is to identify early deviation of growth, development or behaviour from normal parameters, and provide support and interventions when needed.

Assessment programs and/or tools for in-hospital use to identify developmental delays are available and widely used, such as the Newborn Individualized Developmental Care and Assessment Program (NIDCAP), Assessment of Preterm Infant Behaviour (APIB), Neonatal Behavioural Assessment scale (NBAS) and Bayley's Assessment Scales. These tools can also be used during a follow-up program. None of these or any other standardised assessment programs are however used in South Africa. Infant follow-up is done on an individual basis utilizing assessment tools known to the user, which is the clinical healthcare provider in selected settings.

The Road to Health Chart (a South African record keeping tool) provided by the national government, is used to record the assessment and follow-up care of normal healthy infants, (Francis, 2011) but lacks information about follow-up assessments and discharge plans specific to the preterm infant. This presents a problem to the nurse, assessing the preterm infant in the well-baby clinic environment, who might not know what assessments to perform or adapt specifically for the preterm infant.

A follow-up program requires a multidisciplinary team approach, to ensure proper assessments. (Dorling & Field, 2006:151). However, this is not the case in the South African context where the nurse is often the only healthcare professional responsible for providing follow-up assessments and care to infants.

Preterm infants are cared for in referral hospitals after birth by healthcare professionals, duly trained and skilled to care for and assess these patients with special care needs. However, the preterm infant returns to his/her town/village after discharge from hospital and is left to the care of non-ICU trained staff to assess and ensure sufficient growth and development. High risk follow up assessment is described as an assessment that takes place at a referral hospital (out-patient clinic) or by a paediatrician specialised in that field (Pandit *et al.*, 2012:223). In rural areas and community, well-baby clinics nurses/midwives take care of the returning preterm infants. However, few of these nurses/midwives might be trained as NICU nurses or have experience in conducting follow-up assessments on high-risk infants. Registered

nurses/midwives should be skilled in performing preterm assessments and in identifying risk factors early on, so that they can assist parents of preterm infants in assessing specialized, post discharge health care needs and community resources (Purdy & Melwak, 2012:221). Nurses/midwives can identify obstacles that exist and help to prevent further risk of failure to thrive, which can result in poor growth and development (Purdy & Melwak, 2012:221). The registered nurse/midwife is the suitable healthcare professional to provide this service, since regulation R2598, relating to the scope of practice of persons who are registered or enrolled under the Nursing Act (Act no 33 of 2005), clearly state that the registered nurse’s scope of practice include aspects specified in Table 1-1.

Table 0-1: Nursing scope of practice as specified in the Nursing Act (Act no 33 of 2005)

<ul style="list-style-type: none"> • The diagnosing of a health needs and the prescribing, provision and execution of a nursing regime to meet the needs of a patient, by referral to a registered person.
<ul style="list-style-type: none"> • The execution of a program of treatment or medication prescribed by a registered person for a patient.
<ul style="list-style-type: none"> • The treatment and care of and the administration of medication to a patient, including the monitoring of the patients vital signs and of his reaction to disease conditions, trauma, stress, anxiety, medication and treatment.
<ul style="list-style-type: none"> • The prevention of disease and promotion of health.
<ul style="list-style-type: none"> • The promotion of exercise with the view of rehabilitation of the patient.
<ul style="list-style-type: none"> • The supervision over and maintenance of fluid and electrolyte balance of the patient.
<ul style="list-style-type: none"> • The facilitation of sensory functions in the patient.
<ul style="list-style-type: none"> • The facilitation of the maintenance of nutrition in the patient.
<ul style="list-style-type: none"> • The facilitation of the attainment of optimum health for the individual, the family and the community.
<ul style="list-style-type: none"> • The co-ordination of the health care regimes provided for the patient by other categories of health personnel.
<ul style="list-style-type: none"> • The provision of effective advocacy to enable the patient to obtain the health care needed.

Preterm infant assessments fit into the scope of the registered nurse/midwife as shown in table above. However, the implementation of preterm infant assessment by nurses and midwives in the clinic setting has not been specified. The Road to Health chart does not make provision for preterm infant assessment (Annexure N). No other preterm infant

assessment tool is available in the clinics. Thus, nurses might not be equipped with tools to assist them in performing follow-up preterm infant assessments in the well-baby clinics.

The question thus arises that; if nurses in the PHC clinics are the health care providers tasked with the responsibility for assessing preterm infants after discharge from hospitals, what are these nurses' perceptions regarding the skills required to perform follow-up assessments of preterm infants in the well-baby clinics?

1.2 Purpose and objectives

The purpose of this research project was to explore and describe the professional nurse/midwives' perceptions of the skills required for performing follow-up assessments of preterm infants after discharge from hospitals.

The objectives of the current study were to:

- Conduct semi-structured individual interviews with professional nurses/midwives to explore and describe their perceptions of the skills required for performing follow-up assessments of preterm infants in the well-baby clinics (which form part of the PHC clinics in South Africa).

1.3 Paradigmatic perspective

I conducted this research from a specific perspective within nursing. A paradigmatic perspective is a set of assumptions, concepts, value and practises that make up your way of viewing. (Bothma et al, 2010).

1.3.1 Meta-theoretical perspective

- View of man

I view the world from a Christian perspective. God is our creator and Jesus our saviour. Man is seen holistically as body, mind and soul. All three aspects are viewed as one and that will then form man or human being. As a Christian, I want to help and support others and therefore I am conducting this research to serve people in the form of knowledge, support and guidance. Since the mother and her infant is seen as a co-exciting dyad, 'man' in this study is regarded as the maternal-infant dyad and not as two separate entities.

For this study if I look at the premature infant as the human being, I look at it as a fragile infant born too early and has to develop as normal as possible. This premature infant has to be

protected by caregivers as in the uterus to grow to what God has intended it to and therefore I would like to take part as an entity on my own to support this infant to develop holistically.

- View of society

Society in this study will be the registered nurses/midwives, because they have a common interest in the same thing, namely the premature infant. They all have the same role, but may conduct it differently because their personal view and knowledge base differ. This may pose a challenge when it comes to assessing the preterm baby holistically. The healthcare professional society should therefore be equipped with skills to render same standard and same health service to all.

- View of health

Health is a state of complete physical and social well-being. As the WHO states it is a complete state of physical, mental and social well-being and not the merely absence of disease or infirmity. (WHO, 2003). This study was done within the primary health care context and I agree to the definition of the WHO. Primary health care is essential health care, based on practical, scientific sound, and socially acceptable method and technology, universally accessible to all in the community through their full participation, at an affordable cost and geared towards self-reliance and self-determination (WHO, 1978).

Therefore health of the preterm infant can be supported in well baby clinics by supporting them to be healthy on a physical, mental and social level.

- View of nursing

I view nursing as an independent professional discipline. I believe in prevention and early treatment to prevent poor outcome, to ensure physical, mental, and social health, irrespectively of illness or in this case prematurity. In the regulations relating to the scope of practice of persons who are registered or enrolled under the Nursing Act, 1978 the regulations clearly state that the registered nurse is entitled to diagnose health needs, prescribing, provision and execute nursing regimes to meet the need of patients, and where necessary, referral to a registered person. This is important to me in the primary care setting and well-baby clinics, because this emphasize the scope of nurses to make an early diagnose during assessment, prescribe necessary treatment and refer if needed. In doing so nurses can focus on prevention and health promotion in all three aspects, body mind and soul of the preterm infant.

1.3.2 Theoretical perspective

- Ontology

Ontology is a branch of philosophy dealing with the nature of reality (Bothma *et al*, 2010:40). In this study reality will not be fixed and the truth will be constructed by the registered nurses, their perceptions and views. The researcher aimed to understand and form part of the study, conduct the data collection and code it. The qualitative researcher was therefore a co-constructor of realities.

1.3.3 Methodological perspective

The researcher used a qualitative design to explore and describe the phenomena, with the intent to develop themes from the data. The findings were created as the study proceeded (Guba & Lincoln, 1994:111) to obtain an understanding of the perception and skills of the registered nurses working with preterm infant follow-up in a community healthcare setting, such as the well-baby clinic.

1.4 Definitions of key concepts

1.4.1 Preterm infant

According to the WHO, preterm infants are defined as infants born alive before 37 weeks' gestation. Prematurity can further be classified according to their weight and gestational age (Lubbe, 2008:26; Purdy & Melwak, 2012:31).

Table 0-2: Classification of low-birth weight preterm infants (WHO, 2013)

Low-birth weight classification		Prematurity according to gestational age classification	
Category	Weight	Category	Gestational age
Low Birth Weight	1500-2500g	Moderate to late preterm	32 to <37 weeks
Very Low Birth Weight	<1500g	Very preterm	28 to <32 weeks
Extremely Low Birth Weight	<1000g	Extremely preterm	<28 weeks

For the purpose of this study, all categories of preterm infants seen at the clinics were relevant.

1.4.2 Registered professional nurse/midwife

A professional nurse is a person who is qualified and competent to independently practice comprehensive nursing in the manner and to the level prescribed and who is capable of assuming responsibility and accountability for such practice as stated in the Nursing Act (Act no 33 of 2005). A midwife is a licensed person who is registered with the SANC based on completion of a recognized education and training program to nurture, assist and treat the client, who can be a woman, a neonate or a family, in the process of promoting a healthy pregnancy, labour and postpartum period. For the purpose of this study, the registered nurse/midwife will be the professional nurse providing follow-up assessments on the preterm infant promoting the outcome of development on these infants.

1.4.3 Skills

Skills imply the ability based on one's knowledge and practice to do something well (Merriam-Webster's Dictionary, 2015). For the purpose of this study, skills determine whether the registered nurse/midwife has the ability to conduct follow-up assessments in a scientifically correct way, possess the knowledge to be able to use an instrument or to work with a tool to enhance the assessment of the preterm infants to recognize any shortfalls or to guide and assist parents, to refer preterm infants to higher levels of care early if necessary, and to follow up on growth and development in a scientific manner.

1.4.4 Well-baby clinic

According to Mosby's Medical Dictionary (2009), a well-baby clinic specializes in medical supervision and services for healthy infants. In the South African context these registered nurses works independently as the primary decision maker in a well-baby clinic, focusing mainly on the normal full term infant, milestone development, immunizations and education to the parents.

1.4.5 Perception

Perception is the conscious recognition and interpretation of sensory stimuli that serve as a basis for understanding, learning and knowing or for motivating a particular action or reaction (Mosby's Medical Dictionary, 2009). Perception in this research implies the understanding of registered nurse's belief to form the basis of understanding of the current situation regarding preterm infant follow-up assessments.

1.4.6 Assessment

Nursing assessment is defined as the systematic collection of all data and information relevant to the care of patients, their problems and needs, including the history, physical examination, review of other sources of assessment data and analysis of the data (Oklahoma board of nursing, 2012).

1.5 Research design

A qualitative descriptive design was used to gain a clear description of a phenomena (Sandelowski, 2000). Its qualitative nature offers the opportunity to uncover the perceptions of the registered nurses regarding assessments of the preterm infants. The purpose of the exploration was to gain a richer understanding of this phenomenon in clinical practice.

1.5.1 Qualitative methodology

In this study, a qualitative methodology was used, since little is known about the phenomenon (Brink *et al.*, 2012:120) the nurses'/midwives' perception of skills regarding follow-up assessment of preterm infants. This study was done to acquire an in-depth understanding of these perceptions from the clinical nurse/midwife practitioners' perspectives and the researcher was regarded as the main instrument, involved throughout the research process. It entailed an in-depth examination to understand the phenomenon and by giving a dense description the researcher gave meaning to the study (Brink *et al.*, 2012:182). The researcher entered the study field without any knowledge of what the perceptions of nurses regarding follow-up assessment on the preterm infants were. For the purpose of this study, semi-structured interviews were conducted in a qualitative manner.

1.5.2 Explorative

The purpose of this study was to explore the perceptions of nurses/midwives regarding the skills required for performing follow-up assessments of preterm infants and to gain new insights about the topic (Bothma *et al.*, 2010:50). This led to new information and improved understanding of this specific phenomenon (Bothma *et al.*, 2010:50).

1.5.3 Descriptive

The study was descriptive in nature, since it described and summarised a specific phenomenon and provided insight into this matter (Bothma *et al.*, 2010:194), namely: the nurses'/midwives' perceptions of skills required to perform follow-up assessments of preterm infants. Information

was obtained by the means of semi-structured interviews and presented in a descriptive manner.

1.5.4 Contextual

Qualitative data collection by means of individual semi-structured interviews with selected participants, together with field notes were used to determine the nurses'/midwives' perceptions of skills required to perform follow-up assessments of preterm infants in well-baby clinics in the Polokwane Province of South Africa. The researcher aimed to gain an understanding of the perceptions of the nurses/midwives in a selected geographical area and not to generalize the findings to other settings. Private as well as the public health sectors were included in the current study, bringing a rich, holistic and contextual view of the phenomena.

1.6 Research method

The following section discusses the research method, population and sample.

1.7 Population and setting

This study was conducted in Polokwane, in the Limpopo Province of South Africa. Polokwane is the capital city of the Limpopo Province with the total population of 628 999 (Stats SA, 2011). There was a growth rate of 2.1% in the population of Polokwane since 1996-2011, which was more than the average growth rate of 0.8% in the Limpopo Province (Stats SA, 2011). The private as well as the public health sectors were included in this study to ensure rich data.

According to Bothma *et al.* (2010:200), the population comprises all the elements that meet the criteria for inclusion in a given universe. In this context, the current research population comprised all the nurses/midwives employed by all the private and public clinics in Polokwane who were responsible for assessing preterm babies in the well-baby clinics after discharge from hospitals during the time of data collection from May 2015 until August 2015.

- Private sector

The private sector comprised four companies owning well-baby clinics. These clinics employed registered nurses offering services at these clinics. Eight registered nurses in the private sector assessed preterm infants after discharge from hospitals. They served the community rendering these services on a fee-for-service basis and consultations were available to assist parents with well-baby services.

- Public sector

At primary health care (PHC) level, the public health sector had large well-baby clinics in Polokwane (Refer to table 1-3). The health centre (Clinic E) had two full-time employed registered nurses managing the well-baby clinic and they consulted an average of 80 infants per day and 1100 babies on a monthly basis, with an estimate of 10 preterm infants per month. Clinic F had eight registered nurse/midwives employed at the clinic. This well-baby clinic was managed by enrolled nurses under the supervision of the registered nurses. This clinic further attended to 400 babies per month, but had no estimate of the percentage dedicated to preterm infants. No records were available of preterm infants seen in the well-baby clinics, however the Director of Mother, Child and Maternal Health confirmed verbally that the incidence of preterm infants was high. The well baby clinics could be missing the specific health need of these preterm infants, since prematurity is not documented, or highlighted. Considering the number of preterm infants born at the referral hospital in Polokwane, where reportedly 78-90 preterm infants were admitted in the specialized unit for neonates per month, preterm infants need to be followed-up in well-baby clinics after discharge from the hospitals.

Table 1-3 shows the different private clinics included in the study with an average number of infants seen on a monthly basis at these clinics.

Table 0-3: Preterm babies attending private clinics

Private clinic	Public sector clinics	Average infants seen per month	Average preterm babies seen per month	Number of registered nurses/midwives (RNs)/(RMs)*
Clinic A1		60	1 in 10	1
Clinic A2		74	3 in 10	1
Clinic B1		70	1 in 10	1
Clinic B2		160	2 in 10	1
Clinic B3		64	1 in 10	1
Clinic C1		160	1 in 10	1
Clinic C2		94	2 in 10	1
Clinic D		170	3 in 10	1

Private clinic	Public sector clinics	Average infants seen per month	Average preterm babies seen per month	Number of registered nurses/midwives (RNs)/(RMs)*
	Clinic E	1100	10 per 1100	2
	Clinic F	400	No estimate	8
Total				18

The letters A, B, C and D refers to the four companies and the number next to it, to the number of clinics that each group managed. Letters E and F refers to public sector clinics, each with two well-baby clinics and registered nurses alternating as per schedule.

* In South Africa, upon successful completion of the basic course to become a registered nurse (South African Nursing Council, 1985), a person registers with the South African Nursing Council as a nurse (general, psychiatric and community) and a midwife. There are other avenues by which persons can become registered general nurses only and thereafter complete a midwifery course. Thus in South Africa all registered midwives (RMs) are registered general nurses (RNs), but not all RNs are RMs

1.7.1 Sample

The accessible population of nurses/midwives were requested to participate in the study. Purposive sampling was used as the whole population of nurses/midwives in the well-baby clinics was included in the study provided the inclusion criteria were met. This ensured a rich outcome of data.

The inclusion criteria required that each participant had to be:

- registered with the SANC as a registered nurse or registered midwife
- employed full time at a private or public well-baby clinic in the Polokwane district
- give informed consent, be willing to participate in the study and agree to be voice-recorded during semi-structured interviews
- able to communicate in Afrikaans or English
- participant's practice/job description had to include performing follow-up assessments of preterm infants after discharge from hospital

- Persons were excluded from participating in the current study if they were:
- Not registered with the SANC as a registered nurse or a midwife
- Working part time at well-baby clinics
- Working at private or public well-baby clinics outside the Polokwane district
- Unwilling to give informed consent or to be voice-recorded during the semi-structured interviews
- Unable to communicate in Afrikaans or English
- Working according to job descriptions that did not include performing the follow-up assessments of preterm infants after discharge from hospital
- Everybody that did not fit the inclusion criteria and staff nurses
- Private Clinic owned by the researcher

1.7.2 Recruitment

Initially the departmental head of every well-baby clinic in the Polokwane district was contacted, the purpose of the study explained and the head's cooperation was requested. Thereafter, participants were contacted by their departmental heads to inform them about the research project. Recruitment was done via direct contact, in person or e-mail and the study was explained to each potential participant at this point. The consent form was also explained at this point and left with participants for 24 hours to allow them time to consider their participation. The following day the consent forms were collected and each participant indicated a convenient time and place for the individual interview to be conducted.

1.8 Data collection

Permission from the Health Research Ethics Committee, Faculty of Health Sciences, North-West University, private institutions, district health manager and informed consent from each participant, were obtained before data collection started.

One trial run semi-structured interview was conducted and recorded. The data collection technique and findings were discussed with the study's supervisor to ensure that information relevant to the study's purpose and objectives had been obtained. Relevant information had

indeed been obtained, no adaptations to the interview schedule (Annexure A & B) were suggested and therefore this interview was included in the study's data.

Data collection was done over a period of three months involving 13 semi-structured interviews. Data saturation had been reached after five interviews but eight more interviews were conducted to ensure that no new data emerged.

Semi-structured interviews were conducted, according to appointments arranged by each participant, ensuring that adequate time had been allocated and that the minimum interruptions would occur during the interviews. Each participants chose a room at his/her workplace where he/she felt comfortable to be interviewed.

Six open-ended questions were asked and the sequence of the questions helped to ensure that information flowed during the interviews. The semi-structured interviews were conducted in a relaxed manner encouraging discussions (see Annexure A & B – Interview Schedule) and the interviews were digitally voice recorded. The participants were comfortable answering the questions producing rich data.

After each interview had been concluded, the participant was thanked and researcher's contact details were provided in case he/she wanted to contact the researcher at a later stage. Field notes containing observational, theoretical and methodological information were captured immediately after every interview (see Annexure K).

1.9 Data capturing and analysis

The digital voice-recordings were transcribed by an experienced transcriber. Six interviews were done in Afrikaans and seven were in English. The researcher was fully bilingual and could conduct the Afrikaans as well as the English interviews. The Afrikaans interview schedule can be found as Annexure B. The researcher and the co-coder translated the interviews to ensure the true reflection of the meaning. Annexure I contains an example of transcribed interviews. Field notes were combined to create an overall impression of the interviews. The researcher analysed the data using Tesch' eight steps for thematic data analysis as described by Creswell (2009:186) as described in the following paragraphs.

The researcher became familiar with the complete data set by first reading through all the data and by writing down thoughts and facts as they emerged (Creswell, 2009:186).

The researcher then selected one transcript, which described most themes and formed a good start point, and after going through it, tried to determine its fundamental meaning and wrote ideas that came to mind on the transcript (Creswell, 2009:186)

The researcher repeated this process for a number of transcripts and then made a list of all the themes, grouping relevant themes together. These themes were then formatted into columns and arranged as main themes and subthemes (Creswell, 2009:186).

Thereafter, the researcher abbreviated the themes into codes. These codes were written in the appropriate sections of the text. The researcher used this initial organizing system to see if any new themes and codes materialized (Creswell, 2009:186)

The themes were described, using the most expressive words and themes relating to one another were grouped together in order to reduce the total number of themes (Creswell, 2009:186).

The researcher took a final decision on the terms to be used for each theme and arranged the codes in logical order, although according to Creswell (2009:186), they could also be arranged in alphabetical order. The data for each theme were gathered in one place and an initial data analysis was performed (Creswell, 2009:186).

The researcher recorded the existing data (Creswell, 2009:186). The coding process produced a description of the themes for analysis (Creswell, 2009:189).

After the data analysis by the researcher, the data were analysed by an independent co-coder to enhance rigour. The researcher and the co-coder then discussed the results of the qualitative data analysis and reached consensus regarding the main themes and the sub-themes that emerged from the data. The researcher, co-coder and supervisor reached consensus with regard to the final organisation of the themes and sub-themes that were used to report, discuss and interpret the qualitative findings of the study (Annexure K).

1.10 Ethical approval and considerations

The researcher obtained ethical approval from the Faculty of Health Science, Research Ethics Committee of North-West University NWU (-00039-15-A1) (see Annexure D). The researcher further obtained approval to conduct the research from the various healthcare facilities, private institutions as well as from Department of Health of the Limpopo Province (see Annexures E & F).

Finally, written informed consent was obtained from each participant individually after providing her with information about the project's nature and purpose (see Annexure H).

Halai (2006:5) stated that there are key principles commonly found as requirements for ethical research, as discussed in the following paragraphs:

1.10.1 Informed Consent

The researcher obtained written informed consent from all the participants (see Annexure H). Participants had an opportunity to consider their participation for at least 24 hours before accepting or declining participation in the study.

1.10.2 Risks

Physical discomfort, fatigue and boredom during semi-structured interviews were minimised by making the room as comfortable as possible and participants were made aware of these potential risks before the study commenced.

The interviews took approximately 30 minutes of each participant's time and this time was scheduled by each participant. This ensured relaxed participants and a comfortable setting.

No social harm and emotional distress were inflicted. No debriefing sessions with participants were needed.

The researcher was not judgmental regarding the outcome of the semi-structured interviews and reporting was done in a manner that protected the identity of all participants.

1.10.3 Principle of respect for persons and justice

There were no risks involved as interviews did not include the discussion of sensitive information and the benefits included that guidelines might be developed for assessing preterm infants at well-baby clinics, based on the findings of the study. The researcher respected the dignity of participants.

1.10.4 Professional competence of the researcher

Training in interview skills was done during the first year of the researcher's master's studies. A trial run interview was done and the interview, skills and techniques used, as well as the findings from the interview were discussed with the supervisor to ensure that a good technique had been used by the researcher.

1.10.5 Confidentiality and anonymity

Guaranteeing anonymity might pose a challenge due to the small, specific sample of participants who were all known to each other. Thus, partial anonymity was ensured throughout the study. Information collected from each participant would be kept confidential because identifying information was removed by using codes for each data set. A trusting relationship and mutual respect were maintained throughout the study to ensure that data sharing was comfortable without causing harm to participants. The researcher further ensured that no information provided by the participant would be publicly reported or made accessible to parties except those involved in the study such as the supervisor and the data analyst. In the research report, direct quotations would be used, but no person's name or identifying information was included. This ensured the protection of the participants' right to privacy (Bothma *et al.*, 2010:19)

- The researcher personally conducted all interviews and did not share personal, identifiable information of participants with anyone else
- All raw data were stored on a computer with password protection and would be kept for a period of five years after completion of the study at the North West University School of Nursing Science
- All hard copies of the interviews were transcribed verbatim, where after the hard copies were shredded. Transcribed copies were available in electronic format that was also stored on a password protected computer with confidentiality agreement with the transcriber.
- Voice recordings were saved in a digital format on a password protected computer, but the recordings were deleted from the original recording device

1.10.6 No harm principle, beneficence and reciprocity

No harm was inflicted on any participant. The space where the interviews were conducted was selected by each participant to ensure a familiar comfortable space for each interviewee and to minimise the risk to them. Participants received no benefits as they voluntarily participated in the research and contributed to the neonatal field by sharing their knowledge. This research therefore had a low risk and discomfort level for participants.

The beneficence principle was upheld because participants were at all times protected from harm and discomfort.

1.10.7 Direct benefits for participants

Psychological benefits included gaining insight into their own professional developmental needs and the opportunity to talk about skills development needs to perform their work optimally.

Indirect benefits included development of professionals within the organisation and in addition an expansion of the current services provided at well baby clinics.

1.10.8 Risk/benefit ratio

The risk benefit ratio showed that the benefits outweighed the risks:

- The psychological benefits and indirect benefits were maximised and the results were used to benefit the current healthcare system in the Polokwane district of South Africa by giving meaning and understanding to the assessment of preterm infants after discharge from hospital.

1.10.9 Right to withdraw

Participants had the right to withdraw at any stage during the research without fearing any penalty.

1.10.10 Misconduct

The researcher endeavoured to maintain the highest standard of honesty and integrity in obtaining relevant sources for the study, and complied consistently with the North-West University's code of conduct, avoiding plagiarism, supplying relevant references throughout the text, ensuring that every reference used in the text is contained in the list of references, ensuring that the information in the list of references is correct and complete so that other persons can also access the sources used by the researcher.

1.10.11 Publication of results

Findings of the study will be shared with all participants and an article will be published in a peer-reviewed journal as well as presented at relevant conferences. Institutions included in the study will receive a summary of the research report in the form of the article published. A copy of the entire dissertation will be available on request and a copy of the approved dissertation will be provided to the Department of Health of the Limpopo Province.

1.10.12 Research team

The research team involved in this study are stated in Table 1-4.

Table 0-4: List of members and their contribution to this research project

Name	Role in study	Institutional affiliation
D.Cordewener	<ul style="list-style-type: none">• Responsible for the planning, execution and management of this project• Responsible for obtaining informed consent and data collection• Data analysis and primary writing of the article	M.Cur student who was the researcher
W Lubbe	<ul style="list-style-type: none">• Guidance on research design and other aspects of the research• Corresponding author for the article to be published based on the study	Supervisor

1.11 Measures to ensure rigour

Rigour in qualitative research refers to openness, relevance, epistemological and methodological congruence, thoroughness in data collection and the data analysis process, and the researcher's self-understanding (Brink *et al.*, 2012:26).

The following was applied to ensure rigour in this research study: (See table 1-5)

Table 0-5: Criteria and application in this research to ensure rigour

Rigour criteria and description	Application to this study
<p>Credibility</p> <p>This is the confidence in the truth of the findings (Creswell, 2009:186). This involves establishing that the results of the research are believable from the perspective of the participant, researcher and reader of the research.</p>	<p>Researcher worked in an infant/well-baby clinic for the past eight years and was familiar with the working context of the participants. Was excluded from data collection.</p> <p>The researcher had developed a relationship of trust with the multidisciplinary team, as she had previously worked with them. Knowing their referral structure used in the field.</p> <p>The researcher consulted literature to gain as much understanding as possible about the chosen topic.</p> <p>Triangulation of data sources was done. Different data sources were used to ensure a rich data outcome such as journals, studies, books; observational, theoretical and methodological field notes; and semi- structured interviews.</p> <p>Digital voice recordings were transcribed to ensure the accuracy of data and to exclude misunderstandings.</p> <p>A co-coder was used to analyse data and to compare this analysis with that compiled by the researcher.</p>

Rigour criteria and description	Application to this study
<p>Transferability</p> <p>This refers to the applicability of the data and to which degree data could be applied to different contexts (Creswell, 2009:186).</p>	<p>A thick description of methodology and procedures was provided.</p> <p>A detailed summary of context and thick descriptions of methods and processes were supplied. Such as the description of the population and samples used in this study</p> <p>The aim was to provide an understanding of the perceptions, not to generalize, therefore the transferability of the results resorts with the user of the results.</p>
<p>Confirmability</p> <p>According to Creswell (2009:186) this is to ensure neutrality which entails freedom from bias during the research process.</p>	<p>Peer review was done by employing inputs from the study supervisor, independent reviewers and experts in the neonatal research field. Triangulation took place of data sources to ensure thorough and rich data.</p> <p>Neutrality was achieved when credibility and transferability were achieved.</p>
<p>Dependability</p> <p>This entails the consistency of the data and according to Creswell (2009:186) it entails whether the findings of the inquiry can be replicated with the same participants and in a similar context. (Creswell, 2009:186)</p>	<p>The research question was stated clearly and the features of the study design were congruent with it (see 1. 3 Research Problem)</p> <p>Data analysis was done using Tesch's approach as stated in Creswell (2009:186).</p> <p>Consensus discussion was held with an independent coder. All data were documented.</p>

Rigour criteria and description	Application to this study
<p>Validity</p> <p>Validity indicates whether the researcher checked for the accuracy of the findings (Creswell, 2009:186).</p>	<p>In this study, Creswell (2009:186) recommendations to ensure dependability were applied in the following ways:</p> <p>The data were triangulated and different themes were developed through coding and re-coding.</p> <p>Member checking was done by giving reports to participants. A rich and thick data description was provided.</p>

1.12 Research report structure

This dissertation comprises four chapters that each contains a list of references according to the guidelines provided by the NWU (for chapters one, two and four) and the author guidelines of the journal to which the article will be submitted for chapter three.

1.12.1 Chapter 1: Overview of study

Chapter 1 provides an overview of the course of this study. This chapter includes an introduction to the study, containing the motivation for this study, followed by the aims and objectives. The researcher also explains the research design and research method that were used in this study. The measures to ensure rigour and the ethical considerations are also addressed in this chapter.

1.12.2 Chapter 2: Literature review

Chapter 2 consists of a literature review that discusses the available evidence and highlights the shortcomings in the available literature with regard to perceptions of RNs'/RMs' skills required to perform follow-up assessments on preterm in well-baby clinics after discharge from hospitals.

1.12.3 Chapter 3: Manuscript

This chapter includes the manuscript titled: "Professional nurses' perceptions of skills required for preterm infant assessment", prepared for submission to the *Journal of Perinatal & Neonatal Nursing*. The manuscript consists of the following sections: abstract, background, methods, results, discussions, conclusion as well as funding and conflict of interest. The researcher followed the instructions for authors as provided by the journal concerned (Annexure G). The researcher inserted tables as part of the text in the dissertation for logical discussion and will be sent as requested by the author instructions with submission. The researcher adhered to the text style as specified in the author instructions, hence the format of this chapter differs from the rest of the dissertation. The reference style is also different, as the specific journal's author instructions state that references should be done according to the Vancouver system, implying that references should be numbered consecutively as they appear in the text, using superscript Arabic numerals after punctuation.

1.12.4 Chapter 4: Conclusions, recommendations and limitations

This chapter provides detailed conclusions on the findings and discusses related recommendations for future research, education and clinical practice.

1.12.5 Conclusion

In the first chapter of this dissertation, an overview of the research topic was provided by identifying the “gap” in the literature and the well-established research pertaining to the assessment of preterm infants by nurses/midwives at well-baby clinics after discharge from hospitals. The researcher also included the motivation for this research, explained the methods used to conduct this study, as well as the role of the research team. Lastly, the structure of this dissertation was provided.

The next chapter will address the literature review pertaining to the assessment of preterm infants at well-baby clinics.

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CHAPTER 2: LITERATURE OVERVIEW

In this chapter, the literature explored for conducting this study will be discussed. A thorough literature review was done to critically appraise the existing knowledge base and to get an in-depth understanding of the research topic. The literature review showed that the research topic chosen will contribute to the understanding and knowledge of the field (Bothma *et al.* 2010:63). The strategy used to get reliable primary and secondary sources was by means of electronic searches and books related to topic.

2.1 Preterm mortality rates

Preterm birth is the most important single determinant of an adverse infant outcome in terms of probability of survival and quality of life (Enkin *et al.*, 2000:347; Newnam & Parrott, 2013). Out of 15 million babies born prematurely globally, 84 000 preterm births occurred in South Africa (Mongale, 2012). That leaves South Africa with more than 14.6% of premature births (UNICEF, 2004). South Africa ranked 24th out of 184 countries for new born deaths due to complications from premature births (Mongale, 2012). An infant born before 37 weeks gestation is regarded as being preterm (Lubbe, 2008:23; WHO, 2013). Prematurity can further be classified according to the weight of the infant at birth (Lubbe, 2008:23; Purdy & Melwak, 2012:221).

Table 2-1: Classification of infants according to birth weight

DEFINITION	BIRTH WEIGHT
Low birth weight	1500-2500g
Very low birth weight	<1500g
Extremely low birth weight	<1000g

To progress towards attaining the fourth Millennium Development Goal (MDG) addressing child survival by 2015 and beyond, urgent actions are needed to address the estimated 15 million babies born too early. This is the case because preterm birth rates are increasing each year (refer to figure 2.1 extracted from the Born Too Soon Report 2012) and 40% of under five deaths occur among new-born infants (Howson *et al.*, 2012:2).

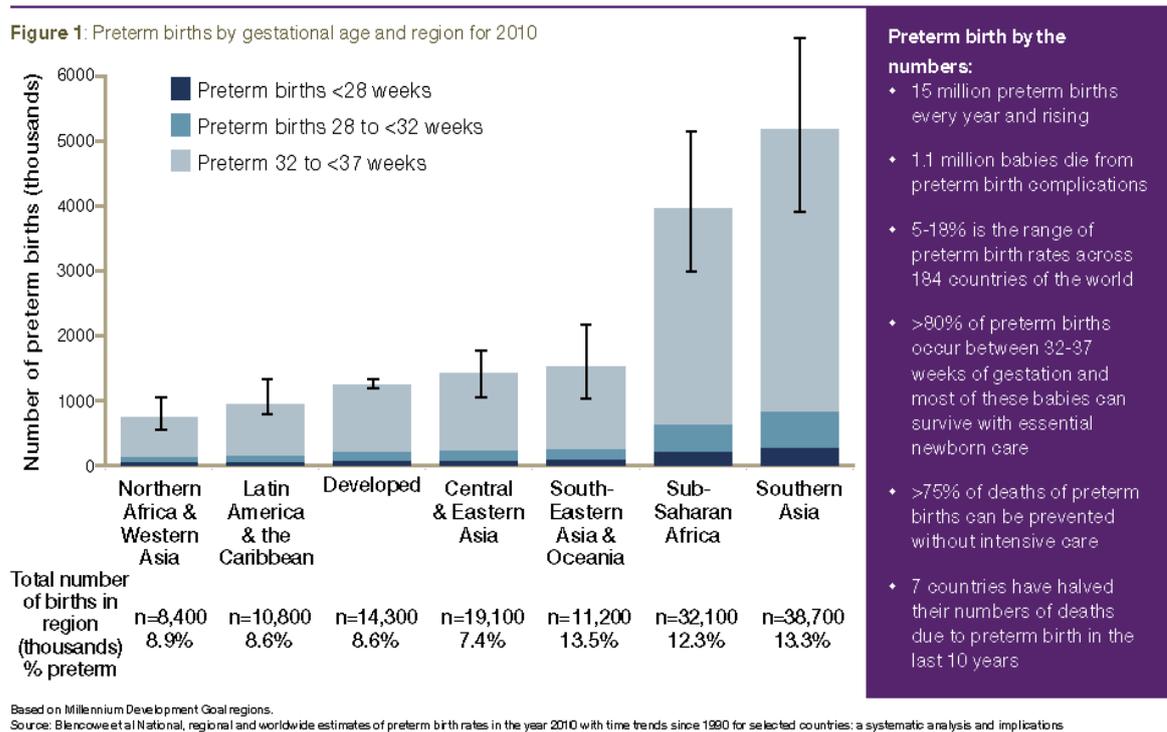


Figure 2-1: Preterm births by gestational age and region for 2010 (Howson *et al.*, 2012:2)

Prematurity is an important public health priority in high income countries (Howson *et al.*, 2012:2). However, until recently low and middle income countries did not prioritize preterm births as a health problem (Howson *et al.*, 2012:4). Only during 2009 the first global and regional rates of preterm births were published by the WHO (2013) and later estimates show that the global total number of preterm births is even higher than that reported in 2009 (Howson *et al.*, 2012:5).

2.2 Implications and survival of preterm infants

Over the last few decades the survival rates of premature infants improved dramatically due to enhancement in technological, pharmacological and other treatment interventions. This survival rates have been published by March of Dimes (Danielsson, 2014) and is presented in Table 2-2

Table 2-2: Survival rates of preterm infants (Danielsson, 2014)

Length of Pregnancy	Likelihood of Survival
23 weeks	17%
24 weeks	39%
25 weeks	50%
26 weeks	80%
27 weeks	90%
28-31 weeks	90-95%
32-33 weeks	95%
34+ weeks	Almost as likely as a full-term baby

Close neonatal–obstetric collaboration, better understanding of neonatal physiology, pathophysiology and management of neonatal problems, technological advances in neonatal care and the concern of paediatricians to enhance the intact survival of new-born infants have contributed to the increased survival rate of high risk new-borns (Pandit *et al.*, 2012:218). These improvements have been most dramatic among infants born with extremely low birth weights and at extremes of viability (Pandit *et al.*, 2012:218), however, the incidence of chronic morbidities and adverse outcomes in survivors continues to be high (Pandit *et al.*, 2012:218).

The implications of being born too soon extend beyond the neonatal period throughout life (Howson *et al.*, 2012:13). The preterm infant might face greater risks of serious health problems, including cerebral palsy, intellectual impairment, chronic lung disease and vision and hearing loss. At the Neonatal Nurse Association of South Africa (NNASA) Annual Conference in 2011, it was stated that care for the preterm infants, including immunisations and ongoing monitoring of and support for mothers are interventions reducing neonatal mortality (Anon, 2011:53). The quality of perinatal care and long term outcomes of the preterm infant, including follow-up care, can improve in future (Roze & Breart, 2004:2). This emphasizes the need for effective postnatal services for preterm infants, as stated by the "Born Too Soon Report" of 2012 (Howson *et al.*, 2012:5).

2.3 Importance of follow-up assessments after discharge

Preterm infants have a significantly higher risk for hospital readmissions following discharge. However, improved discharge planning and parent teaching to promote discharge readiness, as well as successful transition to primary care, could help to reduce this level of health care utilization and the expenses incurred thereby (Newnam & Parrott, 2013:96). Furthermore, proper assessment contributes to the prevention of hospital readmissions and to address neurodevelopmental and physical issues (Newnam & Parrott, 2013:96).

There is a common misperception that high risk follow-up care mainly concerns detection and management of neurosensory disability, but growth failure and ongoing illnesses are equally important issues during the preterm follow-up assessments (Kumar *et al.*, 2008:3). According to Dorling and Field (2006:151) follow-up assessments play a very important role to ensure continuity of care; early identification of specific problems; reviewing of the infant's development and then liaising with appropriate therapist(s) in cases where problems are identified.

2.4 Ideal times for conducting follow-up assessments

The ideal infant age for follow-up assessments is determined by the purpose of follow-up, the corrected age of the preterm infant, as well as the risk period identified for the specific preterm infant (Vohr *et al.*, 2003:334). Timing of the follow-up visits for clinical purposes are largely driven by the clinical needs of the specific preterm infant (Dorling & Field, 2006:153). The March of Dimes Report of 2010 suggested that the nurse should conduct follow-up assessments of the preterm infant every one to two weeks until the infant is medically stable and the family and the infant have adapted to the home environment (Blackwell-Sachs & Blackburn, 2010:48). According to Dorling and Field (2006:153) follow-up visits should also continue until an accurate picture of the infant's health status can be obtained, and in general this means following up until the approximate corrected age of two years. Various international institutions follow a schedule to ensure adequate follow-up visits. The National Initiative for Children's Healthcare Quality (NICHQ) suggested follow-up visits at one, two six and 12 months (NICHQ, 2012). This correlates with the recommendations made by Gauer *et al.* (2014:246) who advised follow-up assessments at 24 to 48 hours after discharge, one, two, four, six, nine-12 months. Kumar *et al.* (2008:9) suggested an ideal schedule with minimum visits (as described in Table 2-3) should be followed. The number of visits should be increased if ongoing illnesses have been identified.

Table 2-3: Follow-up schedule for assessments of preterm infants (Kumar *et al.*, 2008:9)

Cohort	Schedule for follow-up
Infants with birth weight <1800g and gestation <35 weeks	<ul style="list-style-type: none"> • 3-7 days after discharge: check if the infant has adjusted well in the home environment. • Continue two-weekly until weight of 3kg has been attained. • Repeat follow-up visits at 3, 6, 9,12 and 18 months corrected age • Then every six months until age of eight years.
All other at risk infants	<ul style="list-style-type: none"> • 2 weeks after discharge • 6,10,14 weeks postnatal age • 3, 6, 9, 12 and 18 months corrected age • Then every six months until age of eight years.

The above mentioned schedule fits well into the South African context where well-baby assessments are suggested on day three after discharge, and again at six, 10 and 14 weeks during immunisations and at six, nine and 18 months. There is, however, no standard for the premature infant currently in South-Africa and thus no guidelines to follow to ensure that preterm infants are followed up appropriately. From the literature it is clear that follow-up is essential (Kumar *et al.*, 2008:3; Newnam & Parrott, 2013:96), however the question that arises is who should conduct these assessments and what has to be assessed during preterm infant follow-up assessments in the well-baby clinic environment?

2.5 Aspects of a follow-up assessment protocol

Literature has been explored to determine the content of a follow-up protocol for preterm infants. Various categories to be included in a comprehensive follow-up protocol were identified (Vohr *et al.*, 2003:335; Kumar *et al.*, 2008:3) including socio-economic status, family resources, growth, neurological status, gross motor function, developmental status, behaviour and language. Stronkhorst (2012) has further shown that in the case of infants with complex health needs, parental needs which should be addressed during follow-up sessions include the needs for information, parental support, professional support, self-confidence for providing infant care, social support and the need for normalizing routines. In addition Blackwell- Sachs

and Blackburn (2010:48) identified infants' needs as part of follow-up assessments. Table 2-4 provides a graph of the needs to be addressed during follow-up assessments of preterm infant, Part A will discuss the parental information needed and Part B will focus more on the specific factors to assess in the preterm infant

Table 2-4: Needs to be addressed during follow-up assessments of preterm infants (LaHood & Bryant, 2007:1161; Blackwell-Sachs & Blackburn, 2010:48)

Part A	Parents should be provided with the following information:
Post discharge issues for parents and parents' education	<ul style="list-style-type: none"> • The ability to care for the infant • The impact of the infant on the family • The infant's vulnerability • Role expectations • Physical and emotional tolls • The infant's expected long term outcome and implications thereof • Signs and symptoms of postpartum depression
Recommendations for transition to home and a home care plan	<ul style="list-style-type: none"> • How to provide preterm infant care consistently • How to provide structure to the infant's day • Pacing of caregiving using the infant's cues • Assisting the infant during transition periods • Providing a quiet, soothing environment • Avoiding overstimulation • Support for developmental issues
Sleep and wake patterns	<ul style="list-style-type: none"> • Development of a preterm infant's sleep pattern at home is unpredictable and that sleep patterns can differ, sleep patterns and sleep routine need to be discussed
Sudden Infant Death Syndrome (SIDS)	<ul style="list-style-type: none"> • Among preterm and low birth weight infants, the risk of SIDS is at least 3-4 times higher than for term infants, the risk increases as the gestational age decreases

Part A	Parents should be provided with the following information:
	<ul style="list-style-type: none"> • When preterm infants are positioned prone, the SIDS risk can be 85% greater than for full-term infants
Gastrointestinal support and education	<ul style="list-style-type: none"> • Preterm infants tend to get over colic at about three months corrected age, symptoms and treatment of colic need to be explained • Interventions how to prevent anxiety and baby shaken syndrome due to crying and colic • Signs and symptoms of regurgitation and reflux as well as treatment thereof
Feeding	<ul style="list-style-type: none"> • Infant feeding behaviours and the interpretation thereof • Managing the infant's evolving feeding process • When to introduce solids
Immunizations	<ul style="list-style-type: none"> • When to start immunizations and where to go • Immunizations should begin when infants reach two months chronological age, regardless of whether they're hospitalized or discharged • The schedule and what can be expected needs to be explained
Growth	<ul style="list-style-type: none"> • Growth-restriction is normal after discharge of the preterm infant • Very low birth weight infants may not achieve weight and length comparable to term infants until well into childhood or adolescence • Premature infants often have growth spurts between 36-50 weeks and again at 6 to 9 months of age • Preterm infant growth can be graphed on standard growth charts by adjusting the age during the first 2 years • Information regarding factors that can influence growth: <ul style="list-style-type: none"> • Gestational age • Birth weight • Severity of neonatal illnesses

Part A	Parents should be provided with the following information:
	<ul style="list-style-type: none"> • Caloric intake • Chronic illness • Environmental factors in the home • Heredity.
Anaemia	<ul style="list-style-type: none"> • All infants experience physiologic anaemia of infancy in the first 2-4 months after birth • Term infants reach their lowest haemoglobin level at 8-12 weeks of age
Infections	<ul style="list-style-type: none"> • Compared to term infants, preterm infants are at greater risk for infections and need to be assessed, including: <ul style="list-style-type: none"> • Upper- and lower- respiratory tract infections such as bronchitis and pneumonia • Gastrointestinal infections • Acute and chronic otitis media
Hearing, speech and language	<ul style="list-style-type: none"> • Preterm infants are at risk for conductive and sensory neural hearing loss and for expressive and receptive language delays • 2-4% of low birth weight infants have hearing impairments severe enough to require hearing aids • Hearing screening is important and needs to be done regularly
Vision	<ul style="list-style-type: none"> • Preterm infants are at risk for 2 types of vision problems and these need to be assessed: <ul style="list-style-type: none"> • Structural, including retinopathy of prematurity (ROP), strabismus, amblyopia, and refractive errors • Functional, including vision processing alterations

Neurobehavioral and developmental concerns	<ul style="list-style-type: none">• Risk factors to be assessed :<ul style="list-style-type: none">• Transient dystonia• Cerebral palsy• Progressive hydrocephalus• Chronic seizures• Developmental and cognitive delays• School and learning problems
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The National Institute of Child Health and Human Development (NICHD) research networks provided tests and tools available for use during follow-up assessments of preterm infants. These tools include 11 assessment domains to be included or assessed during follow-up sessions and Table 2-5 provides an overview of the different tools available for assessment of each domain, as well as information about each tool assessed. Although these tools and tests are comprehensive, they do not seem to be suitable for use in the South African context, where follow-up assessments are primarily done in well-baby clinics, by registered nurses/midwives.

Table 2-5: The National Institute of Child Health and Human Development Research Network Follow-up Study Assessments (Vohr et al., 2003:335)

Assessment area/domain	Test/tool used	Description	Setting	Time to complete	Age used	Performed by
Socioeconomic status	Hollingshead	Survey designed to measure social status of an individual based on four domains: marital status, retired/employed, educational attainment and occupational prestige.	Clinical and research	Not Specified	Not Applicable	Guardians of all children assessed
Growth	Weight, length, head circumference – standard tools					

Assessment area/domain	Test/tool used	Description	Setting	Time to complete	Age used	Performed by
Neurological examination	Amiel-Tison (Gosselin <i>et al.</i> , 2005)	Part of three different instruments testing neuro-maturative framework	Clinical and research	Five minutes	Preterm infants need to be 40 weeks corrected age.	Done by trained examiners.
Gross motor function	Palisano GMC (Russell <i>et al.</i> , 2003)	A five level classification that identifies children with cerebral palsy based on the child's current gross motor abilities	Clinical Setting	Five minutes if familiar with test, if unfamiliar it can take 15-20 minutes.	Contains four age bands (under two years, two-four years, four-six years, six – 12 years)	Performed by physical therapists, occupational therapists, physicians and others familiar with movement abilities in children

Assessment area/domain	Test/tool used	Description	Setting	Time to complete	Age used	Performed by
Development	Bayley Scales of Development and Neonatal Behaviour Assessment scale (Bayley, 2005; Brazelton & Nugent, 2011)	Examine all the factors of a young child's development	Clinical setting	Take approximately 30-90 minutes	One to 42 months old	Performed by physiotherapists, early interventionists and early childhood specialists
	Neonatal Behaviour Assessment Scale	A guide to understand new-borns' language	Clinical and research setting	Takes approximately 20-30 minutes	Infants up to two months old	Performed if certified
Motor Skills	Peabody Receptive Scores (Rhonda & Fewell, 2000)	Assess motor skills of children	Clinical setting	Takes approximately 45-60 minutes	Birth to five years	Performed by MA – psychologists or BA-occupational therapists

Assessment area/domain	Test/tool used	Description	Setting	Time to complete	Age used	Performed by
Behaviour	Brief Infant Toddler Social-Emotional Assessments (Carter, 2006)	Brief comprehensive screening instrument to evaluate social and emotional behaviour	Clinical setting	Takes approximately 7-10 minutes	12 – 36 months	Performed by M in Psychology, education, occupational, social or field closely intended to use for assessment or certified by a full active membership in a professional organization or degree to practise in the healthcare field or formal training specific to assessing children or infants' development

These tests are comprehensive, focused on details of selected domains of infant development and require extensive training. Therefore, only certain healthcare professionals will be able to perform most of the tests and none of the tests has a screening function, as is needed within the South African context.

2.5 Professionals to conduct follow-up assessments of preterm infants

From the moment of birth, skilled nursing care is essential for survival and for optimizing outcomes of preterm infants (Blackwell-Sachs & Blackburn, 2010:66). The spectrum of healthcare professionals, required as part of a clinical follow-up program to ensure proper assessments, would ideally be the same as the multidisciplinary team needed to support a family with a child who has been diagnosed/identified to have developmental problems (Dorling & Field, 2006:153). This was correlated by Sherman (2013) who stated that multidisciplinary evaluations need to be reinforced by medical specialists including the potential need for evaluations by gastroenterologists, nutritionists, neurologists, physical therapists, occupational therapists and speech therapists (Sherman, 2013). The role of each team member is described in the international literature (mainly referring to international roles) and is summarized in Table 2-6 (Kumar *et al.*, 2008:4) to establish a clear picture of the team involvement in preterm infant follow-up.

Table 2-6: Healthcare professionals required for providing follow-up programs and their roles, adapted from (Kumar *et al.*, 2008:4; Sherman, 2013)

Team Member	Roles
Paediatricians	Establish the first contact Assess growth and screening for identifying developmental delays. Manage concurrent illnesses.
Child Psychologist	Perform formal neurodevelopmental assessments. Screen for behavioural problems and manage such identified issues.
Paediatric neurologist	Long term management of neurological conditions such as seizures.

Team Member	Roles
Ophthalmologist	Follow-up of retinopathy of prematurity screening/treatment. Assessment of visual acuity and screening for problems such as strabismus, nystagmus, refractory errors.
Otorhinolaryngologist	Hearing assessments. Managing of any hearing impairment.
Dietician	Dietary advice regarding complementary feeding. Management of infants with failure to thrive and those with special needs.
Medical social worker	To take care of the social issues to help improve follow-up rates.
Physiotherapist	Assessment and grading of muscle tone and power. Plan an appropriate training program for each infant with tone abnormalities. Teach the parents the importance of continuing exercises at home.
Speech/occupational therapist	Rehabilitation of infants with impairments/disabilities.

The role of the registered nurse/midwife as part of the multi-disciplinary team concerning follow-up assessments, is clearly mentioned in international literature (Kelly, 2006:297; Blackwell-Sachs & Blackburn, 2010:66; Purdy & Melwak, 2012:221). The role of the registered nurse/midwife is not included in above table but is shown in table 2-4. However, Dorling & Field (2006:153) also stated that a wide range of professionals, including therapists and clinicians, is not always necessary, although they suggested follow-up services to be provided by a neonatal team and a nurse trained in preterm developmental assessments.

Blackwell-Sachs and Blackburn (2010:66) also stated that follow-up assessment resorts within the scope of practice of the registered nurse/midwife, since the international roles of nurses are stated as nurses being:

- vital members of the NICU team, often leading the discharge management efforts (Blackwell-Sachs & Blackburn, 2010:66),
- advocates for family-centred care and parental involvement as members of the health care team (Blackwell-Sachs & Blackburn, 2010:66),
- essential providers across all sites for preterm infants and their families (Blackwell-Sachs & Blackburn, 2010:66).

Nurses should be skilled in performing preterm assessments and the early identification of risk factors so that they can assist these parents to access specialised post discharge health care services and community resources (Purdy & Melwak, 2012:221). Nurses could identify obstacles, which might prevent further risk of failure to thrive and could contribute to poor mental and motor development (Purdy & Melwak, 2012:221). Primary health care nurses and neonatologists need to be partners in providing care to the preterm infants (Kelly, 2006:293). Good collaboration and communication of an infant's hospital treatment discharge planning and follow-up requirements, are crucial for the success of the survival of the infant after discharge from hospital (Kelly, 2006:299).

When moving the focus to the South African context, the registered nurse/midwife therefore also seems to be the most appropriate healthcare professional to provide follow-up services to preterm infant's context due to their early and frequent contact with these infants. Preterm infants in South Africa are often born in rural areas, or in highly specialised hospitals, but then return home to rural environments. They might be unable to return to the referral/tertiary hospital, due to practical issues such as distance from home to hospital, transport costs and availability. These aspects could influence the outcome of the preterm infants (Purdy & Melwak, 2012:224) who have to attend their nearest well-baby clinics for follow-up assessments. Clinics in rural areas and some community clinics are staffed by professional nurses in South Africa, with or without the regular availability of medical doctors, but usually without the availability of specialised medical services such as the service of paediatricians.

The nursing role is further emphasised by the regulations relating to the scope of practice of persons who are registered in terms of the Nursing Act, 2005, referring to regulations R 2598 which states the registered nurse's scope as provided in Table 2-7: The patient refers to the preterm infant in the well-baby clinic. The scope of practice for the registered midwife entails more procedures but even the registered nurse's scope of practise includes the basic needs needed for follow-up care in the well-baby clinics. In South Africa, upon successful completion of the basic course to become a registered nurse (South African Nursing Council, 1985), a

person registers with the SANC as a nurse (general, psychiatric and community) and a midwife. There are other avenues by which persons can become registered general nurses only and thereafter complete a midwifery course. Thus in South Africa all registered midwives (RMs) are registered general nurses (RNs), but not all RNs are RMs

Table 2-7: Registered nurses' scope of (Act no 33 of 2005)

The diagnosing of a health needs and the prescribing, provision and execution of a nursing regime to meet the needs of a patient
The execution of a programme of treatment or medication prescribed by a registered person for a patient.
The treatment and care of and the administration of medication to a patient, including the monitoring of the patient’s vital signs and of his reaction to disease conditions, trauma, stress, anxiety, medication and treatment.
The prevention of disease and promotion of health.
The promotion of exercise with the view of rehabilitation of the patient.
The supervision over and maintenance of fluid and electrolyte balance of the patient.
The facilitation of sensory functions in the patient.
The facilitation of the maintenance of nutrition in the patient.
The facilitation of the attainment of optimum health for the individual, the family and the community.
The co-ordination of the health care regimes provided for the patient by other categories of health personnel.
The provision of effective advocacy to enable the patient to obtain the health care needed.

Some of the professional nurses/midwives working in well baby clinics are trained as primary healthcare (PHC) nurses, implying that they should be able to assess and attend to preterm infants as well. However, limited time is spent on infant assessments during this training, according to curricula from the University of KwaZulu-Natal (2014) and the North-West University (2014). Some of these nurses/midwives are trained as advanced midwives, trained or

experienced as NICU nurses or have experience in performing follow-up assessments of high risk infants. However, this is rarely the case.

The only document/tool available for infant follow-up assessment for use in the South African context is the Road to Health booklet (Addendum N). However, it does not make provision specifically for preterm infant assessments. No dedicated growth chart or milestones are specified for preterm infants; and education of parents concerning the expectations of preterm infants is not addressed. This leads to the question of the registered nurses'/midwives' perceptions regarding skills of assessing preterm infants after discharge, as part of their clinical role in the well-baby clinics.

2.6 Conclusion

The importance of preterm infants' follow-up assessments cannot be excluded from the health and well-being of the preterm infant after hospital discharge. An appropriate follow-up program would help in early detection of problems and pave the way for implementing early interventions (Kumar *et al.*, 2008:3). This service is provided by a multi-disciplinary team, but in the South African context it can also be provided by registered nurses who might not be trained in neonatal care or newborn assessments, since primary care training attributes limited time and attention to infant assessments and to preterm follow-up interventions. In addition the assessment tools available in the PHC clinic might not be suitable for the preterm population. This could cause risks of missing danger signs and symptoms during preterm assessments and failure to treat and/or refer preterm infants for more specialised care timeously.

The next section will address the methodology adopted in this research project to reach the research aim, namely: to determine the perceptions of registered nurses/midwives working in clinics regarding their skills to conduct follow-up assessments of preterm infants. This will be presented in article format according to the author guidelines as provided by the Journal of perinatal and Neonatal Nursing and therefore the style and referencing will be different from the rest of the chapters in this dissertation.

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CHAPTER 3 MANUSCRIPT PREPARED FOR SUBMISSION TO THE JOURNAL OF PERINATAL AND NEONATAL NURSING

Chapter three will contain the manuscript to be submitted to the Journal of Perinatal and Neonatal Nursing according to the requirements of the journal (Addendum L).

Permission to submit this article for examination purposes.

I, the supervisor, hereby declare that the research done by D. Cordewener reflects her input and the effort on this topic.

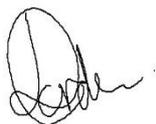
I hereby grant permission that she may submit this article for publication for examination in partial fulfilment of the requirements for the degree Magister Curationis.



Supervisor: Welma Lubbe Date:

Declaration by the researcher

I hereby declare that this research 'Professional nurses perceptions of skills required for preterm infant assessment' is my own work and that all sources have been fully referenced and acknowledged.



D. Cordewener

26 February 2016

Date:

Declaration by the language editor

I hereby confirm that I have language edited the article titled 'Professional nurses perceptions of skills required for preterm infant assessment'.

Valerie Janet Ehlers

Nurse Consultant and Researcher

Emeritus Professor and Research Fellow: University of South Africa

Associate Editor: International Nursing Review

(B Soc Sc, Honours B Soc Sc, BA Cur, Honours BA Cur, MA Cur, D Lit et Phil)

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28 October 2015	I hereby certify that I have edited the master's dissertation of Ms D Cordewener entitled: Professional nurses' perceptions of skills required for preterm infant assessment
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Thank you

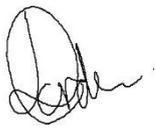


Prof VJ Ehlers

To the journal

“I have participated sufficiently in the conception and design of this work, the data analysis (when applicable), and the writing of this article to take public responsibility for it. I have reviewed the final version of the article and approve it for submission for possible publication”.

Authors:



D Cordewener



W Lubbe

The Editor

Journal of Perinatal and Neonatal Nursing

South Africa 2520

3 November 2015

Dear Editor

SUBMISSION OF ARTICLE FOR PUBLICATION IN JOURNAL OF PERINATAL AND NEONATAL NURSING

Please find attached our manuscript entitled: "Professionals nurses perception of skills required for preterm infant assessment".

The authors are D Cordewener and W Lubbe, both of whom have read and approved the paper. Dr Welma Lubbe will be responsible for correspondence.

D Cordewener conceptualised, drafted and designed the manuscript as well as its technical preparation for submission. W Lubbe was responsible for co-writing and critical review of the manuscript. Both authors read and approved the final manuscript.

The paper discusses the current literature available on the follow-up assessments of the preterm infant as well as the skills and the needs identified to do these assessments. We have chosen to submit the paper as a topic for debate to your journal because you provide open access to current, disputed issues in the field of neonatology.

We believe that our findings deserve to reach other researchers interested in providing insight to the current situation regarding assessments on the preterm infants by offering insight and perceptions of those currently assessing the infants in the primary health care setting. This will assist in improving the nursing field and training to enhance better quality care for a highly specialized area.

Please note that two tables has been prepared for inclusion as part of the manuscript and may also be included as online Supplementary Material, should the paper be accepted.

Suggested reviewers for this field include – Mev Ida Pretorius – M.Cur, Lecturer, B.Cur, University of Johannesburg, South Africa, email: alidap@uj.ac.za Tel: 011 559 6783

Prof Christa van der Walt – D.Cur, Faculty Humanities: School of Nursing Sciences, North- West University, Potchefstroom Campus, South Africa, email: christa.vanderwalt2@gmail.com. Tel: 018 299 1876

We hope that you will find our contribution and its implications for the clinical setting as interesting as we do, and that you will send the paper out for review. We look forward to your reply.

Yours sincerely



Dr Welma Lubbe

School of Nursing Science, INSINQ, North-West University

Professional nurses' perceptions of skills required for performing preterm infants' follow-up assessments

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ABSTRACT

Improved perinatal and neonatal care contributed to increased survival rates of preterm infants. However, the adverse outcomes associated with premature births continue to be high. The importance of nurses, working in the primary healthcare (PHC) settings, regarding the follow-up assessments, as well as the treatment and care of preterm infants, is well documented. However, these nurses' perceptions, regarding skills required to facilitate preterm assessments during follow-up visits, remain unclear. This qualitative explorative, descriptive study aimed to describe the professional nurses' perceptions of skills required to perform effective preterm infants' follow – up assessments. Purposive sampling was used and 13 semi-structured interviews were conducted. Themes identified from the interviews included the role of the professional nurse; the importance of preterm infant assessment; lack of skills and knowledge to conduct quality assessments in the well-baby clinics; formal and continuous development and training needs, as well as the absence of assessment tools and physical resources to deliver standardized assessments of the preterm infants after discharge from hospitals and finally, support and referral systems. This study also aimed to identify strategies and make recommendations for implementing follow-up assessments.

KEYWORDS

Follow-up assessments of preterm infants, management of preterm infants in South Africa, nurses' preterm infant assessment skills, nursing care of preterm infants

INTRODUCTION

In the neonatal intensive care unit (NICU) preterm infants are cared for by specially trained personnel. After discharge parents take over this caregiver role of preterm infants. These parents might require information, parental support, professional support, self-confidence in providing infant care, social support and the need for normalising life despite the additional responsibilities of caring for the preterm infant ¹.

Follow-up visits of the preterm infants should address these needs as well as the long-term outcomes preventing hospital readmissions ² and the early detection of developmental delays with subsequent timeous appropriate referrals. The importance of follow-up assessments is well documented, and nurses are the key service providers in South Africa who perform preterm infants' follow-up assessments. This study intended to explore and describe professional nurses' perceptions of skills required to perform effective preterm follow-up assessments, ensuring early detection of developmental delays, early appropriate referrals and improved outcomes for the preterm infants.

BACKGROUND

A total of 15 million babies are born prematurely globally per year of whom 84 000 were born in South Africa ³. That leaves the country with more than 14.6% preterm births annually ⁴; a rate similar to that of other developing countries including sub Saharan Africa with 12.3% and South Asia with 13.3% ⁵.

Despite a substantial improvement in neonatal survival rates, the incidence of chronic morbidities, adverse outcomes and increased risk of developmental delays continues to be high ^{6,7}. Preterm infants have a higher incidence of growth failure and on-going medical illnesses than babies born at full term ⁶. The risk for developmental delays significantly increases when preterm infants do not receive early intervention services, including proper follow-up assessments and care ⁶. Early intervention services, such as follow-up

assessments in the PHC clinics can identify early growth and developmental delays, provide support and appropriate interventions ⁶. According to Purdy & Melwak ⁸, nurses should be skilled in preterm assessments and identify potential risk factors early, to assist preterm infants' parents to access specialized post discharge health care services and community resources.

In South Africa, the nurse is usually responsible for conducting preterm infants' follow-up assessments. After discharge from hospital, the preterm infant returns to his/her home village/town and follow-up care is provided by nurses at well-baby clinics, forming part of the PHC services in South Africa. The follow-up assessment on the preterm infant needs specialized skills while registered nurses/midwives attending to these infants in well-baby clinics might only poses of general assessment skills. They are thus required to do such assessments and it is currently not clear what their perceptions are on such assessments skills.

METHOD

Research design

This study was qualitative, explorative, descriptive and contextual in nature and conducted in the Polokwane district, in the Limpopo Province in South Africa. The study's qualitative nature offered opportunities to uncover nurses'/midwives' perceptions about the skills required to assess preterm infants. The purpose of this study was to gain an understanding of this phenomenon. The researcher owns her own baby clinic and is familiar with the context of the research problem but entered without any knowledge about other nurses'/midwives' perceptions regarding preterm infants' follow-up assessments.

Sampling

Purposive sampling was used. The population comprised 18 nurses/midwives employed in both private and public sectors within the geographical area of Polokwane district. Data saturation was reached after five interviews, but eight more interviews were conducted to ensure that no new information emerged during these additional interviews, thus 13 out of the available participants were interviewed. The inclusion of both public and private sectors ensured a true picture of the research phenomenon by providing rich data. Table 1 presents details about the distribution of the participants and about the average number of preterm infants seen monthly at each clinic.

Preferred placement of Table 1 Distribution of participants

The inclusion criteria required each participant had to be:

- registered with the South African Nursing Council (SANC) as a nurse/midwife at the time of the study
- employed full time at a private or public well-baby clinic within the Polokwane district
- willing to give written, informed consent, and to participate in the study by being voice-recorded during the semi-structured interview
- able to communicate in Afrikaans or English and
- performing assessments of preterm infants during follow-up visits to the clinics.

Potential participants who met the inclusion criteria were informed about the research project by their organisational manager. All participants indicated their willingness to participate in the study by being interviewed individually. The first author contacted each potential participant, explained the purpose of the study, and provided a consent form. Completed consent forms were collected the following day, which provided a second opportunity to explain the research

and to clarify any uncertainties. An appointment for each interview was scheduled at a convenient time and place for the participant.

Data Collection

Consistent with the qualitative approach, data were gathered through audio recorded semi-structured individual interviews conducted by the first author. Scheduled interviews ensured adequate time, minimum interruptions and relaxed participants. A trial run interview was conducted with a professional nurse who met the inclusion criteria, to ensure the appropriate outcome. This interview was included in the study since no adaptations were required. Interviews were conducted over a three month period (June 2015-August 2015) and lasted approximately 30 minutes. Six open ended questions were asked, followed by probing questions, when necessary.

Preferred placement of Table 2 Semi-structured interview questions.

Questions followed each other ensuring a good flow of information. After every interview, each participant was thanked and the interviewer's contact details were provided in case any interviewee wanted to discuss issues. Field notes, containing observational, theoretical and methodological information, were compiled after every interview. (Annexure J)

Data Analysis

The audio recordings were transcribed by an experienced transcriber. Field-notes were typed and used to correlate specific aspects of the interviews. The researcher analysed the data using Tecsh' eight steps as described by Creswell⁹ The authors:

1. obtained a feeling for the complete data set by first reading through all the data and by writing down thoughts and facts as they emerged ⁹;
2. selected one transcript, tried to determine its fundamental meaning and wrote ideas that came to mind on the transcript ⁹;
3. repeated this process for a number of transcripts and then made a list of all the topics, grouping similar topics together. These topics were then fashioned into columns and arranged as main topics and supporting/additional topics ⁹;
4. compared this list with the data where the topics were abbreviated into codes. These codes were written in the relevant sections of the text. The researcher used this initial organising system to determine whether any new themes and codes emerged ⁹;
5. described the topics using the most expressive words, where after the topics were transformed them into themes ⁹;
6. took a final decision on the term to be used for each theme and arranged the codes in a logical order; Gathered the data for each theme in one place and performed an initial data analysis ⁹;
7. recoded the existing data where necessary ⁹;
8. produced a description of the themes for the data analysis ⁹;
9. requested an independent co-coder to enhance rigour. The co-coder used the same process and scheduled a meeting to discuss the results of the qualitative data analyses and to reach consensus regarding the main themes and the subthemes that emerged from the data. The agreed-upon final organisation of the themes and sub-themes (see discussion) were used to report, discuss and interpret the qualitative findings of the study.

Ethical considerations

Ethical approval was obtained from the North-West University Health Research Ethics Committee (Ethics number NWU-00039-15-A1). Permission to collect data in healthcare facilities was obtained from the institutions that participated in the study. Written voluntary consent was obtained from every participant after the purpose of the discussion and the need for audio recording had been explained. The interviewer assured participants about confidentiality and anonymity issues namely that no statement would be used in a way that would identify any specific participant.

FINDINGS

The following findings were obtained during the 13 semi-structured interviews. Six categories were identified which described the perceptions of nurses/midwives working in well-baby clinics in the Polokwane district, and being responsible for conducting preterm infants' follow-up assessments. These included: the role of the nurse/midwife when performing follow-up assessments of preterm infants; skills and knowledge regarding preterm infant follow-up assessments; training needs; tools and resources available to professional nurses/midwives and required during follow-up assessments; and support and referral systems required by nurses/midwives; strategies for effective preterm infant follow-up. Table 3 displays the themes from the findings.

Preferred placement of Table 3 Themes from findings:

Nurses' role in conducting preterm assessments in well-baby clinics

The professional nurses/midwives perceived their role in conducting follow-up preterm infants' assessments in the well-baby clinics as being important. These nurses/midwives can detect and manage various problems if proper preterm assessments are done. Quotes from the interviews that support these findings include:

“.....Playing an important role, but not as we would like to”

“.....definitely important role, being usually the first stop before the doctor....”...We encourage moms anddefinitely referrals....”

“early detection and diagnosis of any potential problems is key to prevention, okay, so in partnership obviously with the pediatrician.....the nurse should pay close attention to potential problems and listen well to what the mother says in order to assess the prem baby”.

“very, very, very important role, so grateful...”

Although professional nurses/midwives regarded preterm assessments as being important for detecting problems, the findings indicated that they perceived assessments to include measuring of height, weight, head circumference; immunizations, detection of hearing problems; assessment of eye development; milestones; nutritional and breastfeeding support; and problem detection and referrals.

“...take time to do proper assessment and those will be in terms of the baby’s development, nutritional status, development of hearing and vision...”

...“ you must assess them and give them immunisations and then again parent education...”

....” Assessment to the babies,the right weight and yes if we suspect abnormalities what we cannot treat here....we refer to the doctor for further management....”

Only one participant mentioned feeding as part of assessment, by saying...”assist the preterm baby, basically whatever if it’s on breast milk, or how the mom is feeding the baby...”

Perceptions of skills and knowledge

Participants shared similar perceptions regarding their current skills. The field notes also indicated that they were comfortable talking about this topic and discussing their skills and perceived needs.

After 13 out of the 18 participant's interviews had been done, the research question was answered and the perceptions regarding skills required for performing follow-up preterm infants' assessments; parent interaction skills; facilitating multidisciplinary collaboration and confidence.

....“ we need skill on how to immunise them...site of injection...”

...” you must assess them and give immunisations and then again, do what, do some parent education, also the parent must be educated how to take care of these babies....”

Only one interviewee mentioned that nothing specific is needed for performing preterm infants' assessments:

...” I won't say that we need something specificbut I do not know how to assess for problems...”

Out of the 13 interviews, 12 reflected that additional/specific/focussed skills were required to do preterm infants' assessments. Some professional nurses were uncomfortable, and did not have self-confidence to assess preterm infants. One participant mentioned that she was scared of assessing a preterm infant. This is surprising to the researcher as the scope of practice of the registered nurse/midwife shows that they can detect and refer problems. (Act no 33 of 2005)

...”to be honest, I am scared of the preterm infant.....”

The need for knowledge was identified concerning what needs to be assessed, milestones, growth and development, immunization routes and schedules and preterm infant feeding.

“.....Need to have knowledge of child’s developmental stages, their milestones, their immunisation schedule, their nutritional state and how to do proper assessments before you can refer...”

...“firstly skills to work with a growth chart that will be specific for a premature baby....’

...” we need to develop technical skills, you know, regarding assessment, what to assess, you know, the hearing and the sight and the heart problems and the possible feeding problems that they might have as well as, specifically for the preterm infant, I do not have any knowledge on that...’

Perception of training needs

Formal training

Seven of the 13 participants had general hospital training while two had additional exposure to neonatal intensive care units. They reflected that no training on the assessment of preterm infants during follow-up visits was provided but that it was really needed.

....”training was very basic...we didn’t go into the specific needs that they have...”

...”nothing specific that teaches us in the clinic...”

....“not that I can remember....only in the neonatal ICU, you know how to take care of them while they are still in hospital, not after they are discharged and gone home; and on assessments when they come in for the well-baby clinic, don’t remember that...”

...”truly speaking, I think we don’t have enough skill, because we never got training about...about them, about how to handle them...nothing, nothing at all.

...”the things we did in our training, we are not doing here...”

...”received the IMCI [integrated management of child illnesses] training, but I can’t say that I am confident with what I am doing, because once I received the training, I never worked with them, the preterm babies...”

Continued professional development training (CPD)

Needs for training, including in-service training or CPD training, could assist professional nurses/midwives to improve their skills. Medical representatives were resource persons for some interviewees.

...” or reps, like specifically rep is very clued up, so they are on my support system...”

...”need possible CPD courses and maybe interviews, or uhm...what do you say...Uhm...meeting with people that are working with preterm babies, so that you can gain a little bit of knowledge...”

...”we need in-service training about the prem babies so that you can be knowledgeable and know how to help them and be confident about helping them ...”

...”training and continuous workshops are needed...”

...”I am still needing training mam, they must just, the department must just take us to training or the service training,....or to the neonatal clinics....because we do not have enough qualification, they must take us to training..”

...”I think we really do need something extra, ‘cause I think we need to be trained..”

Tools and resource needs

The professional nurses felt that assessment tools and available physical resources were inadequate to do proper assessments of preterm infants. Basic physical resources were lacking in five of the clinics, where only a scale was available and no measuring tape or other assessment equipment.

“ We only have the scale, we don't even see how the child is progressing because we do not have the resources....we only have the scale and the road to health chart,.... with no specific area where they talk about the preterm infant....”

Preterm infants did not have written discharge plans which accompanied them to the follow-up clinics and sometimes even the baby's weight at discharge from hospital was unknown, according to 12 out of the 13 interviewees.

...”very few actually have discharge planning that I have been in contact with, one or two had a bit of a meal...a diet plan, uhm, being on ... and that sort of thing, but very little have other plans that they come with....”

....“they just come in, we don't have a borderline where the baby is coming from and stuff...”

...“Not much discharge planning, only given to the mom...”

The Road to Health charts were provided to the parents of new-born infants when the babies were discharged from hospitals. The booklet is a tool specifying the basic immunisation schedule as well as milestones for full term infants. The professional nurses/midwives felt that the booklet needed information about and a special growth chart for preterm infants. Only one interviewee deemed it to be adequate ...”because that is what we use and know...’

The findings concerning the Road to Health chart included:

....”ag you know, a growth chart specifically for preterm babies, so if they were born 900kg, something that will follow them there and then obviously we can transfer it over to the normal chart later on....”

....”we do need adjustments, because of their gestational age and everything....”

...”I correct it and then you sort of do another growth on, with a different colour, and then you show where the baby would have been...”

...“not even sufficient...”

...“I think with the preterm we do need to have adjustments, because of their gestational age and everything....”

...“it is an important tool for us...but it is not also giving all the information because there is no specific area they talk about the preterm babies...”

...“it does not even have a page specific for them...the space to record anything about the preterm babies....”

Checklists will assist in the assessment as well as information leaflets to parents.

.....”and also guidelines onto what the baby at that age should be drinking...and the type of feeding...”

...”guidelines from a paediatrician on what to look for, what type of assessments to do...to keep the mom informed...”

Support and referral systems

The need for support, specifically for effective referrals, would enable nurses/midwives to detect problems and to refer preterm babies with confidence to relevant professionals.

...”yes,..the paed [paediatricians] and maybe the reps [medical representatives]....”

...”We will refer to paed when problem is detected....”

...”Refer to babygym...She will do some exercises with the baby...”

...”We need to sit with our peads [paediatricians] where they can give us some information and background on prematurity, and how to work with them....”

The findings revealed that nurses/midwives from the private and public sectors had similar perceptions regarding skills required for performing preterm infant follow-up assessments.

Both private and public sectors' participants perceived their skills to be inadequate and verbalised a need for training to perform preterm infant follow-up assessments effectively. Physical resources were better in the private sector than in the public sector.

Strategies to perform effective follow-up assessments

Participants recommended strategies for enhancing their preterm infant assessments, such as exposure to preterm assessments, working with the multi-disciplinary team and to be included in discussions.

....” it comes from a paediatrician on what to look for...”

....” person who is working with the preterm baby....”

...”, what kind of information that the mother were given that we'll take from there....”

...’and also guidelines onto... the type of feeding...”

DISCUSSION

Professional nurses/midwives in this study described their own perceptions and experiences regarding their current skills to perform preterm infant assessments in the well-baby clinics and some made suggestions that could improve preterm infants' follow-up assessments.

The nurse/midwife is usually the leader of the multi-disciplinary team and sometimes the only team member responsible for or available to perform follow-up assessments^{8,10,11}. Literature confirm that follow-up assessments should include assessments of growth, weight, milestone development, hearing and visual screening as well as feeding^{7,10}. Assessment of growth and ongoing illnesses are equally important to assess during the follow-up assessment of the preterm infant^{7,12}. The importance of the role of the nurse in PHC settings, providing infant follow-up assessments and care has been well documented^{8,11,13} and the participants in the current study felt confident assessing full term infants. However, in the case of preterm infant

assessments, their self- confidence was low because they lacked knowledge, experience and skills, similar to other researchers' findings ¹⁴. Detecting and referring problems during assessments are key functions of nurses/midwives as reported by the participants in the current study and by other researchers ⁸. However, this was not feasible due to the lack of skills, reported during 12 out of 13 interviews, implying that they did not know how to recognise and/or refer problems. This was a unique finding from the participant and not supported by literature. The current study's findings are consistent with those of other researchers, including the March of Dimes report 2010 indicating that parental needs should identified and included in preterm infants' follow-up assessments^{1,10}. The current study's participants were willing to undergo training to improve their skills. The reviewed literature confirmed the perception that rendering quality follow-up assessments and improving competencies during the follow-up care of preterm infants required appropriate training ^{5,14}. The enhanced quality of post discharge care could improve the long term outcomes of preterm infants in future¹⁵.

Professional nurses, working in the PHC setting in South Africa, are responsible for assessing preterm infants in the well-baby clinics. They have to conduct these preterm assessments even though no standardised tool, specifically designed for preterm infants, is availability to guide their assessments.

The Road to Health chart is currently used in South Africa as the only standardised follow-up assessment tool for all infants ¹⁶, but the participants perceived it to focus on healthy full term infants without accommodating the preterm infants' specific needs. This finding is unique to the South African context, since literature reports indicated that other developing countries have tools for this population and in developed countries various preterm infant follow-up assessment protocols are used during standardized assessments ^{7,17,18}. The unavailability of tools and resources make it difficult for the professional nurses/midwives to render quality assessments and to refer identified problems to the multi-disciplinary team.

Discharge planning and follow-up requirements are crucial for the success of the preterm infants' care after discharge from hospital¹³. However, these were usually unavailable to the nurses/midwives who participated in the current study. Discharge planning is a very important tool to use while conducting follow-up assessments², but is not currently used in well-baby clinics, emphasizing the support and referral systems required for performing optimum follow-up preterm infants' assessments^{2,8}.

Participant recommended more strategies such as being part of a multi-disciplinary team, participating in discussions concerning treatment, and to be capable of referring detected problems early. This correlates with Kumar's⁷ suggestion that all required personnel should be available under one roof, at a place earmarked for follow up care. Kelly¹³ also stated that PHC nurses and neonatologist should be partners in providing care to the preterm infants. Good communication is crucial for the success of the survival of the infant after discharge from hospital¹³.

LIMITATIONS

Study limitations include the use of a small sample of 13 participants and only included a selected geographical area, namely the Polokwane district of the Limpopo Province. However, the information obtained could guide future research.

RECOMMENDATIONS

Registered nurses/midwives need to be up to date with the latest information on prematurity. It is advisable for registered nurses/midwives to become members of the Neonatal Nurses Association of South Africa to ensure that they remain updated. The registered nurse/midwife is a central part of the multi-disciplinary team and could facilitate better coordination of services

rendered as part of the follow-up assessment on the preterm infant to identify developmental delays and problems early. If standardized follow-up assessments in the well-baby clinics are available, it could reduce cost implications and ensure better outcomes for preterm infants. Training needs to be included in the undergraduate curricula of nursing to ensure good quality follow-up assessments. Postgraduate training, CPD training and in-service training, regarding preterm follow-up assessments, should be developed for and accessible to all registered nurses/midwives working in the well-baby clinics. Support for and education of parents with preterm infants should be promoted by means of proper discharge planning, sufficient information regarding proper follow-up assessments, as well as accessing available support services. Future research should include larger samples from various regions to determine whether the results are consistent throughout the country. Future research should formulate guidelines or an instrument for professional nurses to use in the well-baby clinics to ensure a standard of preterm infants' assessments. Researchers should also investigate how preterm infants' parents perceive follow-up visits in well-baby clinics. Researchers and educators should combine efforts to ensure that the basic nursing curriculum as well as post basic and specialization courses address the assessment of the preterm infant.

CONCLUSION

Follow-up assessments of preterm infants are critical to ensure better outcomes for these infants. The professional nurses/midwives in South African play an important role in the long term outcomes of the preterm infants, provided they perform effective preterm assessments in the well-baby clinics. However, to ensure that this happens, nurses/midwives need to have the required knowledge and skills, basic tools, resources and guidelines and should be available in the clinics. This could enhance the quality of preterm infants' assessments, with professional nurses being the voice in the multi-disciplinary team to ensure that preterm infants are being cared for by knowledgeable health care professionals, not just in hospital,

but also in the follow- up clinics. Implementation of these recommendations could help to enhance the long term outcomes of the 84 000 preterm babies born in South Africa annually³, or an estimated 420 000 preterm infants attending well-baby clinics until they are five years old.

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TABLES

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CHAPTER 4: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

4.1 Introduction

In the previous chapters the aim, objectives, purpose, literature review, research design, method, manuscript, analysis and results of the study were discussed. In this final chapter the aim will be to evaluate whether the research aim and objectives had been accomplished. The researcher based the conclusions on the literature as well as on the current study's qualitative findings, presented according to the themes that emerged during the data analysis. Limitations of the current study are addressed. Finally, the researcher makes recommendations related to these findings for education, clinical practice and further research.

4.2 Purpose and objectives of the study

The purpose of this study was to explore and describe professional nurses' perceptions of skills required for performing preterm infant follow-up assessments. The specific objective of the study were to:

- Conduct interviews with professional nurses/midwives to describe their perceptions of the skills required for performing follow-up assessments of preterm infants in the well-baby clinics (which form part of the PHC clinics in South Africa).

4.3 Conclusions

The objectives set for the study were reached and the researcher could formulate conclusions based on the literature and the empirical results (qualitative findings).

4.3.1 Conclusions based on the literature review

A review of the literature provided background information for conducting the study (Chapter 1; Introduction and motivation section) and provided an overview of the existing information (as presented in chapter 2, Literature review) which, in turn, were used to provide deeper understanding of concepts to view the qualitative findings and compare them to other published reports of a similar nature (Chapter 3; Discussion section).

The literature review provided a description of terms and concepts relevant to the studied phenomenon. Studies addressing the importance of follow-up preterm infants' care, after discharge from hospital, (Roze & Breart, 2004:2; Kumar *et al.*, 2008:3; Howson *et al.*, 2012:5);

were available, but the role of the nurse in the South African context was not described. Based on the reviewed literature, the researcher could compile a broad overview of the current practice and role of the professional nurse performing follow-up preterm infants' assessments from an international perspective (Blackwell-Sachs & Blackburn, 2010:66; Purdy & Melwak, 2012:221).

The literature review revealed 'gaps' in research pertaining to the skills required by professional nurses for performing effective preterm infant assessments in the Polokwane district of South Africa. Shortcomings identified in the literature included that:

- The role of the professional nurse regarding the assessment of the preterm infant after discharge from hospital was unclear;
- Skills and knowledge required to do such assessments effectively were not specified;
- Guidelines or tools to perform such assessments were unavailable in clinics in many countries. However, these do exist in India and America (Kumar *et al.*, 2008:3; NICHQ, 2012).;
- Nurses lacked training and confidence to manage preterm infants in the well-baby clinics; and
- There was inadequate support for nurses to conduct preterm infant assessments effectively in well-baby clinics.

4.3.2 Conclusions based on the current study's qualitative findings

The analysis of the current study's qualitative findings produced themes regarding the perceptions of skills that professional nurses require to perform effective preterm infant assessments in well-baby clinics and these were similar to those reported by other researchers (Blackwell-Sachs & Blackburn, 2010:66).

Thirteen interviews were conducted, although data saturation had been reached after five interviews, to ensure data saturation namely when no further new information emerged from subsequent interviews. Based on the information provided during the 13 interviews, six themes were identified related to the nurses' perceptions regarding the skills required to perform effective preterm infant follow-up assessments (see table of themes in Annexure M). These themes are addressed in sections 4.3.2.1– 4.3.4.4 of this chapter.

4.3.2.1 The role of the professional nurse in performing follow-up preterm infant assessments

The perceptions of the professional nurses regarding their role in assessing preterm infants were discussed during the individual semi-structured interviews. All participants regarded the role of the nurse/midwife during such assessments as being very important. The nurse/midwife is often the first (and sometimes the only) health professional contact person for the preterm infant and his/her family after discharge from hospital. Therefore the nurse/midwife, working in a well-baby clinic (usually operated within a primary health care clinic in South Africa), is in an ideal position to detect problems and assist parents to cope with the preterm infant at home.

4.3.2.2 Perceptions of skills and knowledge required by nurses/midwives to perform preterm infant follow-up assessments

The professional nurses were confident about the assessment of normal healthy full term babies, but they felt uncomfortable, and sometimes even scared, when they had to assess preterm infants. The professional nurses felt that they lacked skills to assess preterm infants and the nurses/midwives were reportedly assessing the preterm babies as if they were full-term babies, making adjustments themselves based on their own interpretations because no guidelines were available. This finding is important in South Africa where most preterm infants will be assessed (after discharge from hospitals) in well-baby clinics operating within PHC clinics. Professional nurses/midwives provide most services at the PHC clinics, including the preterm infants' assessments. Parents trust that their vulnerable infants will be assessed properly at these clinics. However, due to a lack of the nurses'/midwives' skills, these preterm infants' assessments might not be done effectively. According to Purdy and Melwak (2012:221) registered nurses/midwives could enhance the survival rates and outcomes of preterm infants, by detecting problems and referring them appropriately and timeously. However, skilled nurses, with adequate knowledge (who were reportedly not interviewed in the Polokwane district during the data collection phase of the current study), are needed to do these preterm infants' assessments effectively.

Knowledge has been identified to be a problem in South Africa relating to the assessment of the preterm infants in the well-baby clinics. The findings revealed that the registered nurses/midwives not only lacked specialized skills but also lacked knowledge which could be problematic in the current situation in South Africa.

Knowledge needs identified by the registered nurses/midwives included knowledge about:

- Prematurity
- Milestones of the preterm infant
- What needs to be assessed specifically in preterm infants
- Growth and development
- Immunization schedule and routes to follow
- Preterm infant feeding

4.3.2.3 Perceptions of training needs to perform preterm infant follow-up assessments

Professional nurses/midwives, who participated in the current study, did not regard their basic training as equipping them with the necessary skills required to perform effective preterm infant follow-up assessments. Some of the nurses mentioned that they did not have any experience working with preterm infants, even in a hospital setting. In addition, no mentioned in-service training or workshops were presented on the topic. This contributed to the nurses'/midwives' perceptions that they lacked skills and self-confidence to perform effective preterm infant assessments. The current study's participants recommended that better training, and continued education, would help to improve their skills, and should improve their confidence to perform follow-up preterm infant assessments and to provide appropriate services.

4.3.2.4 Perceptions of available tools and resources in the well-baby clinics in the Polokwane district required to perform preterm infants' assessments

The participants indicated that some facilities had such limited physical resources that the nurses/midwives could not provide comprehensive and useful services. This was the case because some clinics only had a scale to weigh infants and no other assessment equipment such a measuring tape, nor equipment for milestone development, vision or hearing assessments. With regards to an assessment tool, only the Road to Health booklet, published and provided by South Africa's National Department of Health (Francis, 2011), were available in clinics (see Addendum N). This booklet was regarded as inadequate, since it contains no section on the preterm infant's assessment. Thus, no assessment instrument or record was available when assessing the preterm infant, contributing to potentially missed opportunities to identify and report development delays and problems as well as early and adequate referrals for infants who fail to thrive or who might be suffering from ear or eye problems.

4.3.2.5 Support and referral systems required to perform effective preterm infant assessments in well-baby clinics

Support and referral systems were identified as being insufficient. Parents need to be educated and supported. If relevant systems were available, nurses/midwives could detect problems early and refer the preterm infants to appropriate health care professionals and services. In a multi-disciplinary setting, such support could imply more than mere support because training opportunities and better collaboration between professional healthcare providers could ensure better long-term outcomes of the preterm infants.

The findings revealed that participants from the private and public sectors' perceptions, regarding skills required for performing preterm infants' follow-up assessments, were similar. Participants from both sectors perceived their skills as being inadequate and verbalized a need for training and continued professional development to perform effective preterm infant follow-up assessments. Physical resource distribution were better in the private sector than in the public sector.

4.3.2.6 Strategies for performing effective preterm infant follow-up assessments

The participants recommended strategies such as the establishment of training, offering more workshops, in-service training or continued professional development training to improve their skills in this regard. They recommended more exposure to working with preterm infants during the basic nursing training and working with experts to guide them. The nurses/midwives wanted to participate in multi-disciplinary team discussions concerning the care of preterm infants to gain more knowledge. This could enhance their assistance of the preterm infants and their parents. Tools (assessment instruments or guidelines) were identified as a mechanism to assist nurses/midwives in the clinic setting, to know when to refer, and how to detect problems early during preterm follow-up assessments. The availability of an experienced nurse/midwife, acting as a resource person in the well-baby clinic, would also help to improve the nurses'/midwives' skills and confidence and enhance the care provided to preterm infants and their parents.

4.4 Limitations of the study

The limitations of the current study will be addressed according to limitations concerning the literature review, the interviews, and the study's setting and methodological issues.

4.4.1 Limitations of the literature review

Limited literature could be found concerning preterm infants' follow-up assessments in South Africa. However, this aspect did not have any impact on the study's findings. This identified shortage of available research-related information about preterm infants' assessments in South Africa emphasised the need for conducting the current study, and future similar studies in other geographical areas of South Africa.

4.4.2 Limitation of the interviews

As this study was part of the researcher's master's degree, she conducted the interviews herself, although she was not an expert in conducting interviews. The researcher attended a course on conducting interviews as part of the master's program. The first interview was conducted as a pre-test and audio taped. The study supervisor, an experienced interviewer and qualitative researcher, listened to the audio taped interview and agreed that the interview process was appropriate and that this first interview could be analysed with the subsequent interviews' data. Probing questions were designed with the assistance of the study supervisor, and based on information obtained during the literature review.

4.4.3 Limitations of the research setting

The interviews were conducted only in the Polokwane district of the Limpopo Province and not in 'deep rural' areas of this province. Therefore the findings might not reflect the perceptions of registered nurses/midwives working in 'deep rural' areas where fewer multi-professional health care professionals and fewer nurses/midwives might be available. Physical resources might be scarcer and transport more difficult in these 'deep rural' areas than in the Polokwane district, as Polokwane is the capital city of the province with better infrastructure than the rest of the province. Thus the findings of the current study might not be generalizable beyond the Polokwane district.

4.4.4 Limitations due to methodological issues

Individual in-depth phenomenological interviews might have produced richer information than semi-structured interviews.

4.5 Recommendations

Based on the findings of the current study, recommendations will be provided for practice, education and for future research.

4.5.1 Recommendations for practice

1. Registered nurses/midwives should keep up to date with the latest information about caring for preterm infants by attending conferences and in-service training whenever possible. Such opportunities should be requested from the institutions' managers.
2. Nurses/midwives working in well-baby clinics should be encouraged to become members of the Neonatal Nurses' Association of South Africa to collaborate with other nurses providing neonatal care throughout the country.
3. Parents should be provided with a comprehensive, written, discharge plan for a preterm infant, including information about the importance of follow-up assessments and how to access available support services.
4. The hospitals' multi-disciplinary teams should involve the registered nurses/midwives from the well-baby clinics during the follow-up planning for preterm infants. This could lead to better follow-up assessments, training and coordination of health care rendered to the preterm infant.
5. Follow-up assessments of preterm infants could be enhanced by equipping the registered nurses/midwives with knowledge and skills to detect problems and initiate early appropriate referrals which could reduce the impact of long-term financial burdens on the state and improve the quality of life for these preterm infants and their families.
6. Standardized follow-up assessments in the well-baby clinic could help to ensure that every preterm infant's assessment is done effectively. Completed standardized assessment tools (once available) should be audited regularly and identified shortcomings should be addressed.

4.5.2 Recommendations for education

1. Care and assessment of preterm infants after hospital discharge should be included in the undergraduate curricula of nursing.
2. Postgraduate training should be developed and recommended for all registered nurses/midwives working in well-baby clinics.
3. In-service training and CPD courses on the follow-up assessment of preterm infants need to be included to ensure that these assessments are done effectively.
4. Initially a volunteer nurse/midwife from each well-baby clinic could attend a course on the effective assessment of preterm infants. After completion of this course, the trained

person should provide training to other nurses/midwives working in well-baby clinics.

4.5.3 Recommendations for research

Future research should formulate guidelines or an instrument for the professional nurses/midwives to use in well-baby clinics to set a standard for conducting preterm infants' follow-up assessments. Once implemented, regular audits should be performed to identify and address shortcomings.

Future studies should observe nurses/midwives while they assess preterm infants so that actual strengths and weaknesses of such assessments could be identified and verified to provide statistical evidence for the need to enable these nurses/midwives to attend relevant courses and programs.

As shortages of nurses/midwives, especially in 'deep rural' areas, might make it difficult or impossible for them to attend courses elsewhere, a distance education course should be developed and tested by researchers and educators.

Research should identify feasible referral networks for preterm infants attending well-baby clinics in a specific area.

Future research should focus on larger samples including various regions and settings from urban and 'deep rural' areas to determine if nurses'/midwives' perceptions, regarding their skills and knowledge related to preterm infant follow-up assessments, differ in terms of their working areas.

Researchers should also explore the experiences of parents of preterm infants with regard to the follow-up visits and assessments at the well-baby clinics and with regard to challenges these parents encountered to care for preterm infants.

Paediatricians and nurses/midwives, working at referral hospitals in the district, should be interviewed to identify ways of establishing enhanced communication between these healthcare professionals and the nurses/midwives caring for preterm infants at well-baby clinics.

A researcher should compile statistics (from referral hospitals and all well-baby clinics) collaborating the health-related outcomes of preterm infants at six weeks, six months, two years and five years of age. Such a study could indicate areas where enhanced care could be implemented to obtain better long term outcomes for preterm babies.

Researchers should conduct an audit of the resources and equipment available at every well-baby clinic to perform preterm follow-up assessments. A list of equipment/resources required by every well-baby clinic should be presented to the relevant healthcare managers. Regular follow-up audits should be done to monitor challenges experienced in acquiring the necessary resources and equipment, and challenges encountered in maintaining such equipment and resources.

4.6 Final concluding remarks

A total of 15 million babies are born prematurely globally of whom 84 000 were born in South Africa only (Mongale, 2012:53). This emphasizes the necessity of addressing preterm infants' healthcare needs, commencing with the quality of preterm assessments performed by nurses/midwives in well-baby clinics in South Africa. With the percentage of low birth weight infants being as high as 14.6% in South Africa, (UNICEF, 2004), or approximately 84 000 annually (Mongale, 2012:53), approximately 420 000 children born prematurely attend well-baby clinics until they reach the age of five years. After hospital discharge, children born prematurely attend well-baby clinics where nurses/midwives, probably with inadequate knowledge and skills based on the current study's findings, have to do their assessments. This puts these preterm infants at great risk that some of their problems might go undetected and thus unattended. Effective preterm assessments, and timely appropriate referrals, could enhance preterm infants' health status as well as their quality of life and also the quality of life of their parents and families. Based on the findings of the current study there seems to be four urgent requirements for providing opportunities for preterm infants and their families to enhance their long term quality of life:

- Sustained training and education of nurses/midwives working in well-baby clinics about the specific assessment of preterm infants,
- Providing assessment tools and guidelines designed specifically for preterm infants
- Providing effective feasible guidelines for referring preterm infants to other healthcare professionals
- Ensuring that every well-baby clinic has the necessary equipment and supplies for performing effective preterm follow-up assessments.

In conclusion the researcher can declare that the aim and objective of the study were reached because the perceptions of skills required by professional nurses for performing preterm infant

assessments was attained and that this study contributed towards building a body of nursing and health-related knowledge.

4.7 References

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ANNEXURE A: INTERVIEW SCHEDULE

- Interview schedule
 - Introduction of the researcher was firstly done.
 - The procedure was explained again as well as the use of the digital voice recorder.
 - Questions was addressed if there was any.
- **Table 1: Interview questions**

Formal question	Probing question
How do you perceive the role of the nurse/midwife in the well baby clinic concerning assessment and follow-up of the preterm infant?	Your role/duty/job. Your role as a registered nurse/midwife, regarding referrals, diagnosis, treatment and participation in care. Is your position important and why?
How would you describe the skills required to be able to assess the preterm infant in a follow-up clinic?	What is an assessment? What is important to do during these assessments? What is covered during these assessments? Do you need additional skills to assess the preterm infant? Is assessments done correctly in your opinion? What is your view on current practise? Can it be better?
What training did you receive to do assessments on the preterm infant and do you think it was enough?	Previous training received? Post graduate training? CPD or in service training?

<p>What tools do you have available to do these assessments?</p>	<p>What do you use while doing assessments?</p> <p>If participant struggle to name tools, suggest the following:</p> <p>Discharge planning Previous assessments Road to health chart</p> <p>Growth monitoring, Fenton Growth Chart Instruments, NBAS, NIDCAP Assessment room</p> <p>Training on prematurity, Little Steps Other</p>
<p>What would you say is your own level of skills to render quality assessments on the preterm infants and was your training enough? Elaborate</p>	<p>Lack in training? Lack in tools? Self-confidence. Suggestions?</p>
<p>What skills, if any, do you think you need to develop in yourself to do quality assessments on the preterm infant?</p>	<p>What skills are necessary for nurses to do quality assessments?</p>

- Only after permission was obtained the data gathering was started.
- The digital voice recorder was set up and sound quality was tested.
- Semi structured interviews was started when both participant and researcher were ready.
- Participant was informed about the research topic and reminded that all the information is confidential and will be stored on a password protected computer.
- Participant was aware that he or she can stop at any time and that participation is voluntary.
- Questions were asked as above

- After all the questions was asked a time was provided for participant to add anything should they wish too. The interview was then terminated.
- The participant was thanked for the time and the interview done. Participant was again reassured of confidentiality.
- The process of the analysis and sharing of findings was discussed as well as the article to be published.
- A satisfied participant was thanked and contact numbers was left behind should the participant want to contact the researcher regarding the research.
- A thank you note was handed to the participant.

ANNEXURE B: ONDERHOUD SKEDULE

- Onderhoud Skedule
 - Navorsers was bekend gestel
 - Prosedure was verduidelik asook dat onderhoud digital opgeneem sal word.
 - Enige vrae was geadresser en beantwoord voordat onderhoud begin het.
- **Table 1: Interview questions**

Formele vraag	Indringende vrae
Wat sien U as die rol van die geregistreerde verpleegkundige in die baba kliniek ten opsigte van die opvolg ondersoek op die preterm baba.	Jou rol Jou rol ten op sigte van verwysing, behandeling en diagnose? Is die rol belangrik?
Hoe sal jy die vaardighede beskryf wat nodig is om die preterm baba te ondersoek in die baba kliniek?	Wat is assesering? Wat is belangrik gedurende assesering? Wat word gedoen tydens die assesering van die preterm baba? Het jy enige ander vaardighede nodig om die preterm baba te ondersoek? Wat is jou opinie oor asseserings wat tans gedoen word? Kan dit beter gedoen word?
Watter opleiding het Sr gehad t.o.v. die preterm baba en dink Sr dit was voldoende?	Vorige opleiding tydens opeiding? Nagraadse opleiding? Enige indiensopeiding of CPD?

Formele vraag	Indringende vrae
Watter instrumente is tot Sr se beskikbaar om hierdie assesserings te doen?	Wat gebruik Sr tydens assesserings? Indien deelnemer vasbrand kan instrumente genome word: Ontslag beplanning Vorige assesserings gedoen Road to Health boek Fenton groeikaart NBAS, NIDCAP Opeliding gedoen , Little Steps Ander
Beskryf Sr se eie vlak van vaardighede om opvolg ondersoeke op die preterm baba te doen.	Besikbaarheid van instrumente? Besikbaarheid van vaardighede? Selfvertroue. Voorstelle?
Watter vaardighede, indien enige, sou Sr wou opskerp om hierdie opvolg ondersoeke op die preterm baba te doen?	Watter vaardighede is nodig om 'n goeie opvolg ondersoek op die preterm baba te doen?

- Nadat toestemming geteken is sal die onderhoud begin.
- Die digitale opnemer is korrek geplaas en getoets sodat helder klank opgeneem sal word.
- Semi gestruktureerde onderhoud is begin nadat navorser asook deelnemer reg is.
- Deelnemer was weer bekendgestel aan die onderwerp van die studie asook dat alle inligting konfidesieel hanteer sal word.
- Deelnemer was weer ingelig dat dit vrywilliglik gedoen word en dat daar enige tyd onttrek kan word indien nodig.
- Daarna het onderhoud begin met vrae soos bo genoem.

- Na voltooiing van die vrae was daar 'n kans gegun dat deelnemer iets kan byvoeg .
- Deelnemer was na bedank en weereens van konfidesialiteit verseker.
- Die proses van die data analise en publisering van die artikel was bespreek.
- Deelnemer was tevrede na voltooiing van onderhoud en kontaknommers is agtergelos indien deelnemer universiteit of navorser wou kontak.
- 'n Dankie nota was agtergelos vir deelnemer.

ANNEXURE C: DATA ANALYSIS GUIDE



DATA-ANALYSIS GUIDE FOR CO-CODER

TITLE OF THE RESEARCH PROJECT: Professional nurses' perceptions of skills required for preterm infant assessment

REFERENCE NUMBERS:

PRINCIPAL INVESTIGATOR: Debbie Cordewener

ADDRESS: 41 Pleinstreet
Polokwane

CONTACT NUMBER:

0767388056

Thank you for agreeing to act as co-coder of the interviews done for the above mentioned study. You may use the following data-analysis guide for your coding process. Tesch proposes eight steps to consider while analysing data (Creswell, 2009:186):

- The semi structured interviews have been transcribed verbatim and the field notes typed and you are provided with copies thereof.
- Read through all the transcriptions and field notes carefully to get a sense of the whole and some ideas will be written down. Put preconceived ideas in brackets.
- Select one interview randomly and put down thoughts regarding the meaning of the information. Identify major categories as you read through all the transcriptions and field notes. Underline units of the meaning that are related to the major categories identified. This will provide context for the description of categories.
- After completing this with all the interviews done, compile the topics by clustering similar topics together thematically.

- Find the most descriptive wording for the topics and write these topics next to the appropriate section.
- Group topics together and draw relationships to try and reduce the total list of categories.
- Make a final decision on the categories and alphabetise the codes.
- Assemble the data material belonging to each category and perform a preliminary analysis.
- Recode the existing data if needed.
- Hold a consensus discussion with the researcher to determine common agreement on all the categories and themes as relevant.

ANNEXURE D: HEALTH RESEARCH ETHICS COMMITTEE, FACULTY OF HEALTH SCIENCES, NORTH-WEST UNIVERSITY



Private Bag X6001, Potchefstroom
South Africa 2520

Tel: (018) 299-4900
Faks: (018) 299-4910
Web: <http://www.nwu.ac.za>

Ethics Committee
Tel +27 18 299 4849
Email Ethics@nwu.ac.za

ETHICS APPROVAL OF PROJECT

The North-West University Research Ethics Regulatory Committee (NWU-RERC) hereby approves your project as indicated below. This implies that the NWU-RERC grants its permission that provided the special conditions specified below are met and pending any other authorisation that may be necessary, the project may be initiated, using the ethics number below.

Project title: PROFESSIONAL NURSES PERCEPTIONS OF SKILLS REQUIRED FOR PRETERM INFANT ASSESSMENT.	
Project Leader: Dr W Lubbe	
Ethics number:	N W U - 0 0 0 3 9 - 1 5 - A 1
	<small>ETHICS: 0 = Submission, A = Re-Submission, P = Provisional Authorisation, A = Authorisation</small>
Approval date: 2015-05-13	Expiry date: 2018-04-30

Special conditions of the approval (if any): None

<p>General conditions:</p> <p><i>While this ethics approval is subject to all declarations, undertakings and agreements incorporated and signed in the application form, please note the following:</i></p> <ul style="list-style-type: none"> • The project leader (principle investigator) must report in the prescribed form to the NWU-RERC: <ul style="list-style-type: none"> - annually (or as otherwise requested) on the progress of the project, - without any delay in case of any adverse event (or any matter that interrupts sound ethical principles) during the course of the project. • The approval applies strictly to the protocol as stipulated in the application form. Would any changes to the protocol be deemed necessary during the course of the project, the project leader must apply for approval of these changes at the NWU-RERC. Would there be deviation from the project protocol without the necessary approval of such changes, the ethics approval is immediately and automatically forfeited. • The date of approval indicates the first date that the project may be started. Would the project have to continue after the expiry date, a new application must be made to the NWU-RERC and new approval received before or on the expiry date. • In the interest of ethical responsibility the NWU-RERC retains the right to: <ul style="list-style-type: none"> - request access to any information or data at any time during the course or after completion of the project; - withdraw or postpone approval if: <ul style="list-style-type: none"> - any unethical principles or practices of the project are revealed or suspected, - it becomes apparent that any relevant information was withheld from the NWU-RERC or that information has been false or misrepresented, - the required annual report and reporting of adverse events was not done timely and accurately, - new institutional rules, national legislation or international conventions deem it necessary.
--

The Ethics Committee would like to remain at your service as scientist and researcher, and wishes you well with your project. Please do not hesitate to contact the Ethics Committee for any further enquiries or requests for assistance.

Yours sincerely

Linda du Plessis

Prof Linda du Plessis

Chair NWU Research Ethics Regulatory Committee (RERC)

Digitally signed by Linda du Plessis
DN: cn=Linda du Plessis, o=North-West University, ou=Ethics Committee, c=ZA
Date: 2015.05.08 09:31:42 +0200

ANNEXURE E: PERMISSION FROM THE NATIONAL DEPARTMENT OF HEALTH TO CONDUCT THE RESEARCH IN FACILITIES



LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF HEALTH

Enquiries: Latif Shamila

Ref:4/2/2

Cordewener D
North- West University
Private Bag X6001
Potchefstroom
2520

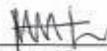
Greetings,

RE: Professional nurses' perceptions of skills required for preterm infant assessment

The above matter refers.

1. Permission to conduct the above mentioned study is hereby granted.
2. Kindly be informed that:-
 - Research must be loaded on the NHRD site (<http://nhrd.hst.org.za>) by the researcher.
 - Further arrangement should be made with the targeted institutions.
 - In the course of your study there should be no action that disrupts the services.
 - After completion of the study, a copy should be submitted to the Department to serve as a resource.
 - The researcher should be prepared to assist in the interpretation and implementation of the study recommendation where possible.
 - The above approval is valid for a 3 year period.
 - If the proposal has been amended, a new approval should be sought from the Department of Health.

Your cooperation will be highly appreciated.


Head of Department

30/07/2015
Date

18 College Street, Polokwane, 0700, Private Bag x9302, POLOLKWANE, 0700
Tel: (015) 293 6000, Fax: (015) 293 6211/20 Website: <http://www.limpopo.gov.za>

The heartland of Southern Africa – development is about people

ANNEXURE F: APPROVAL TO CONDUCT THE RESEARCH FROM PRIVATE SECTOR

MEDICLINIC 
LIMPOPO

53 PLEIN STREET
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0699

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F +27 15 290 3905
ETHICS LINE 0800 005 316

www.mediclinic.co.za

First Steps Clinic
PR 0210374
SANC 14483705
Plein Str. 41
Polokwane
0700

9 June 2015

Dear Debbie Cordewener

RE: Authorization to do research at Mediclinic Limpopo

Mediclinic Limpopo hereby gives permission to Debbie Cordewener to do research at Mediclinic Limpopo. Patient safety and confidentiality should not be compromised.

For any assistance feel free to contact management. Good luck with your research.

Yours faithfully

 AHM
M P DE VILLIERS
Acting Hospital Manager
Mediclinic Limpopo
Tel: (015) 290 3808

MEDICLINIC LIMPOPO (PTY) LTD
REG. NO. 1989/006526/07

Regional Offices
14 Tamar Road
Lea Glen
Roodepoort
4th May 2015

To whom it may concern.

I, Ansie Hartman Regional Clinic Service Manager Inland, have given Debbie Cordewener authorization to visit the Clicks Clinics in Polokwane.

She will ask the NP's to complete a questionnaire and to interviews with them.

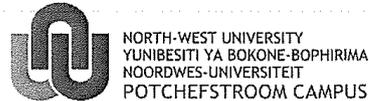
Kind Regards

Ansie Hartman | Regional Clinic Service Manager | Cell 0824663869 | Fax
0866334577 | ah9@clicks.co.za



ANNEXURE G: CONSENT FORM FOR PARTICIPANTS

Appendix 1: Information leaflet and informed consent



PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT: Professional nurses' perceptions of skills required for preterm infant assessment

REFERENCE NUMBERS:

PRINCIPAL INVESTIGATOR: Debbie Cordewener

ADDRESS: 41 Pleinstreet
Polokwane

CONTACT NUMBER: 0767388056

I am Debbie Cordewener from the North-West University (Potchefstroom campus) working on a research study for my master's degree, concerning the nurse's perception of skills required for preterm infant assessment. You are being invited to take part in the research. Please take some time to read the information presented here, which will explain the details. Please ask the researcher any questions if you do not fully understand. It is very important that you are fully satisfied that you understand what this research entails. Also, your participation is entirely voluntary and you are free to decline to participate. If you say no, this will not affect you negatively in any way whatsoever. You are also free to withdraw from this study at any point, even if you agree to take part.

This study has been approved by the Health Research Ethics Committees at North-West University (NWU-00039-15-S1) and will be conducted according to the ethical guidelines and principles of the international Declaration of Helsinki, South African Guidelines for Good Clinical Practice and Ethical Guidelines for Research of the National Health Research Ethics Council. It might be necessary for the research ethics committee members to inspect the research records.

Page 1 of 6

(a) What is this research study all about?

Preterm infants are being cared for under highly specialized medical healthcare workers in the neonatal intensive care unit before discharge. After discharge no special treatment or on-going care and monitoring are planned or scheduled for these vulnerable infants. The purpose of this study is to determine the nurse's perception of skills required for preterm infant assessment in the Polokwane area after discharge.

(b) Why have you been invited to participate?

You have been selected to participate because you are a nurse working in a well-baby clinic in Polokwane area and assessing preterm infants after discharge. You are also registered with SANC and able to communicate freely in Afrikaans or English to express yourself adequately. You are also willing to participate in research and willing to give consent to a semi-structured interview digitally recorded.

You are being kindly asked to participate in this study because the researcher trusts that you would have a contribution to make towards understanding the nurse's perception of skills required for preterm infant assessment. Since you are a registered nurse/midwife working in a well-baby clinic in Polokwane area, your experience, perceptions and feelings are very valuable to this study.

(c) What will your responsibilities be?

If you agree to be in this study you will be expected to:

- Partake in a semi-structured interview, which refers to a conversation between the researcher and you with questions which will be shared with you but leaving time to talk about the topic freely to still be flexible and you will be free to discuss information in a comfortable discussion. It will be expected from you to answer the questions and to elaborate on your feelings and working environment regarding the research topic; however you can withdraw at any time without any penalty.
- This interview will approximately take 30 minutes and can be done at any time suitable for both parties and as agreed too.
- The researcher will be guiding the interview and the conversation will be digitally recorded to ensure that all discussions are captured. Finally non-verbal communication will be observed by the researcher and documented. This will ensure good information gained to make a valuable contribution to the medical field.
- You will be asked the following:

How do you perceive the role of the nurse/midwife in the well-baby clinic concerning assessment and follow-up of the premature infant?

How would you describe the skills required to be able to assess the preterm infant in the follow-up clinic?

How would you describe your own level of skills to render quality assessments of the preterm infants?

What training did you receive to do assessments on the preterm infant and do you think it was enough? Please elaborate

What skills, if any, do you think you need to develop to do quality assessments on the preterm infant?

What tools do you have to your availability to conduct these assessments?

(d) Are there risks/discomforts involved in your taking part in this research?

Privacy will be ensured during the interview, with the option to withdraw at any time without penalty and the freedom to share only selected perceptions. However, some of your privacy might be lost during this study due to the fact that professionals working in this field, in this specific geographical area are limited to a small number and may be known to each other, but your name will never be made known and your data will be handled as confidential as possible. No individuals identifiers will be used in any publications resulting from this study and only the team of researchers will work with the information that you shared. All sensitive information will be protected by locking it up and storing it on a password protected computer. The place where interviews will take place will be in your own work space, thus neutral and comfortable and where confidentiality can be assured. Participants will be asked to agree not to share any information on the research. No physical harm will be inflicted to you and you will be treated fairly throughout this study. Comfortable seating in a well-ventilated room will be arranged for the interview. Interviews will be arranged at the participants' own setting and you will be offered something to drink during the interview to ensure a relaxed interview. Privacy will be ensured by arranging for a separate interview area away from the general activities in the clinic.

Emotional harm by means of emotional distress during interview or physical harm and fatigue can be experienced, but if you want to withdraw at any time it is possible and your opinion will be respected.

Interviews will be done in your private time or if their managers agree it may be done in work-hours, but you will not be remunerated for your time participating in the research.

(e) Will you benefit from taking part in this research?

You as the participant would benefit from knowing that your contribution has helped to make it possible to better and ensure growth in the nursing field. The results of this study will be beneficial to the nurses to make the perception of the skills known regarding the assessments done and tools available to them to perform optimal assessments of the preterm infant due to the fact that it is more seen and more done in the well-baby clinics. Guidelines will then be formulated from the study findings to assist the nurse/midwife. Psychological benefits will include gaining insight into your own professional development needs and the opportunity to talk about skills development needs to be able to perform you work optimally. Indirect benefits may include development of professionals within the organisation when the results become available and in addition an expansion of the current services provided at well baby clinics. It will be possible to then use this information to set up an instrument to use or to get a guideline

as to what to assess to ensure holistic care and growth of the preterm infants with minimal long-term complications.

(f) Who will have access to the data?

Guaranteeing anonymity may pose a challenge due to the small, specific sample of participants who are all known to each other and working in a small geographical area. Therefore partial anonymity will be ensured as you may be known to each other. Data collected from you will however be kept confidential in that identifying information will be removed by using codes for each data set. Confidentiality will be ensured by the way the data will be captured and deleting the digital recordings once data have been transcribed. A confidentiality agreement will be signed with the person doing the transcriptions. Your identity will not be made known during research or reporting of findings. A trust relationship and mutual respect will be built throughout study to ensure that data sharing will be comfortable without causing harm to you. Your right to privacy will be protected. The researcher will further ensure that no information provided by the participant would be publicly reported or made accessible to parties except those involved in the study. Due to the nature of the study participants may be known to each other and therefore have to agree not to share any information regarding the research with anyone outside of the study at any time.

(g) What will happen in the unlikely event of some form of discomfort occurring as a direct result of your taking part in this research study?

Should you have the need for further discussions after the semi-structured interview due to possible discomfort an opportunity will be arranged for you.

(h) Are there any cost involved for taking part in this study?

There will be no cost to you as a result of your participation in this study. The researcher only request 30 to 60 minutes of your time.

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

You will receive no payment for participation. However some refreshments will be available during the interview.

(j) Is there anything else you should know or do?

You are welcome to ask any questions to a member of the research team before you decide to give consent. You are also welcome to contact me, Debbie Cordewener who will be conducting the semi-structured interviews, if you have any further questions concerning your consent at 0767388056. You are also welcome to contact the Health Research Ethics Committee at 018-299 2094. You will receive a copy of this information and consent form for your own records.

(k) How will you know about the findings?

Findings of the study will be shared with all participants and an article will be published in a peer-reviewed subject matter journal as well as at relevant conferences in a timely manner.

You may access publications after completion of the study by searching the internet for the author name (Gordewener, D) and the title provided above.

Declaration by participant

By signing below, I agree to take part in a research study entitled: Nurse’s perception of skills required for preterm infant assessment.

I declare that:

- I have read this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions to both the person obtaining consent, as well as the researcher and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the researcher feels it is in my best interest, or if I do not follow the study plan, as agreed to.
- I agree to be digitally recorded for the online discussion.
- I agree not to share any information regarding the research outside of the study.

Signed at (*place*) on (*date*) 20....

.....
Signature of participant

.....
Signature of witness

- **Declaration by person obtaining consent**

I (*name*) declare that:

- I explained the information in this document to
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) on (*date*) 20....

.....
Signature of person obtaining consent

.....
Signature of witness

- **Declaration by researcher**

I (*name*) declare that:

- I explained the information in this document to
- I encouraged him/her to ask questions and took adequate time to answer them.
- I am satisfied that he/she adequately understands all aspects of the research, as discussed above
- I did/did not use an interpreter.

Signed at (*place*) on (*date*) 20....

.....
Signature of researcher

.....
Signature of witness

ANNEXURE H: EXAMPLE OF TRANSLATED TRANSCRIPTS USED DURING DATA ANALYSING PROCESS

Onderhoud 3

Researcher : Debbie Participant :

R : Hello Sr. hoe gaan dit vandag?

P : Dit gaan baie goed, Debbie en met jou?

R : Goed, dankie, ek sien die kliniek is dol, so baie dankie dat ons vinnig 'n *interview* kan doen.

P : Dis 'n groot plesier.

Sr. ek het die vorms by Sr gelos vir die *consent forms*, Sr het dit deurgewerk, is

R : daar enige vrae daaruit wat nog onduidelik is waaroor die onderhoud gaan en waaroor ons gaan gesels?

P : Nee, ek het 'n goeie idee waaroor dit gaan, so dis reg.

Ek gaan net herhinder dat dit konfidentiële is waaroor ons praat, alles word gestoor op 'n rekenaar wat met 'n wagwoord beskerm is, so niemand sal

R : enige van die data kan bekom nie, Sr is welkom om enige tyd te stop, te onttrek of enige iets ongemaklik voel, laat weet net dan stop ons die onderhoud en dan wil ek net weet of Sr gemaklik is met dit?

P : Ek is reg, dankie.

Sr het gevra dat ons dalk die vragies in Engels doen want ons praat altyd

R : in Afrikaans, so ek gaan die vragies dan net in Engels doen of in Afrikaans vra en Sr is dan welkom om in Engels te antwoord, net soos wat dit vir Sr gemaklik is.

P : Okay, dankie.

R : Wonderlik. Okay, Sr how do you perceive the roll of the nurse in the well baby

clinic, concerning the assessment and the follow of the preterm infant after discharge if they came back to your clinics?

What I know about preterm or premature babies is that they also have a lot of complications post birth, okay and with that you have to be on your guard, because early detection and diagnosis of any potential problems is key to prevention, okay, so in partnership obviously with the paediatrician,

P : there might be an occupational therapist or a member of the multi disability the nurse should pay close attention to potential problems and listen well to what the mother says in order to assess the prem baby, so she should take time to talk to the mom and do a proper assessment and those will be in terms of the baby's development, nutritional status, the development of hearing and vision.

R : Ja, that was a mouth full. (laughter) Perfect. Ja, so it's basically the duties, referral and to detect problems as well as the education of the mom or the parents, ja.

P : Definitely, yes.

R : Sr, how would you describe the skills required to be able to assess the preterm infant in the clinics.

Okay, obviously you have to be a registered nurse or a professional nurse, okay. In my experience, I've got community and I have been a paediatric nurse for four years, so you also need to have knowledge of a

P : child's developmental stages, their milestones, their immunisation schedule, their nutritional state, okay, ja, so they are all skills that you do require to make a proper assessment before you can refer

R : Perfect. And how would you describe your own level of skill, you did mention that you have skills in paediatrics.

Ja. I have qualified as a professional nurse, and I worked in a private hospital in the paediatric department for about four years, but prior to that I did work in

P : training in a prem unit, it was just a short placement, but I think that also sort of prepares you for working with premature babies and then I have been in a clinic setting for about five years. So in terms of the development of the child,

the immunisation schedule, you do learn a lot.

R : Yes, and pick up a lot.

P : Ja.

R : So your self-confidence with a preterm infant you would say is sufficient for what you are doing.

It's reasonably sufficient. Obviously I don't see a lot of premature babies. I do see them later on when they have been discharged from the hospital and they come for their follow up vaccinations. So I see them a little bit later, one

P : specific baby, he's about a year and a half now, so I only got to see him when he was gestational age, a year old. But chronologically I think he worked out around nine months or so. Okay, but ja, you do see a little bit and all you have to do is just if you don't know, go and find out.

R : Yes.

P : Or contact somebody that knows.

R : Yes, and it's nice to keep a bond with them.

P : Ja.

R : Sister, what training did you receive to do assessments specifically on the preterm infant?

Okay, training... There's nothing specifically that teaches us in the clinic, we are all taught what a healthy baby looks like or what a healthy baby should be doing in terms of their developmental stages and milestones and nutrition, so you take that in account but also what you can do is correct a baby's age, so if

P : you are taking a weight and the baby is under the 3rd %, obviously they all are under weight and then you correct it. So, if your baby was born three months before the time, you correct the age minus three months and then you sort of see if the baby is within the normal if he had been that age. Okay. In terms of immunisation we go according to the schedules so the baby's gestational age goes into account there, so they don't get corrected there. So nutritional is

corrected age and immunisation, we go with the gestational age, because they need to be protected, they are at a high risk for infection so you want to keep them protected from the other vaccine preventable diseases.

Yes, of course, so, while we are talking about the skills, do you think that we

R : need to develop some training to assist with the assessment of the preterm infant?

P : Yes, definitely, firstly a growth chart that will be specific for a premature baby, because now we are using the normal growth chart for normal weight babies.

R : Yes.

So, the mom sees that baby little weight growing under the underweight line and it doesn't look normal to her, so if we can develop maybe a centile chart that will go with the baby that was born at a low birth weight, that would be helpful.

R : Yes.

Okay, and also just maybe guidelines onto what the baby at that age should be drinking and eating and you know, the type of feeding and so on, so in terms of their nutrition but also there's dieticians in town, in Polokwane that you can consult with or reps, for the.... Like specifically the Nestlè rep is very clued up, so they are also one of my support systems.

R : Yes.

P : Okay, ja, but definitely yes, we should actually also get a bit of extra training on a premature baby.

R : Ja, will that help a lot.

P : Ja.

R : And then as you mentioned, luckily in town there is some support where you can refer to at this stage.

P : Ja.

R : Okay. And then tools in your clinic currently available, that you are using that

help you to assess the preterm infant.

My tools consists basically consist of a baby scale, a height measure and a measuring tape to do the head circumference, I have a little bell on my worm that I use just to sort of do a simple hearing test, so if they respond to the little bell, the noise, they will turn in that position and then also I use it as a visual toy as well so they will look at it and move to see if they can see it, but obviously the mom is the best source of information if she does mention something you work on that and you refer it appropriately within premature babies, we know that the problems they encounter is low muscle tone which leads to delay in fine and gross motor skills, some might

P : have cerebral palsy, mild to severe, just depends, some have poor vision, so you also find that they have squinting so you need to be referred to ophthalmologists, optometrists later on and then there's also mental retardation it also depends if it is mild to severe and then a lot of premature babies will later in life have learning problems, so they lag behind their peers, some of them also have ADHD and one of the common things premature babies will have is obviously chronic lung disease because of the immaturity of the lungs at birth the lack of surfactant so looking at chest infections, showing the mom how to look for any problems respiratory distress and so on.

R : Yes.... Yes, perfect. And then the road to health chart, tell me more, are you using it with the preterm infant? Are you comfortable?...

Okay, the current one is the South African one, it is specific to a male or a female, now what I have found that a lot of the babies, the premature

P : babies will be behind, but you know, they do catch up around 2 years or 3 years, they do catch up in terms of maybe weight, but they will probably always be under the... or at least near the 3rd %.

R : Yes.

Okay, but ja, we are using it, but we always tell the mom : lets correct it

P : and then you sort of do another growth on... with a different colour and then you show where the baby would've been if he had been born later on.

R : That's a nice idea.... Ja, that's nice.

P : Or in pencil, because you don't want to.....

R : Ja...

P : Ja....

R : Ja, but that's a nice idea, so you just.... Ja...

P : Ja... you do the actual weight at that time but you can alter it to show the mommy

R : You correct it to show the mommy, ja...

P : Just to see where he would've been if he had gone the full gestational age, ja.

And then the last question, I just want to know in terms of tools to

R : your availability, discharge planning from the hospital, do you see, coming into the clinics, do you use it?

Uhm, not really, the baby that I saw came quite later on, he was vaccinated, his first vaccination was done in the hospital and then round about I think, 6,7 months after he had been born, so we only saw him later, so that discharge planning wasn't there I know that he did continue with synergist, which was part of... he has to take synergist for at least 2 years

P : to prevent respiratory syncytial virus, uhm, but ja, there's not much discharge planning as from a point of view from the hospital, it's basically given to the mom and the mom has to sort of just fill in and carry on, one of it is to come for the baby's vaccinations, so we try and keep that up to date so the baby is not exposed to the illnesses around, ja. But other than that, no not really.

R : And any other things that you want to include?

Ag, like I said, a growth chart specifically for prem babies so if they were born

P : at around 900g, 1 KG, you know, something that will follow them there and then obviously we can always transfer it over to the normal growth chart later

on when they do catch up with weight, ja.

R : Yes.

So, ja, that would probably be more helpful and then also maybe a bit of guidelines, if it comes from a paediatrician on what to look for, what type of

P : assessments to do specifically on them, but we know that they have got delayed milestones, so we just keep an eye on it and, ja, keep the mom informed.

R : Okay, perfect. Okay, Sr I just again want to thank you for your time....

P : You are most welcome....

R : ...and reassure you that the data will be handled confidentially, you've got my telephone number....

P : I do.

I left it with you, if there is any questions, you are more than welcome to phone me or

R : the university itself, you've got their number as well, and then I will let you know as soon as the article has been published, if I can, I will come and show it you.

P : Ag, that will be nice. Thank you.

R : And again I just want to thank you and here is something for you to say thanks.

P : Ag, thank you so much.

R : Enjoy the rest of your day.

P : Thank you, Debbie, nice to see you again.

R : Tatta.

P : Okay, bye.

ANNEXURE I: CODING THEMES

Perception of:						
Role of nurse in follow-up assessment	Skills and Knowledge needs		Tools and resource needs	Support and referral systems	Training needs	Strategies for effective follow-up assessments
Most appropriate professional to perform follow-up assessment	Follow-up assessment skills	Milestones, growth and development	Physical resources, e.g. scale	Parent support	Basic training	Parent education
What need to be assessed	Parent interaction skills	Immunisation route and schedules	Discharge planning	Referral to appropriate healthcare professional	CPD/In-services training related to preterm infant assessment	Multi-disciplinary team
	Facilitate multi-disciplinary work	Feeding	Road to health chart			Exposure to preterm infant assessment
	Confidence					Training and tools

ANNEXURE J: EXAMPLE OF TYPED FIELD NOTE

Interview 3

Observational/personal:

We met at the clinic at a convenient time for the participant.

The clinic was clean, door was closed to ensure privacy and no disturbances. Comfortable setting, participant chose it.

Very positive but nervous. Came well prepared

Theoretical:

She was not nervous at all to answer questions, answered with confidence. Really want to do more training

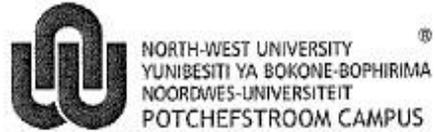
Gave lot of new insight

Very good interview

Methodological:

Spoke after interview – told me how important training was and that she needs it, will pay for it herself, want to become a lecturer

ANNEXURE K: LETTER FROM CO-CODER



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South Africa 2520

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Web: <http://www.nwu.ac.za>

Ms Debbie Cordewener
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2520

School of Nursing Science
Tel: (018) 299-1833
Fax: (018) 299-1827
Email: Belinda.Scrooby@nwu.ac.za

21 September 2015

Dear Ms Cordewener

Co-coding for masters study

Thank you for providing me the opportunity to act as co-coder on the data for your study titled: **Professional nurses' perceptions of skills required for preterm infant assessment**. My findings correlated 100% with yours and I am therefore of the opinion that the data analysis is trustworthy.
Please refer to the comprehensive summary of my findings as provided and discussed with you on 21 September 2015.

Yours sincerely



Dr Belinda Scrooby
Senior lecturer: Anatomy

ANNEXURE L: REQUIREMENTS FOR JOURNAL

Requirements for Journal of Perinatal & Neonatal Nursing

Journal of Perinatal & Neonatal Nursing

Online Submission and Review System

Author Resources

- [Instructions for Authors \(this page\)](#)

[Copyright Transfer \(PDF\)](#)

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[Purpose of Journal](#)

Scope

The primary objective of *The Journal of Perinatal & Neonatal Nursing* is to provide practicing nurses with useful information on perinatal/neonatal nursing, each issue will feature one topic, to be presented in depth.

Authors are encouraged to submit to *The Journal of Perinatal & Neonatal Nursing* (JPNN) clinically focused, academically sound articles that (1) add new knowledge to the field of perinatal/neonatal nursing, and (2) codify existing knowledge or add to the present and future roles of practitioners in the field.

Manuscripts should encompass both perinatal and neonatal aspects whenever possible. Clinical research articles will also be considered. Acceptance or rejection of articles is based on the judgment of the editors and peer reviewers.

Query letters including an outline of the proposed manuscript are encouraged and should be e-mailed directly to both editors. Authors are encouraged to submit articles that provide practical, authoritative, clinical information that encompass the practice and management responsibilities of advanced practice roles in the emergency care. Acceptance or rejection of an article is based on the judgment of peer reviewers.

Ethical and Legal Considerations

A submitted manuscript must be an original contribution not previously published (except as an abstract or a preliminary report), must not be under consideration for publication elsewhere, and, if accepted, must not be published elsewhere in similar form, in any language, without the consent of Lippincott Williams & Wilkins. Each person listed as an author is expected to have participated in the study to a significant extent. Although the editors and referees make every effort to ensure the validity of published manuscripts, the final responsibility rests with the authors, not with the Journal, its editors, or the publisher.

Patient Anonymity and Informed Consent

It is the author's responsibility to ensure that a patient's anonymity be carefully protected and to verify that any experimental investigation with human subjects reported in the manuscript was performed with informed consent and following all the guidelines for experimental investigation with human subjects required by the institution(s) with which all the authors are affiliated. Authors should mask patients' eyes and remove patients' names from figures unless they obtain written consent from the patients and submit written consent with the manuscript.

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Compliance with NIH and Other Research Funding Agency Accessibility Requirements

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Authors must obtain written permission for the following material. Please refer to the American Medical Association Manual of Style (9th ed., chapter 3) for more details.

- All direct quotes from any full-length book
- All direct quotes from a periodical article
- All excerpts from a newspaper article or other short piece
- Any borrowed table, figure, or illustration being reproduced exactly or adapted to fit the needs of the subject.

Manuscript Preparation

Manuscripts that do not adhere to the following instructions will be returned to the corresponding author for technical revision before undergoing peer review.

Each manuscript **must** include the following, each on its own page:

Title page including (1) title of the article, (2) author names (with highest academic degrees) and affiliations (including titles, departments, and name and location of institutions of primary employment), (3) corresponding author's name and complete address including email, and (4) any acknowledgments credits, or disclaimers.

The title page must also include disclosure of funding received for this work from any of the following organizations: National Institutes of Health (NIH); Wellcome Trust; Howard Hughes Medical Institute (HHMI); and other(s).

Abstract of 200 words or fewer describing the main points of the article. If it is a research article, prepare a structured abstract describing (1) what was observed or investigated, (2) the subjects and methods, and (3) the results and conclusions.

Unstructured Abstract and Key Words - *Include in Manuscript Text File*

Limit the abstract to 200 words. It must be factual and comprehensive. Limit the use of abbreviations and acronyms, and avoid general statements (e.g. the significance of the results is discussed, etc.)

Key Words 3-5 key words that describe the contents of the article like those that appear in the *Cumulative Index to Nursing and Allied Health Literature (CINAHL)* or the *National Library of Medicine's Medical Subject Headings (MeSH)*.

Abbreviations Write out the full term for each abbreviation at its first use unless it is a standard unit of measure. Avoid error prone abbreviations as identified by the Institute for Safe Medicine Practices, a complete list is available at: <http://www.ismp.org/Tools/errorproneabbreviations.pdf>

Precis – A synopsis of the manuscript of 25 words or fewer. Clear

indication of the placement of all tables and figures in text. Signed

and completed copyright transfer agreement.

Completed article submission form for each contributor.

Written permission, including complete source, for any borrowed text, tables, or figures.

All forms are available at: <http://jpnn.edmgr.com>

Manuscript

The manuscript will be submitted as a separate file when you are instructed to attach files to your submission. Compose your manuscript using your word processor, then attach this file when you reach the "attach files" step in the submission process.

Please note the following guidelines for preparing your manuscript:

- Prepare the manuscript double spaced in Microsoft Word. Leave a one-inch margin on all sides. Do not right justify.
- Type all headings on a separate line.
- Number all manuscript pages consecutively in the upper right-hand corner (text and references, followed by illustrations on separate pages).
- All legends for Tables and Figures are to be included with the manuscript; include these at the end of manuscript after the list of references. Tables and Figures are attached as separate files when you reach "attach files" in the submission process. Prepare tables and figures in a format ready for reproduction. Further instructions for preparing figures are given below.
- Manuscript length (excluding all references, tables, figures) should be no more than 20 pages (standard 8.5 x 11 inch page size).
- Use the *American Medical Association Manual of Style*, 9th edition, copyright 1998, for citations and references. See examples for citations and references below.
- No identifying information (authors' names) should be included on the manuscript. If you cite your own works, list them as "Author, YYYY" in the citation and the reference list in order to maintain your anonymity for the review process.

References

The authors are responsible for the accuracy of the references. Key the references (double-spaced) at the end of the manuscript. Cite the references in text in the order of appearance. Cite unpublished data—such as papers submitted but not yet accepted for publication and personal communications, including e-mail communications—in parentheses in the text.

The citations and reference list is to be styled according to the *American Medical Association Manual of Style*, 9th edition, copyright 1998, AMA. Examples of citations within the text and reference list style are as follows:

References must be cited in text and styled in the reference list according to the *American Medical Association Manual of Style*, Ed. 9, Copyright 1998, AMA.

References should **not** be created using Microsoft Word's automatic footnote/endnote feature.

References should be included on a separate page at the end of the article and should be double spaced

References should be numbered consecutively in the order they are cited; reference numbers can be used more than once throughout an article.

Page numbers should appear with the text citation following a specific quote. Examples:

Journals: Author. Article title. *Journal*. Year; volume: inclusive pages.

Banta-Wright SA, Steiner RD. Tandem mass spectrometry in newborn screening: a primer for neonatal and perinatal nurses. *J Perinat Neonat Nurs*. 2004; 18:41–58.

Books: Author. *Book Title*. Place of publication: Publisher: year.

Long VE, McMullen P. *Telephone Triage for Obstetrics and Gynecology*. Philadelphia, Pa: Lippincott Williams & Wilkins; 2002.

Simpson KR, Creehan PA. Strategies to develop an evidence-based approach to prenatal care and pregnancy and childbirth practices of selected cultures and religions. *AWHONN's Perinatal Nursing*. 2nd ed. 2001.

For multiple authors in journals and books:

- If six or fewer, list all authors
- If more than six, list the first three followed by et al.

Figures

High-resolution, camera-ready images may be submitted electronically as either a Tagged Image File Format (TIFF) or an encapsulated PostScript (EPS) file in Adobe Illustrator®, Adobe Photoshop®, or QuarkXPress®. Please save files in both the application in which they were created (i.e., Adobe Illustrator® or Corel Draw) and as either EPS or TIFF files. Use computer-generated lettering. Do not use screens, color, shading, or fine line. We *cannot* accept art that has been photocopied, is embedded in a Word document (has a .doc extension), was downloaded from the internet, is supplied in JPEG or GIF formats, or was created in Pagemaker or Powerpoint. A laser proof may be requested by editor if artwork isn't suitable.

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Tables will be submitted as a separate file when you are instructed to attach files to your submission. Create tables using the table creating and editing feature of your word processing software. Do not use Excel or comparable spreadsheet programs. Group all tables in a separate file. Cite tables consecutively in the text, and number them in that order. Each table should appear on a separate page and should include the table title, appropriate column heads, and explanatory legends (including definitions of any abbreviations used). Do not embed tables within the body of the manuscript. They should be self-explanatory and should supplement, rather than duplicate, the material in the text.

Tables should be on a separate page at the end of the manuscript.

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It is understood that articles are submitted solely to *JPNN* and have not been published previously. There are two stages of manuscript review prior to acceptance of the article.

First, all manuscripts are reviewed by at least two members of the Editorial Board. Members of the Board evaluate manuscripts based on the following criteria:

- concise, logical ordering of ideas;
- sound argument and defense of original ideas;
- accuracy of content;
- adequacy of documentation;
- consistency with the purpose of the journal.

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Manuscripts are reviewed anonymously by members of the editorial board. Authors should not identify themselves or their institutions other than on the title page. The title page will not be seen by reviewers.

Manuscripts are sent to the reviewers anonymously, with a form for recording their evaluation according to the criteria. The comments of both reviewers are sent to the Journal Editor. The anonymous reviewer's comments and the Editor's summary, indicating the Editor's evaluation of the

article, are returned to the author.

Second, the Editor makes a decision regarding acceptance of the article for publication based on the comments and recommendations of the Editorial Board reviewers. At least two reviewers must recommend the article for publication for the article to be accepted by the Editor.

AFTER ACCEPTANCE

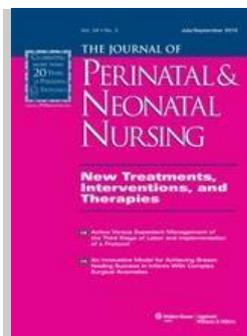
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ANNEXURE M: TABLES FOR ARTICLE

Table 1: Distribution of participants

Private clinic	Public sector clinics	Average babies seen per month	Average preterm babies seen per month	No of Registered Nurse/Midwife (RN)/(RM)
Clinic A1		60	1 in 10	1 RN
Clinic A2		74	3 in 10	1 RN
Clinic B1		70	1 in 10	1 RN
Clinic B2		160	2 in 10	1 RN
Clinic B3		64	1 in 10	1 RN
Clinic C1		160	1 in 10	1 RN
Clinic C2		94	2 in 10	1 RN
Clinic D		170	3 in 10	1 RN
	Clinic E	1100	10 per 1100	2 RN
	Clinic F	400	No estimate	8 RN
Total				18
<p>The letters A, B, C and D refers to the four companies and the number next to it, to the number of clinics that each group manage</p>				

Table 2: Interview questions

Formal question	Probing question
<p>How do you perceive the role of the nurse/midwife in the well baby clinic concerning assessment and follow-up of the preterm infant?</p>	<p>Your role/duty/job. Your role as a registered nurse/midwife, regarding referrals, diagnosis, treatment and participation in care. Is your position important and why?</p>
<p>How would you describe the skills required to be able to assess the preterm infant in a follow-up clinic?</p>	<p>What is an assessment? What is important to do during these assessments? What is covered during these assessments? Do you need additional skills to assess the preterm infant? Is assessments done correctly in your opinion? What is your view on current practise? Can it be better?</p>
<p>What training did you receive to do assessments on the preterm infant and do you think it was enough?</p>	<p>Previous training received? Post graduate training? CPD or in service training?</p>
<p>What tools do you have available to do these assessments?</p>	<p>What do you use while doing assessments? If participant struggle to name tools, suggest the following: Discharge planning Previous assessments Road to health chart Growth monitoring, Fenton Growth Chart Instruments, NBAS, NIDCAP Assessment room Training on prematurity, Little Steps Other</p>

<p>What would you say is your own level of skills to render quality assessments on the preterm infants and was your training enough? Elaborate</p>	<p>Lack in training? Lack in tools? Self-confidence. Suggestions?</p>
<p>Formal question</p>	<p>Probing question</p>
<p>What skills, if any, do you think you need to develop in yourself to do quality assessments on the preterm infant?</p>	<p>What skills are necessary for nurses to do quality assessments?</p>

Table 3: Themes from findings

Perception of:						
Role of nurse in follow-up assessment	Skills and Knowledge needs		Tools and resource needs	Support and referral systems	Training needs	Strategies for effective follow-up assessments
Most appropriate professional to perform follow-up assessment	Follow-up assessment skills	Milestones, growth and development	Physical resources, e.g. scale	Parent support	Basic training	Parent education
What need to be assessed	Parent interaction skills	Immunisation route and schedules	Discharge planning	Referral to appropriate healthcare professional	CPD/In-services training related to preterm infant assessment	Multi-disciplinary team
	Facilitate multi-disciplinary work	Feeding	Road to health chart			Exposure to preterm infant assessment
	Confidence					Training and tools

ANNEXURE N: ROAD TO HEALTH BOOKLET

IMPORTANT: Always bring this booklet when you visit any health clinic, doctor or hospital

ROAD TO HEALTH BOYS

Child's first name and surname:

Date of Birth:
DD/MM/YYYY

This booklet must be issued at birth by the health services concerned.
If birth takes place at home, the first opportunity after delivery should be used to issue the booklet.
The booklet must be issued **FREE OF CHARGE**, irrespective of delivery taking place at a public or private health facility.



www.rudasa.org.za/index.php/.../6-paediatrics?...35:road-to-health-for...

ANNEXURE O: CONFIRMATION OF EDITING

Valerie Janet Ehlers

Nurse Consultant and Researcher

Emeritus Professor and Research Fellow: University of South Africa

Associate Editor: International Nursing Review

(B Soc Sc, Honours B Soc Sc, BA Cur, Honours BA Cur, MA Cur, D Lit et Phil)

CONFIRMATION: EDITING OF A MASTER'S DISSERTATION

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28 October 2015

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28 October 2015	I hereby certify that I have edited the master's dissertation of Ms D Cordewener entitled: Professional nurses' perceptions of skills required for preterm infant assessment
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Thank you



Prof VJ Ehlers