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An investigation of the programs and equipment used by caregivers and day mothers for the age group 0-36 months in Limpopo Province, South Africa

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CHAPTER 1

INTRODUCTION

1.1 Introduction to Study

> *"the quality of child care is likely to have important consequences for the development of children during the early years and middle childhood. The research presented ….. shows that the impact of child care quality on child development depends on such variables as the activities children experience in care, caregiver training and education, type of setting, and amount of time in care."* (1, page 135)

Many children in the Limpopo Province in South Africa are attending day care facilities, which provide care for the children while their parents are at work. This means that in an average day the child spends more waking hours in the presence of the caregiver and in the environment that the care facility offers, than at home with his or her parents. This international trend means that parents are spending an average of 10 – 12 fewer waking hours per week with their children than parents did thirty years ago.(2)

This has led to a change in the role adjustment and organization of the average family. Traditionally, the mother stayed at home to care for the children, was the infant's security, she stimulated the child, kept the child "busy" and talked to the child in her mother tongue. This role is, to a large extent, nowadays carried out by a caregiver looking after a number of infants and young children. The number of children attending day care facilities is also increasing. This is probably as a result of financial needs and career opportunities encouraging or forcing both parents to work.(3) Increased divorce rates leave many families with a single parent who needs to work full time. Many unmarried mothers raise their children without the support of the other parent and usually also needs to work full time.(3)

Day care can include care by family members, care by neighbours and friends, day care homes (day mother) and child care centres and they provide care for children of all ages.[1]

The quality of the child's care, especially during the first three years of life, is essential for the child's normal development.[2] The environment that the child finds himself in during these years can literally determine who and what he will become. [2] This environment equals, to a large extent, the physical and emotional care of the child. The physical care includes nourishment in the form of a balanced diet, proper personal hygiene, hygienic environment, physical contact with parent or caregiver and the measures taken to prevent injury and physical illness.[4] Emotional care involves the feeling of safety and security, emotional coaching by the parent or caregiver, bonding between the child and parent or caregiver, training in social skills and acceptable emotional behaviour

Stimulation of normal development is dependant on a stimulating and inviting environment, participation in various activities, active involvement in the environment and opportunities for adaptive behaviour. [4] A caring environment is essential for raising a child; in the home as well as for the day care facility the child attends. During the first three crucial years of life it is important to encourage development, particularly personal, motor, sensory and intellectual development. In a developing country many parents do not have adequate knowledge of child development nor do they have resources for the provision of a stimulating environment for their children. This role may therefore become the responsibility of the day care centres.

In South Africa where 10% of the population is under 4 years the need for appropriate childcare has been identified as a priority.[5] The National Integrated Strategy for Early Childhood Development has placed special focus on the development of skills of caregivers at community level and the development of materials for the psycho-social support of 0-3 year-old children in care. This is

emphasized in the strategy to provide the environment necessary for the optimal development of appropriate childcare.[5]

Studies from the United States identify the critical issue in care facilities as being the enrichment of the child's development. They emphasize that the environment should not inhibit normal development.[1] The environment includes physical factors such as play areas, resources such as toys and emotional factors such as the bonding with the caretaker and the emotional coaching provided by the caregiver.[4]

1.2 Problem Statement

Day care facilities in South Africa, including Limpopo Province, are not regulated by a single authority and the quality of care and skill of the caregivers offering this care is unknown. [5] Anybody can open a facility to provide care for a child in the age group 0 to 36 months. The person opening the facility is not required to have proper training nor a healthy, enriching environment so as to provide for adequate development of the children in care.

1.3 Purpose of the study

In order to establish the environment and circumstances in which infants and young children are presently cared for, day care facilities should be monitored. This study investigates as many aspects of the 0-36 month old child's care environment as is practically possible in a single visit. The study aims to provide an estimate of the strengths and shortcomings of typical day care in Limpopo Province, South Africa. Day care facilities in the Capricorn district, Mopani district and the Levhubu area in the Vhemba district will be included in the study.

The effect of the type and quality of care on the child and the child's family as well as the emotional needs of the child, fall outside the scope of this research project.

1.4 Importance of the study

The importance of this research study is a step towards increasing the knowledge of the day care environment of young children between the ages of 0-36 months in Limpopo Province, South Africa. This study will evaluate the role the caregivers play in ensuring the well-being of the children in terms of the environment provided and the stimulation of the child's development. The results of this study can be used to initiate the development of suitable environmental guidelines and stimulation programs for this population.

1.5 Assumptions

The following assumptions were made before the investigation started:

- Day mothers working from their homes and caring for 4 to 15 children are registered at the Department of Health and Welfare of each municipality in Limpopo Province.
- Day mothers can be interviewed and observed during the time that the children are participating in activities.

1.6 Objectives of the study

The objectives of this investigation are therefore:

- To compile a questionnaire and an observation sheet which can be completed in a single visit, based on the factors needed for the care of children from 0 to 36 months of age.
- To evaluate the training of the caregivers, the services provided by the caregivers and the facilities offered in the environment of each day care provider using the questionnaire and observation sheet and to compare these between day mothers and caregivers at care centres.

1.7 Definition of Terms

- Day mother (also includes play groups): a person providing care for a maximum of 15 children away from their homes during the day or a part of the day, on specific days or on every day of the week for compensation or not and are registered in terms of Act No 74/1983 if more than 6 children are cared for. [6]

- Caregiver: a woman providing care for pre-school children at a day care facility. For the purpose of this study caregivers are included that provide care for children in the age group from 0 to 36 months. [4]

- Day care facility: a facility that provides care for children in the absence of their parents, usually when parents are at work. This can include the provision of meals and snacks, as well as playing and sleeping facilities. Children are left at the facility in the morning when the parents leave for work and are fetched when the parents return from work. The time spent at the facility can differ according to the needs of the parents. [4]

- Stimulating environment: an environment that contains the necessary equipment to stimulate and enhance the different aspects of a child's development. [4]

- Emotional coaching: being aware of a child's feelings and being able to empathize, soothe, and guide them. [7]

- Physical environment: the buildings, garden, toys, equipment and facilities like bathrooms, sleeping areas, furniture, kitchen, and it also includes the size of the premises in which care is provided. [4]

1.8 Abbreviations

CCDP: Comprehensive Child Development Program

ECD: Early Childhood Development

HIV/AIDS: Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome

HOME: Home Observation for Measurement of the Environment

IQ: Intelligence Quotient

MRI: Magnetic resonance imaging

NGO: Non Governmental Organisations

NICHD: National Institute of Child Health and Human Development

ORCE: Observations Rating of the Care giving Environment

PEPPS ECD TRAINING: Project for the Establishment of Pre-primary and Primary Schools Early Childhood Development Training

PET: Positron-emission tomography

SECC: Study of Early Child Care

UCEC: University of South Africa Centre for Early Childhood Education

UNICEF: United Nations Children's Fund

UNISA: University of South Africa

USA: United States of America

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The international literature reviewed to inform this study includes the different trends in and effects of child care, as well as the quality, type and quantity of child care. It includes the need for child care as well as the purpose and function of day care facilities.

The national regulations regarding day care were also explored as well as programs, equipment and skills needed to promote normal development. Child care and stimulation programs used in South Africa and other countries, available on the internet, as well as the equipment necessary for effective child care were included. In addition the skills of a caregiver and the effect of these on children were explored. Finally the review considered the specific developmental needs of the child aged 0 – 36 months and their needs in day care, with specific issues related to day care in Limpopo Province, South Africa.

This literature is used to develop the research instruments (a questionnaire and an observation sheet) to conduct this research about the present state of day care in Limpopo Province, South Africa.

2.2 Different trends in child care

Caring for children is developing in new directions in many countries, [(2)] including Limpopo Province, in South Africa. [(4)] Various circumstances are responsible for this of which the following are included. Many women are employed full time and cannot care for their children during working hours. A large percentage of first births occur outside of marriage [(3)] leaving single mothers to raise children. Another influence on the caregiver system in South Africa is the fact that HIV/AIDS (Human Immunodeficiency Virus / Acquired Immunodeficiency Syndrome) has become a

reality for many, with children presenting with severe illnesses at young age, requiring more care than in previous times. [8]

Child care in South Africa needs culturally congruent programs that are sensitive to the different cultures. [9] The eleven official languages in South Africa increases the need for cultural congruent programs and day care facilities as there is a strong relationship between culture and the attainment of language. Cultural beliefs create different parenting styles. At this time in South Africa many infants are put in the care of a caregiver from another culture, who speaks a language different to that of the child's parents. Local research indicates that day care staff does not provide adequate language stimulation, resulting in linguistic deficiency in all languages. [9] South African infants have unique needs as many communities are affected by poverty, frequently associated with low birth weight, developmental delays including communication. [9] These specific needs of infants, which also includes the problems related to HIV/AIDS, should be addressed through child care.

In the United States the demand for child care for babies and young children has increased dramatically with projections that all types of non-parental care is increasing. [10] Community based child care is becoming a priority in the USA as child care becomes an integral part of programs designed to enhance family development. Early intervention services within the child care setting as well as initiatives to support parents of children in child care are also implemented. [10] Such measures could have a positive effect on South African families and infants if appropriate programs are implemented in South Africa.

Research from the United States also suggest that family support is needed to enhance family development and to support parents as depression, anger and anxiety are observed in those parents whose infants are in full-time day care. [10] It was also found that the mother's work (schedule and environment) affects the child's development even if the child is cared for on another's premises. [1] The child care

arrangements of employed mothers differ according to family characteristics such as household structure, education, race, ethnicity, income, location of the household, age of the child and job characteristics of the mother.[1] Children often have more than one child care arrangement, some simultaneous and many sequential. [1] This means that secondary and tertiary arrangements as well as the primary arrangement for child care should be considered as all situations may impact on the development of the child. The choice of care, as reflected in recent research, also depends on the characteristics of the child. Parents prefer care arrangements that are consistent with the child's interests, maturity and skills. [1]

In the mid-1980s research on child care focused mainly on the comparison of parental care versus day care [1] and the development of the child and not on the quality of day care. The focus has now shifted to the quality, quantity and type of care provided, mainly at day care facilities. However the effects of child care in homes (the day mother in South Africa) and by nannies and relatives, on the development of the child should also be considered. [1]

2.3 Effects of early child care

Early childhood programs can produce long-term benefits to children's cognitive and social-emotional development. Major ongoing research in developed countries, particularly the USA, includes a number of longitudinal studies. The NICHD (National Institute of Child Health and Human Development) recruited more than 1 300 families and newborn children to determine the relationship between children's early experiences and their developmental outcomes. [11] This study along with 20 others reviewed in the Rand Early Childhood Interventions study [12] found that the programs had a favourable and statistically significant effect on children's cognitive, behavioural and emotional development. The most frequently measured outcomes were IQ scores, achievement test scores and measures of social competence.

Ramey's study also indicated that early intervention and stimulation increase the

intelligence of the young child. Children enrolled in his program scored higher in mathematics and reading and scored an average IQ edge of 4.6 points at the age of fifteen years when compared to their counterparts. Research suggests that intervention after the age of five years demonstrated no IQ or academic benefit. [11] Studies done on intervention programs for children less than 4 years of age in developing countries, including Jamaica, show IQ gains during the intervention. These have been sustained into early school years with long-term gains including less failure (grade retention) in school. [13]

The Rand Early Childhood Interventions review [12] further reported that a number of studies had also looked at the adult outcomes of these programs. The Abecedarian, Perry Preschool Project, Chicago CPC and Head Start programmes all found a significantly higher number of their graduates had finished high school. Significantly fewer had been arrested or were involved in crime and in the two programs, employment earnings were significantly higher. The lower medical, remedial, crime control and welfare costs estimated a saving of $7.16 for every dollar invested in the Perry Preschool Project. [14]

Numerous studies researching the improvement in child development when children, especially from high risk families, [13] were included in child-focused, early centre-based intervention have similar results. These positive long-term effects of early intervention, specifically of infants and children from high risk families, emphasise the importance of the effect of intervention programs into their adult years. [12] It suggests that these programs may have an effect on the society in general as well.

Parent-focused programs have also been reviewed. These are programs used to educate, train or inform parents on ways to handle, stimulate and care for their children. Research on parent-focused programs and combinations of child- and parent-focused programs, found a positive effect on parenting and parent

employment. A positive impact was also found in the children's cognitive development. [1]

Research therefore supports the importance of early brain development.[14] For instance, the more words a child hears, the faster he learns language. Pre-schoolers enrolled in piano or singing lessons also show dramatic improvement in their spatial reasoning after only eight months. [14] Thus the quality, quantity and type of child care and the stimulation provided will affect what the child can achieve. Unfortunately much of the literature reports studies that consider only one aspect of child care (quality, quantity or type) in isolation without taking the other aspects into account. [1]

No research could be found that indicates that a stimulating environment, both social and physical, has a negative effect on brain functioning and development in the young child.

2.4 Quality, type and quantity of early child care

2.4.1 Quality

Quality of child care is considered the most important of the factors and has been extensively researched. [1] Studies done in the USA over the last 15 years indicate a correlation between program quality and positive outcomes for children. [1]
Inadequate care of the group 0-36 month's increase risks to the well-being of children and their families. [11] To provide this optimal care, that enhances all aspects of normal development of the child, it is necessary to ensure that the following eight aspects of high quality infant care, identified by Honig, are practiced in day care centres and by day mothers: [15]
These factors were considered when developing the measurement tools for this study

- health and safety,
- small groups of three to four infants per caregiver,
- assigning each baby to a primary caregiver,

- ensuring continuity of care with the same provider over time,
- caregiver's response to infant signals,
- meeting each infant's needs in group care with a focus on individual learning style and temperament,
- cultural and linguistic sensitivity,
- provision of a physical environment with variety, stimulation and planned activities. [15]

Other variables to determine the quality of care are identified as follows:

- Caregiver training or education is a better predictor of child care quality than child-to-adult ratios, [15]
- Infant care regulated by a state agency is of higher quality than unregulated care and stricter state regulations are associated with better quality care of infants, [15]
- Length of stay, even a high quality centre may be stressful for a toddler left for 8 or more hours a day. [15]

Individual attention to the capabilities and needs of infants and toddlers appears to be a critical element in a high-quality care environment. [15]

In summary, positive care giving is more likely when

- groups and child-adult ratios are smaller,
- care givers hold more child centred beliefs,
- care givers are better educated,
- care givers have more experience in child care,
- the environment is more stimulating. [16]

2.4.2 Types

Different types of child care were studied to establish the effect on children. In the USA the types of child care were identified as child care centres, child care in homes (the same as the day mother in South Africa) and grandparent care. The research indicates that caregivers in child care centres have a more professional approach

and are less likely to provide the service as a favour. Child care in homes is more casual and does not appear to result in the cognitive advances seen in the children in the child care centres. [1]

The NICHD study however found that up to 36 months of age the best care giving was provided by in home care givers like the mother or a relative caring for one child. Day care at home with relatively few children was nearly as positive and the least positive care was found in centres with higher ratios of children to adults. [16]

2.4.3 Quantity

When reviewing research on the quantity of child care, infants with extensive child care experience did not differ in their distress during separation from their mothers from those with little or no experience. However at the ages 24 months, 54 months and at kindergarten age (usually 5 – 6 years), children with more hours of care had more behaviour problems and were less socially competent.[1] This indicates that care for a child by another person other than the mother, might not be beneficial for the well-being of the child. However in high risk families, where the mother has inefficient knowledge, experience, education or abilities, intervention in the form of controlled programs in child care may be more beneficial to the child. [1, 14]

Day care is the only option to a large number of parents seeking care for their children while they are at work. The need is clear but the quality, quantity and type of care should be carefully considered in view of the effects it may have on children.

2.5 Need for purpose and function of day care facilities

"Early intervention and provisioning make it possible for children to grow and develop to their full potential, thus reducing the need for remedial services to address stunting, developmental lag and social problems later in life.

Quality provisioning will also increase educational efficiency, as children will acquire the basic concepts, skills and attitude required for successful learning and development thus reducing their chances of failure.

Increased, quality provisioning can free parents and other adult carers to take up opportunities for education and employment, which can dramatically improve the socio-economic status of impoverished families." (5, page 12)

Day care facilities target infants and children and have an effect on early childhood development (ECD). Care is defined as the act of providing physical, practical, emotional, psychological and/or medical assistance to people who are unable, for whatever reasons, to provide for their own needs. (17) Although infants and children in day care centres are not disabled in any physical or psychological way, they cannot provide for their own needs in the absence of their parents or other adults who can take care of them. Care can be offered as home-based, community-based or residential/institutional based. Effective community-based child care depends on active participation by local people and responds to the needs of particular communities reinforcing traditional community life. (17)

Communities in South Africa are responding to the need for ECD themselves (in the provision of child care by care givers) even though the state bears primary responsibility of providing for the basic needs of children (5) and is to be held responsible for the provision of services to people in need. The South African government has indicated its concern by prioritising early childhood development in many of its policies, (18) indicating there is a need for more child care services including training and supervision.(18) The Nationwide Audit of ECD provisioning in South Africa (19) indicates emerging issues for ECD policy development. The data from this audit indicates that less than one sixth of the children in the age group 0 – 7 are in some form of early education. (19) Hopefully this emphasis will initiate the introduction of public day care centres with government regulations and control or,

preferably, better economic situations which will give mothers the chance to be at home and be their child's primary caregiver.

The lack of high quality care during early childhood has important developmental consequences that can be directly linked to social development and later problems such as delinquency and crime. Based on USA research, government investment in this form of care makes both moral and economic sense [19, 20] but this need is not presently being met by the state in South Africa. The importance of early childhood development is stressed by the Department of Social Development [5] which will surely result in improved quality of care. The national audit [19] indicates a weak financial base of support at sites of ECD where almost a third of the sites charge fees of less than R25 per month, fees are not always paid regularly and more than a quarter reported that fees were the only income.

In the review of Early Childhood Development the importance of appropriate early stimulation, nutrition, health and care is emphasised by Biersteker [21] and a number of initiatives to improve and research the quality of child care have been started in South Africa. UNISA's (University of South Africa) Centre for Early Childhood Education (UCEC) was established in 1980. [22] This centre, located in the Tswane district in Gauteng Province in South Africa, provides not only day care for 185 children but also workshops for and training of caregivers while providing academics the opportunity to conduct research. The Centre for Early Childhood Development (CECD), established in 1994, provides similar training courses.[23] The Project for the Establishment of Pre-Primary and Primary Schools (PEPPS) and Early Childhood Development Training (ECDT) provides courses including training in child development, a program to stimulate most aspects of child development, a portfolio of relevant equipment made by students attending the course, written assignments and on site inspections to assess the implementation of the course material. [24]

The function of the day care centre and the caregiver are thus to stimulate the child as they would be stimulated in their home environment and/or improve on it. Conkling [25] stresses the importance of the environment in child development by explaining that the brain grows at a relatively predictable rate in healthy children, but that intelligence itself is neither predictable nor predetermined. A child's intelligence can be changed by the environment and experiences in the first three years. Her research has established that the brain needs appropriate stimulation at certain critical periods of development to mature and fulfil its potential. Appropriate stimulation can be achieved by engaging the child in meaningful occupation or activities. [25]

Individuals, including infants and children, need occupation or activities to lead a healthy life. Purposeful and meaningful participation in activities offers a possible route towards a sustainable, health-promoting way of life; it also enables a person to develop as an individual and as a member of society. [26] Children, as an integral part of society, also need meaningful occupation which can be achieved by "doing". "Doing" has consequences for long-term growth and development. For children to reach their intellectual potential, they need opportunities for exploration and play, and they need to be surrounded by encouraging and supportive people who love them.[4] To provide for these opportunities, caregivers and parents need knowledge of child development, stimulation and appropriate activities. The younger the child, the greater the influence the environment has and the greater the opportunities to stimulate intelligence. [25]

2.6 Regulations regarding day care

Regulations in South Africa for day care facilities are described in the standard health by-laws for pre-school institutions and include standards for day mothers looking after children in their homes. [27] The Department of Health and Welfare of a specific municipality set standards for hygiene, space and safety. [6, 27] This includes the

number of children per caregiver and lays down specifications for adequate sleeping, playing and nappy changing facilities. [6] No standards exist for the vital aspects of stimulation programs or the availability of toys. The identification of developmental delay and illness, as well as reports on physical and emotional well-being of the child by the caregiver, is not covered in the standards set out by the municipality. By law child abuse should be reported but without adequate control and supervision even this important aspect could be neglected. Caregivers should be trained in basic first aid, report ill children according to the regulations, implement safety measures and ensure adult supervision at all times. [27] It is expected of caregivers to obtain specific information about every child and his/her parents on admission and to keep record of each child's attendance and medical reports. A medical and general journal should be kept in which any "*important and outstanding event*" is recorded. [5] The only requirements for a person to provide a child care service is that the premises should comply with the requirements. [5]

Another crucial aspect not regulated, is the supervision and support of the individual care worker. Inadequate supervision and support of care workers is a primary cause of burnout and secondary traumatic stress. [17]

The nationwide audit [19] reports that only two thirds of the sites for ECD are registered with the Department of Education or Social Development (formerly the Department of Welfare).

2.7 Measuring the Quality of Child care

Studies described in Working Families and Growing Kids [1] use different measuring techniques to measure the quality of child care. These are:

- trained personnel to make observations over an extended period of time,
- rating different aspects after 2 hours observation in a classroom,
- qualitative ratings and behavioural counts made during a series of observation cycles of 44 minutes at a time.

The Study of Early Child Care (SECC), is a comprehensive longitudinal study initiated by NICHD (1991-1994), [11] investigated the quality of child care of children under 3 years using the following tools which they had developed:

- Director Questionnaires - Long and Short Versions,
- Director Telephone Interview,
- Home Observation for Measurement of the Environment (HOME) Inventory-Infant/Toddler version,
- Observation Ratings of the Care giving Environment (ORCE): Part l: Behaviour Scales, Qualitative Scales, and Observed Structural Variables Taking Care of Young Children. [11]

The NICHD study, a longitudinal study, is the most comprehensive research into how variations in childcare influence children's development. Although certain aspects of the scales used may have been helpful to determine the standard of child care in Limpopo Province, all scales were designed to be used over time and not specific to the South African population. The study reported on in this dissertation required data to be collected on childcare and the care environment during a single visit.

2.8 Programs, equipment and skills used to promote normal development of the child aged 4 – 36 months

2.8.1 Programs used in other countries

Programs to stimulate development are available for day care centres and pre-schools in other countries. Programs such as Head Starter [28] and Growing Great Kids [29] are available in the USA, Canada and India. As part of the implementation of these programs valuable research emphasizing the importance of family support and parent involvement have been undertaken which resulted in the development of a Comprehensive Child Development Program (CCDP) [28] for poor families, over a five year period. The families were involved in order to

ensure a change in the society. This program is however not freely available to or suitable for caregivers in South Africa.

2.8.2 Programs used in South Africa

In South Africa although various institutions have compiled and offered training programs for the care of the very young child, stimulation is not emphasised.

Dr. Elsie Calitz from the Association for the Education and Care of Young Children, who is involved in the training of day mothers in Centurion, South Africa, is not aware of any programs on child stimulation available in South Africa for use by day care mothers nor of any day care mothers who have been specifically trained to use stimulation programs.

The chairperson of the Pretoria Association for Day Mothers (Pretoria Dagmoeder Vereniging) confirmed that stimulation programs are not available for the use by day mothers in South Africa.

ECD Training Courses are presented at Level 1 to Level 4 for day mothers and caregivers. [(24)] These courses are designed for both literate and illiterate persons. Ntataise is an unpublished program for pre-school children, and for children younger than 3 years, presented for caregivers in many rural areas and for the children of farm workers. These programs include sections on child stimulation but the focus of the programs are on the child from 36 months and older, which means it considers the child in nursery school rather than infants during the first 3 years of life.

Resources in South Africa for the stimulation of development in the very young child include information from Witthaus [30] that provides a guide for parents, teachers and therapists on how to stimulate babies and children to enhance development. Other books are also available such as Conkling, [25] Zigler et al. [31] and Woolfson [32] with examples of age related activities and toys. These books do not present a clear, simple program which a busy caregiver can follow on a day to day basis. The caregiver will have to compile her own program from the activities in the books. This will indeed be very difficult for a person with neither training nor experience nor an ability to read English.

The only published program that could be found in South Africa, written for day mothers and day care centres, which stimulates the development of the infant and young child from 0 – 36 months, is the program used by Better Babies. [4] This program is compiled by an occupational therapist and addresses all the important aspects of the development of the young child, gives indications of possible problem areas in development, including developmental tables and lists of equipment needed for every month of the year. These manuals also include a menu, compiled by a dietician, for this age group, including the convenience of a weekly shopping list. Unfortunately this franchise of day care centres was closed due to a lack of funding and the manuals, programs and menu are at present not available to the public.

2.8.3 Programs available on the internet

In South Africa, with huge rural areas and uneducated caregivers working from home, the internet is available to an insignificantly small group of caregivers. The following programs are available for the few with access to it:

2.8.3.1 Educarer [33] has many interesting articles available to educate parents in the educating of their children. The topics of the articles in “Tidbits” are relevant for infants and older children. A helpline is available to assist caregivers with specific problems. This is however not a program structured by chronological age that a parent or caregiver can follow to effectively stimulate the young child.

2.8.3.2 Smart-Start Early Learning Systems for Home and School [34] provide programs in printed manuals, CD’s or electronic books to encourage happy, well-adjusted, bright children. High/Scope Educational Research Foundation provides support and assessments for infants and toddlers in day care as well as a manual entitled “Tender Care and Early Learning: Supporting Infants and Toddlers in Child Care Settings” by Post and Hohmann. This includes sections on active and sensory motor learning, organization of space and materials; children’s daily schedules and care giving routines; for the children 1-3 years old. [35]

These can be used directly from the internet or ordered on the internet at cost of approximately $40.00 making them unavailable to a large number of caregivers in South Africa, especially in rural areas.

2.8.4 Equipment necessary for effective child care

The regulations of the Department of Health and Welfare, (now the Department of Health and Social Development) [6, 27] where day mothers and day care centres should register, are available for those planning a child care centre and to provide for the health and safety of the children. These regulations do not specify the equipment needed to stimulate the children effectively which are dependant on the age group and the program used. Suitable toys are described and listed in the books named under 2.8.1, but once again, the untrained and busy caregiver will

have to compile her own list of toys and equipment to stimulate the babies and children in her care effectively.

2.8.5 Training and skills of caregivers

According to the USA Dept of Labour, the training and qualifications required of child care workers vary widely, ranging from a high school certificate to a degree in child development or early-childhood education. [36] In South Africa, child care is placed under the category of service and sales providers and formal education or training is specified for day mothers or caregivers by the Department of Social Development. [37]

The Department lays down the minimum qualification at a Basic Certificate in ECD at National Qualification Framework (NQF) Level 1 of the South African Qualifications Authority. This qualification includes a basic knowledge and skills about child development from birth to nine years, as well as the ability to facilitate growth and skills in ECD programs [5].

The personal skills required by child care workers include anticipating and preventing problems, dealing with disruptive children, providing fair but firm discipline, and being enthusiastic. [38] The ability to communicate with the children, their parents and other child care workers as well as being mature, patient and understanding are essential characteristics. Having energy, physical stamina and skills in music, art, drama, and storytelling are also recommended [35] as the caregiver must contribute to how children develop their own ability to play. "*One has to teach children how to play, or else it will not happen*." [39, page 182]

In terms of training, High Scope Educational Research Foundation [38] suggests that day care workers have knowledge of infants and toddlers, learn how to interact with young children and their parents, how to arrange and equip the environment for child care, how to develop daily schedules and care giving

routines, how the infant and toddler develop, how to use music with children and how to observe children. [38] Involvement and interest in the child can also not be separated from the caregiver-child bonding process and the effect this may have on the child's emotional development. [38]

An ECD site head should have a minimum qualification of a National Certificate in ECD at NQF Level 4 of the South African Qualifications Authority. They should also have management skills, as should all self-employed child care workers, who must also have business sense and skills. [35]

In order to develop a questionnaire (which would give an indication of the quality of a day care centre and the quality of the care provided) and an observation sheet (to establish the quality of the physical surroundings in which the child spends time) the latest research on child development and stimulation programs is reviewed. This allows the researcher to determine the factors needed for effective care and stimulation of the young child.

2.9 The needs of the child (aged 0 – 36 months)

2.9.1 Development of the child

In order to determine what should be included in evaluating the quality of care for the child 0 - 3 years, it is necessary to investigate the latest research on child development. This also gives an indication of the ideal physical environment for a young child.

In the past decade researchers have used exciting new imaging techniques such as PET (positron-emission tomography) and functional MRI (magnetic resonance imaging) to establish the sequence of brain maturation. MRI scans are especially good at detecting myelination and PET scans allow for visualization of the activity

in different parts of the brain. [40] These techniques have confirmed research done in the past, but also indicate new aspects of brain development.

2.9.1.1 Potential

The potential of a person is not dependant on the number of brain cells, but on the number of dendrites. The brain has a minimum of 1 000 000 000 000 individual neurons and every neuron can be connected to 1 to 100 000 other neurons. The number of connections is dependant on the environment and on hereditary factors. The genes are responsible for the sequence of development and the environment is responsible for the quality of development. The brain of a baby is almost like a learning machine, using the neurons, making neural connections as they are needed and in this process "building" the child's brain according to the needs presented by activity in the environment. [40]

2.9.1.2 Brain Growth

From each neuron grows an axon and dendritic branches, aligning input and output connections for example for vision, language and movement. This is called *brain wiring* by Eliot [40] and is, according to her, "*an intricate dance between nature and nurture"*. [40, page 29] The growth cone of each neuron targets neurons with a matching chemical identity to form a synapse with initial contact. Heightened electrical activity in the nerve (when stimulated) triggers molecular changes to stabilize a synapse, whereas less active synapses regress. Thus, a challenging environment stimulates brain growth and an environment without stimulation and challenges will result in a brain with physically less dendrites and synapses. [40]

2.9.1.3 Myelination

Myelination is the formation of a fatty substance around the nerve cell. This reduces the risk of electrical interference and increases the speed of transmission through the nerve. The spinal cord starts to myelinate at five months after conception whereas the brain only starts at nine months. The different brain areas myelinate at a markedly different pace and this continues until the age of two years.

The spinal cord and brain stem are myelinated at birth, the midbrain and cerebellum shortly after birth and the sub cortical parts of the forebrain only after one year. The cerebral cortex is the slowest and the most uneven to myelinate. The dendrites and synapses in the sensory areas, motor areas, areas of parietal and frontal lobes of the brain can be stimulated to either stabilize or regress and can be myelinated until late in the second decade of life.

The environment can adversely affect the degree of myelination. Nutrition is important in this process, therefore fat in the diet is recommended until the age of two years. (40)

Modern brain-imaging techniques have confirmed that children's intelligence and well-being are affected by their environment. (40) Proper nourishment, intellectual challenges and enough affection ensure the increase of intelligence and well-being. (40) Proper care and stimulation of the young baby and child can literally change the society and the performance of individuals and fewer burdens on the authorities.

2.9.1.4 Critical periods for enriching brain growth and development

There are certain periods in a child's growth during which certain aspects of development can be stimulated optimally to ensure optimal development of

that brain area and that aspect of development. These critical periods are called windows of opportunity.[25] All essential refinements in brain growth can be influenced by a child's experience, but when the refinement stage of that region has passed and the critical period has ended, the opportunity for growth and stabilization is significantly limited, which means the window of opportunity has closed to a large extent.

Critical periods for basic sensory abilities end much earlier than those for more complex skills like language and emotion. A very important aspect to keep in mind with child care is that all critical periods begin within the first 4 years of life. This is when, using the words of Eliot," *the synaptic tide turns from waxing to waning in all brain areas"*. [40, page 38]

Experience, which results from participation in activities, result in neural activity that decides which connections will be stabilized and preserved in the brain. This influences how the brain grows and develops how the brain is permanently equipped for specific tasks, as well as certain ways of thinking and acting. [40]

Poor stimulation and an environment deprived of challenges during critical periods of development can result in individuals with physically less dendrites and synaptic connections in their brains. The effect of this on adaptability and intelligence can be debated. [40]

2.9.1.5 Stimulation

The establishment of body maps in the somatosensory cortex is dependant on the electrical activity in the incoming sensory fibres. The cortical space for this area of the brain is relative to the amount of sensory experience. [40]

Touch: The first sense to develop is touch and it is present at five and a half weeks post conception. Touch experience is essential, not only

for the development of touch sensitivity but for the general cognitive development as well. Anything that increases a baby's variety of touch stimulation is likely to enhance many aspects of brain and mental development. Early touch is essential to sensory-motor development as it promotes physical growth, emotional well-being and cognitive development. As touch, more than any other sense, has such ready access to young babies' brains, it offers perhaps the best possible opportunity, and one of the easiest, for directing their emotional and mental well-being. (40)

Vestibular: Babies are born with a highly developed vestibular system. This system is very old in evolutionary terms and critical to babies' early brain development. Vestibular input is essential in the development of head control and body posture, as well in the accurate movement of body parts, especially the eyes. The vestibular system matures gradually as it has to keep up with the growing child's expanding range of movement. It does not fully mature until the age of seven years. This is because of very slow myelination of certain vestibular tracts. The vestibular system has a critical role in organizing and integrating other sensory and motor abilities and has an influence on higher emotional and cognitive abilities. Supplemental vestibular stimulation can improve a baby's brain and mind. (40)

Visual: The visual brain is primitive at the time of birth but at six months of age all the primary visual abilities have emerged. Visual experience is important for the development of the brain circuits underlying vision. Early experience critically shapes a child's skills of observation, spatial perception and hand-eye coordination. The more a baby sees, and the better that input is suited to their visual ability at that particular stage, the better the child is likely to be at the many later tasks that depend on vision. Visual acuity improves markedly during the first six months of life, then gradually until five years of age. The

types of visual experience and visual-motor activities a child engages in early life are extremely important in shaping the child's brain. [40]

Hearing: Hearing begins early and matures gradually while modified by experience. Early experience with speech and music is important in shaping higher aspects of brain function such as emotions, language and cognitive abilities. The simpler aspects of hearing pass the critical period before the more complex aspects such as language and music development emerge. The latter stimulates intellectual and emotional development. [40]

Intelligence is neither predictable nor predetermined and can be changed by the environment and experiences during the first three years of life. Stimulation is necessary at the critical periods of development to ensure optimal development. Early stimulation can alter the size, structure and chemical functioning of the brain. The environment will influence how a child's brain becomes organized, whether it is consciously controlled or not. Knowing that the foundations for effective thinking are set in the early years, and knowing that the child has a natural interest in the environment, a quality environment can have an important and lasting impact. [40] Although environment can encourage or inhibit certain genetic predispositions, it cannot create traits. Never the less, early experiences are so powerful, they can completely change the way a person turns out. [2]

2.9.2 The needs of a child in day care

2.9.2.1 Play

Play is the child's occupation and needed in any care environment. Play is an observable behaviour that is an interaction between an individual and the environment. It uses time, space, internal and external resources and can be undertaken by an individual. Play is thus a process and an active engagement in the environment. [39]

There are children who do not know how to play, as they never had access to a suitable play environment, playthings, playmates or role models. They have been deprived and thus restricted in an aspect or aspects of their development. An important aspect of play is to be able to recognize its presence, even in unexpected places. (39)

A caregiver needs knowledge and training to recognize and observe these finer aspects of activity involvement. We should be worried if a child does not play, in the same way that we worry if a child refuses to eat or to sleep. The primary caregiver and the immediate family can either enable and encourage play or discourage and stifle it. (39)

Play is essential for the child's development and early intervention is the best route to successful stimulation and prevention of developmental delay. This means that suitable programs should be implemented in day care facilities to identify and intervene when developmental problems are present. (40) This involves participation by children in activity programs in day care centres or when with caregivers and day mothers. The key is to support a baby's natural development through challenging, age-appropriate activities. To be able to present age-appropriate activities means that the caregiver should have adequate knowledge of the stages of development of the normal child. (4)

Play during the first three years of life encourages different aspects of the child's development. These aspects are mainly: sensory development, motor development, emotional development, social development, development of sensory perception and cognitive development. The child from 0 – 3 years play by investigating and exploring the environment, his or her body in relation

to the environment and different objects in the environment. Constructive play only starts at the end of this period of the child's development. [4]

2.9.2.4 Early intervention

Early intervention for the child with a problem is extremely important as it results in improved outcome, [14] meaning a child with better skills and abilities. Possible problems can only be referred to professionals if identified by the caring person, who has knowledge of normal development in order to identify problems in the normal development of a child. This should be an important function of caregivers and day care centres and they should be trained to identify at risk children and to refer them for professional help, if necessary. [4]

In South Africa not all the services needed for referral are fully operational, especially in remote rural areas. The Mental Health Care Bill, approved in 2002, places the bulk of mental health services at a primary level in community health centres with community health workers and primary care nurses. One of the objectives of these services is to identify children with special needs while maintaining personal and social conditions that enhance mental, physical and spiritual health. [41]

2.10 Specific issues related to day care in Limpopo Province, South Africa

Limpopo Province occupies 10, 2% of the country's land with a population of 5, 27 million people. Limpopo Province is the poorest Province in South Africa with predominantly rural areas. [41] The capital is Polokwane (previously Pietersburg). The predominant languages are SePedi (52, 1%), XiTsonga (22, 4%) and TshiVenda (15, 9%). HIV/AIDS is a huge health threat, leaving many orphaned children. [41]

In the Limpopo Province 2005 Budget Speech the MEC promoted enhanced spending on education programmes, specifically relating to the Roll-out of the Early Childhood Development Programme, to further strengthen the quality of school education. [18] Nationally, the National Department of Education is responsible for the age group from 6 – 9 years and the Department of Social Development are primarily responsible for the 0 – 5 year group. [19]

Literature on the present state of early childhood development and child care centres in Limpopo Province, specifically for the group 0 – 36 months, is limited. The Department of Education conducted a nation-wide audit [19] of ECD (Early Child Development) provision and services in May-June 2000, described in an article by Biersteker. [21] In 2002 in Limpopo Province only 8% of children in the, 0 – 7+ age band were enrolled for ECD, but only 3% of the group 0 – 3 years group were involved in ECD.

Many international welfare organizations are working in South Africa, including in Limpopo Province. UNICEF [5] and ECD Group [24] work in Limpopo Province, amongst other, with children aged 0 – 3 years. Their work includes services to HIV/AIDS positive children, as well as programs encouraging normal development of these children. [5] Specific research on the child care situation for the 0 – 3 year group in Limpopo Province is not readily available. This is group is included in the group 0 – 7 year in the national audit [19] of ECD in South Africa, however the infants and toddlers have different needs than the 4 – 7 years old children.

In South Africa caregivers run their own private businesses, either from home or from other premises. A caregiver can start to take care of children as soon as she has passed the inspection of the local municipality to obtain a permit. [27] She does not need any training or experience in child care to pass the inspection. She usually

works either alone or with a cleaner, has no supervision or guidance from a senior person or the authorities. Day mothers caring for less than 6 children from their homes (this number differs in different municipalities), have no need to obtain a permit. [6, 27]

2.11 Summary

Child care is developing in new directions in many countries with increased demand for non-parental care. In South Africa full time employment of women, HIV/AIDS, poverty and diverse cultures make child care needs unique and increasingly important to ensure normal development of infants and children.

Community based child care, therefore, has become important to deal with the changing family needs and care in the form of caregivers outside the home has developed. Child care arrangements differ depending on the family needs. Inadequate care for the group 0 – 36 months increase risks to the children and their families. High quality of child care of this age group is more likely where the adult-child ratio are smaller, caregivers are better educated and the environment is more stimulating. Quantity of time spent in child care needs to be carefully considered however as those spending longer in care show more behavioural problems.

Literature and research indicate that a child's brain structure and intelligence can increase through participation in age-appropriate activities, through the environment in which the child spends time and through effective nurturing by parents and caregivers. Knowledge and skill is needed to ensure that the correct stimulation is provided at each critical phase of development. Recognition of problems and early intervention is important to reduce the impact of any developmental delays.

International longitudinal studies that researched the improvement in child development of young children who were included in intervention programs focusing on stimulation, found evidence of long-term gains for the children, even into adulthood.

This type of care offered by caregivers in child care centres tends to be more professional and the children appear to have better cognitive advances than care by a family member in the home. It is clear that intervention in the form of programs and quality of care can help reduce social inequalities, rooted in poverty, by providing young children from disadvantaged backgrounds with more opportunities and a better foundation for schooling.

The South African government has prioritised early childhood development in many policies. Based on research in the USA, government investment in care for the very young child makes moral and economic sense which is not addressed by the state at the present time. Although present regulations in South Africa set standards for hygiene, safety and space in child care, there are no regulations or guidelines for stimulation programs and the availability of toys. Training of caregivers, supervision of caregivers and support to caregivers are also not covered in any specific regulation. Programs to stimulate a child's development between 0 – 3 years are not available in South Africa, as most programs are aimed at the toddler and older child. Programs used in other countries and available on the internet are inaccessible to many child care workers in South Africa. Although literature indicates the importance of the skills of the caregiver no formal education or training is specified for child care workers in South Africa.

No training in the stimulation of the child 0 – 3 years is offered to day care mothers and therefore stimulation programmes for this age group are not used in many day

care centres. The training of day mothers is essential if physical, emotional or social problems in children are to be identified and normal development encouraged at day care centres. Ongoing evaluation should also be an integral part of the training and the period following training.

Regulations from the authorities should be set and adhered to, to ensure quality care. The quality of child care can be measured but this involves observations by trained personnel to evaluate both the care facility as well as the caregiver. These measures are not readily used in South Africa, and therefore research on the quality of child care offered in the country, is lacking.

CHAPTER 3

DEVELOPMENT OF A RESEARCH INSTRUMENT

3.1 Introduction

In order to investigate the quality of day care, for children 0 - 36 months, available in Capricorn district, Mopani district and the Levhubu area in the Vhemba district in Limpopo Province, South Africa, it was necessary to develop an instrument that is suitable for such a study. The most recent literature and research was reviewed to determine if a suitable instrument existed for the collection of the required data to determine the quality of day care in Limpopo Province, South Africa. Since no instrument could be found that suited the exact requirements of this study, literature was used to identify the key factors that needed to be considered when designing

- a questionnaire which would be administrated during an interview with the caregiver, to give an indication of quality of care delivered by the care provider,
- an observation sheet which would be used to record the quality of the care environment in which the child spends his/her time.

The following steps were completed in the development of the research instrument:

- determining the key environmental factors needed in the day care of the child from 0 – 36 months,
- development of research instruments for this study,
- completion of a pilot study and testing of the research instruments.

3.2. The key environmental factors needed in the day care of the child from 0 to 36 months

Literature was analyzed to determine key factors in establishing an environment suitable for the day care of children 0 - 36 months. These factors were used to compile the research instruments used in this study.

A shortcoming of the recent child development literature is that it does not provide clear guidance on the threshold, if any, below which child care quality becomes a serious risk to the development of children. [1]

The factors identified for inclusion in the research instruments are the following:

3.2.1 Regulation and supervision of the caregiver

Regulation sets a standard of care at an acceptable level and ensures that unacceptable care is eliminated or modified. [16] Caregivers with supervision and control tend to respond more warmly and have better relations with those children in their care. [17] A child needs a caring person that responds to the child's physical needs such as hunger and thirst, the need for a clean nappy or to be toileted, the need to be clean, the need to be active and the need to sleep. The caregiver should also be able to respond to the child's emotional needs such as loneliness, longing for a parent, insecurity and anger by being aware of the child's feelings, to soothe and to guide the child and satisfy their need for socialisation.

Supervision should not only be used to evaluate and criticize the caregiver, but also to support, mentor and guide the caregiver with advice and knowledge. A caregiver with regular constructive supervision and guidance can improve her skills and self confidence through this supportive system.

Ideally supervision should be at regular intervals, at least monthly, during the first year of work after formal training. During this time the supervisor or

mentor should build a relationship of mutual respect, confidentiality and trustworthiness. Only then can visits be reduced to bi-annual visits providing the caregiver has the contact details of this supervisor or mentor to use when needed.[4]

3.2.2 Qualities of the caregiver, specifically training

Caregivers need knowledge and training to recognize the finer aspects of child behaviour and participation in age appropriate activities. A thorough knowledge of child development is essential to stimulate the child's normal development and adequate social skills. [1]

The knowledge needed to provide quality care includes training in different aspects of the physical care such as feeding, nappy changing, potty training, preventing accidents, first aid and a general knowledge of children's diseases.

Quality care includes the stimulation of the normal physical development in the child. A knowledge and understanding of the different aspects of physical development, including sensory and motor development, is essential to provide effective stimulation.

Aspects of the emotional care include knowledge of the developmental stages of play, cognitive and emotional development, development of communication and socialization skills. Children need to develop the ability to control emotional impulses, to delay gratification, to motivate themselves and to cope generally with life's ups and downs. [7] This can only be encouraged by a caregiver with knowledge about the behavioural cues for these emotions to help the child cope with them.

Research proves that quality of care as well as caregiver characteristics predict children's cognitive, language and social competencies both concurrently and over longer periods of time. (1)

3.2.3 Adult-child ratio

Adults caring for less babies and/or children can respond to individual needs and spend less time managing children. Children are less apathetic and distressed and caregivers are more stimulating, responsive, warm and supportive when dealing with fewer children. (1)

Lower child-adult ratios and smaller group size are stronger predictors of quality care in the age group 6 to 36 months than in the pre-school age group.(1)

Research on the ideal group size of infants or children per adult caregiver could not be found but a suggested ratio of 1:6 is for children of 0-36 months are recommended by the Department of Social Welfare (previously Department of Welfare) in South Africa. (5) Comments, in the literature, unsupported by research suggest adult-child ratios of 1:4; 1:5 and 1:8.

3.2.4 Quantity of time at day care facility

Research cannot identify the ideal time that a child should spend at day care as most studies have not researched quality with respect to quantity of time. (1) Quantity of care has been studied without considering the quality of care and vice versa. The family background and home environment of the child have an effect on the positive or negative outcome of time spent in day care. The literature did not suggest any specific quantity of time in day care as the ideal although studies have shown that more time spent in care results in behavioural and social problems. Quality, quantity and type of care are all

interrelated which makes it almost impossible to suggest an ideal in one aspect without considering or including the other aspects.

For the purpose of this study, the quantity of time spent in day care is included in the research instrument as an indication of the current situation in the named districts and area in Limpopo Province.

3.2.5 Nutrition

The first three years of life, specifically the first year is a time of rapid growth. Babies triple their birth weight by their first birthday. A loving and stimulating environment is incomplete without proper feeding. Malnutrition from pre-natal to two years of age can have permanent negative effects on the brain development of the child. [40]

Infants and toddlers need the same nutrients as adults, including protein, carbohydrate, fat, water, vitamins and minerals. Breast milk from a healthy mother is the ideal food for the young baby, but this may not be possible, especially if the mother needs to return to work. [42]

Between 4 and 6 months babies should be introduced to solid food, preferably cereals. Vegetables can be introduced at 7 months, fruits at 8 months, meats at 10 months, cheese and yoghurt at 10 - 12 months and egg yolk from 10 months. As from 10 months finger foods, rusks and unsalted crackers can be introduced. [42]

Food that is not good for babies is honey and sugar, soft drinks, salt, sweets, raw eggs and fresh milk, desserts, carbonated beverages and caffeine-containing beverages. Cow's milk should not be introduced before the age of 12 months. [42]

3.2.6 Quality of stimulation to promote development

Development is encouraged by activities that stimulate the different aspects of normal development. [1] A baby and toddler develops fast during the first 36 months with insatiable curiosity and thirst for knowledge, as they become physically more agile and more sociable. [31]

Categories of infant development are sensory and motor development (including movement, balance and hand-eye coordination), language, cognitive, social and emotional. [31] It is important to provide learning opportunities in the environment of the child. Newly developed skills should be practiced often in safe and supportive circumstances.

The parent and caregiver should not only provide an environment and a program that encourages development, but should have realistic expectations of the child's performance. This can be obtained through knowledge of the child's abilities, personality and previous experiences and through knowledge and understanding of the stimulation program. [4] The parent's or caregiver's input in stimulation is most effective when it is carefully measured and closely matches the child's own individual pattern of development. [31]

3.2.7 Early intervention

Inadequacies in the child's development, health and well-being should be identified early and the child should be referred for treatment. [1]
Developmental delay in all or specific aspects of development can be observed when rating the child's performance on a developmental chart. A "difficult" child can be referred for proper evaluation if the caregiver has knowledge of the different disciplines in health services. A mentor (refer to 3.2.1) is invaluable to support and guide a caregiver to take the necessary action when delays or health problems are identified.

Accurate record keeping of the children's health encourages early intervention.[4] All health problems such as a cold, nappy rash, poor sleeping, loss of appetite should be recorded daily and reported to the parents. This is also important to obtain a history of the child's well-being or illness over a period of time. [4]

Emotions such as aggressive behaviour, extreme shyness, apathy or hyperactivity should be recorded daily and reported to the parents. These behaviours can be indicators of a difficult family life, an illness developing or other developmental disorders. [4]

3.2.8 Physical surroundings of child

A stimulating physical environment encourages development. A variety of toys and objects for play, space to play in and move around in are all important to stimulate different aspects of development and should be available to infants and children. [39]

The toys and objects for play should be age appropriate and the number of toys should be sufficient for the number of children in the environment. Play areas should be of adequate size and space to accommodate the number of children and allow for movement of all children.

The environment should be clear of sharp objects, dirty broken toys or any object that has the potential to hurt a child. The play area of older children should be separated from that of younger children. [6, 27]

3.2.9 General organization of the day care facility

Structure in the environment provides routine and security for the child. The child needs to spend time in a safe and secure environment. [39] This can include separate areas and specific times during the day for specific activities

such as eating and sleeping, storage of toys, a routine for nappy changing and/or potty training.

There should be strict control over rules like who should collect the child and when the child can leave the care facility. These provide the caregiver and the child's parents with the assurance that the child will not be placed in any danger while in care.

Record keeping of the child's health and general behaviour should be kept up to date to provide valuable information should the child fall ill. The records and access to important personal information about the child and his family provides the caregiver with information about aspects like any allergic reactions which can then be accommodated in the diet at the care facility. Good record keeping and reporting to parents provide peace of mind to the parents and efficient management of problems.

3.3 Review of other questionnaires

3.3.1 NICHD assessment instruments

The longitudinal NICHD study of Early Child Care [11] was started in 1989 to establish the relationship between child care experiences and children's developmental outcomes. Children's development was assessed using multiple methods including questionnaires and observation. The first phase was to assess the children's development using these multiple methods. The second phase of the study, from birth through 3 years of age, was started in 1991. Of the assessments used in this study, three have elements that apply to the present research. They are:

- **Assessment Profile for Early-Childhood Programs (APECP)**
  This is an assessment for children 6 - 36 months in terms of child care facilities which consider safety and health, the learning environment and the physical

environment on a scale that is coded by observing the child care facility. This measure was used because it provides an observed classroom-level assessment of quality of care, it is easy to administer because it uses very concrete indices of quality and it has been used in numerous other studies of child care quality. Reliability was established by Abbott-Shim and Sibley. [43]

- **Child Caregiver Interview**

  The caregiver of the child from 6 - 36 months is interviewed either at home or at a centre to establish reasons for giving care, whether they belong to a professional organization, their experience and level of education, wages paid, licensing of the care facility, level of formal training, caregiver demographics and the size of the group in care.

  The value of this measure is that it provides comprehensive information on the caregivers, it was carefully developed for use in multi-sites and has demonstrated expected associations with other quality measures with test-retest reliability across all items of r = 79. [11]

- **Director Questionnaire**

  This assessment includes questions regarding group size, ratios and the age of the children and the maximum number of children in the room at any time. The assessments used in the NICHD study were not suitable to be used directly in the assessment of day care facilities in Limpopo Province, as the purpose of this current study was to investigate the care environment during a single visit only; a shorter adapted questionnaire was thus required. The individual ages of children, the family history and home environment will not be investigated in this study nor will the effect that the environment has on the infants and children be assessed. The developmental stages of the infants and children will also not be evaluated.

3.3.2 Questionnaires available in South Africa

Questionnaires used in South Africa to investigate the quality of child care for the group 0 – 3 years, are not readily available. A quality assurance for checking premises of child carers available from the Department of Social Development (previously the Department of Welfare) simply scores adequate or not adequate.[5]

Research studies in South Africa focus on the health aspects of child care, specifically on HIV/AIDS positive infants and children. Biersteker [21] describes the National Department of Education's nation-wide audit in 2000. The data suggests that only 16% of the 6,4 million children under 7 years were in some form of ECD service but do not reflect on the quality of these care arrangements.[19] No research which investigates the day care environment of specifically the very young child in South Africa has been published.

3.4 The Development of the Research Instruments

The research instrument developed for this study is a descriptive instrument designed to be used during a single visit to a day care facility. The objective of the instrument is to allow for easy collection of data about the care environment of infants and children 0 - 36 months of age.

The research instrument consists of a questionnaire to be administered by a researcher in the form of an interview and an observation sheet, compiled according to the factors identified above as being required in the day care for children 0 - 36 months. Appropriate items for evaluating the care environment from the questionnaires used in the NICHD study [20] were considered when developing the items for this questionnaire as these are compiled to provide some of the information needed in this research study.

3.4.1 The Questionnaire

Table 1 Five sections of the questionnaire

A. Registration	• Supervision and control of the caregiver • General organization of the day care facility
B. Training	• Qualities of the caregiver, specifically training
C. Service provided	• Number of children in centre • Quantity of time at day care facility • Nutrition
D. Program to stimulate the children	• Quality of stimulation to promote development
E. Methods of referral and equipment	• Early intervention • Physical surroundings of child

The questionnaire is designed to be completed by the researcher or representative on the premises of the day care facility in the form of an interview with the caregiver. The questionnaire (Appendix A) has a total of 84 questions with a "yes" or "no" answer. These questions are divided in 5 sections. The variables in the 5 sections of the questionnaire represent the specific factors identified for the care of children in a day care facility and are included in Table 1:

Questions can be answered by ticking a block with either "yes" or "no". This provides for easy and time efficient recording.

3.4.1.1 Scoring

The Questionnaire (Appendix A) only has "yes" and "no" answers. All "yes" answers are scored +1 and all "no" answers are scored 0. The only exceptions are C.5.12 (the use of preservatives/ colourants in food); E.2.5; E.2.6 and E.2.8 (aspects of the procedure to refer a child with problems to a

health professional) where “no” answers are positive. These aspects were scored +1 for “no” and 0 for “yes”. The scores are calculated to provide an average percentage for each variable.

3.4.2. The Observation Sheet

The observation sheet was drawn up to be completed on the premises of the day care facility after the interview with the caregiver, on the same day as part of the single visit. Aspects of the physical environment that relate to the factors identified as being required for quality care of the child from 0 - 36 months, were included. The observation sheet (Appendix B) is completed by the same person who interviewed the caregiver during this single visit.

The factors to be observed for the care of the child are addressed in the following three sections of the observation sheet, seen in Table 2:

Table 2 Factors observed on care of the child

1. General appearance of:-	1.1 Premises; General organization of the day care facility 1.2 Staff: General organization of the day care facility 1.3 Equipment and office: General organization of the day care facility 1.4 Toys: - Quality of stimulation to promote development - Physical surroundings of child 1.5 Outdoor play area: -Quality of stimulation to

	promote development - Physical surroundings of child 1.6 Sleeping area: -Physical surroundings of child - General organization of the day care facility 1.7 Dining area: - Physical surroundings of child - General organization of the day care facility
2. Stimulation program	Quality of stimulation to promote development
3. Skills day mother	Qualities of the caregiver, specifically training

These items are measured on a scale from 1 – 5:

1 = poor, meaning in poor condition or insufficient for the number of children or unavailable for the children to play with

2 = insufficient

3 = average / fair

4 = good

5 = excellent, meaning in excellent condition, clean and in good working order, sufficient for the number of children, displayed in an attractive way for children to chose to play with, also safe for the children to use.

3.4.2.1 Scoring

The Observation Sheet (Appendix B) is scored on a scale from 1 – 5. Each variable was scored on this scale. A score of 1 on the scale, equals a score of 0; a score of 2 equals 1; a score of 3 equals 2; a score of 4 equals 3 and a score of 5 equals 4 when calculating for statistical purposes.

As certain aspects are more important for the benefit of the child, some variables are scored half of the others. These are important for the general impression of the day care facility, but do not benefit the children directly:

1.1.1 Parking area,

1.1.3 Reception,
1.2.1 Uniform,
1.3.2 Certificates displayed,
1.4.22 Posters,
1.4.3 Scissors (the age group 0 – 36 months can start to experiment with scissors and cutting, but it is not an essential tool to stimulate this age group).

1.5.5 and 1.5.6 is pets and a vegetable garden respectively (this is excellent to teach caring and assist in the development of emotional health, but is not as important for development as the other variables in this section (Outdoor Play Area).

1.7.5 Background music (this is a luxury that enhances development in many different areas and can assist in sound sleeping habits, but it is not as important, especially in rural areas, as a proper mattress to sleep on).

1.8.4; 1.8.5 and 1.8.6 scores the children's participation in the preparation of food. This is an excellent activity to teach self care and to simulate the home environment, but not as essential as a balanced diet.
1.3.4 and 1.3.6 walking rings and Jolly Jumper respectively, were scored negatively as this equipment does not stimulate normal motor development.

3.5 Reliability and Validity of the Questionnaire and Observation sheet

3.5.1 Validity

Construct and content validity [44] were considered during the construction of the questionnaire and observation sheet. Using the literature, the concepts were clearly defined (see 3.2) and the questionnaire was reviewed by experts

to ensure face, construct and content validity. As no other suitable tests exist, criterion related validity could not be established.

The observation sheet was used over a 12 month period prior to the study by the researcher and two other occupational therapists that assisted in assessing the validity of the items on this measurement tool.

The content validity of the questionnaire and observation sheet was also assessed in a pilot study. The pilot study was undertaken by the researcher. Two caregivers were contacted and appointments made. Both the questionnaire and observation sheet were completed during the interview to determine which items were sound and which was difficult to rate.

3.5.2 Resulting changes to the research instruments

At the end of the pilot study the following changes were made to the form for use in the study:

- The Questionnaire (Appendix A):

Questions 3.1 to 3.8 evaluate the skills of the caregiver during different activities. These questions were not included in the study due to the fact that the caregivers were reluctant to continue with the day program in the presence of a stranger. Scoring of these items was also open to subjectivity and the questions were therefore excluded from the study.

The pilot study also indicated that the questions in Section “E.3” and “E.4” – The number of toys:

- for different aspects of development of the child,
- is adequate or inadequate related to the number of infants and children attending the day care facility

Both items were problematic as the answers depend on the experience and ideas of the interviewer and the caregiver. These questions were removed from the questionnaire.

- The Observation Sheet (Appendix B):

Appointments could only be made during the part of the day when the caregiver had time to spend with the researcher, which was when the infants and children are asleep or not engaged in any structured activity. It was difficult or impossible to observe certain aspects, such as the stimulation program (2) and the skills of the caregiver or day mother (3). Therefore the suggested observations for sections 1.6.2 and 3 were excluded from the study.

3.5.3 Reliability

Reliability of the questionnaire and the observation sheet was checked by use over a 12 month period prior to the study. The researcher and two other occupational therapists evaluated day care facilities which were members of a franchise of day care facilities (Better Babies)[4] using the instrument with satisfactory test retest and interrater reliability[44] test results.

In the initial protocol the use of research assistance was not envisaged. Since the research assistants became involved only later in the study, no specific interrater reliability test was undertaken. However, a comparison of the scores of the researcher and of the scores of the research assistants were made, which correlated at r = 0.7 and above for all sections except two items. The first was the use of a menu, in the questionnaire (Appendix A) under C.5 and the second was use of feeding chairs.

The scale used when observing the premises (Appendix B) does present with inconsistency when the observations are made by different persons. Observations about the skills of the caregiver, the efficiency of the stimulation program she uses and about the infants or children are scored on a 5 point scale. The use of a scale in assessing the quality of the various aspects may reflect the opinion of the researcher and research assistant, which is not the case in the

closed ended questions used in the questionnaire. Therefore the interrater reliability was lower for the observation sheet and data collected in this section will be analysed separately from the questionnaire.

3.6 Summary

The research instruments were developed to reflect the care environment of children from 0 - 36 months in Limpopo Province, South Africa. The key environmental factors needed in the day care of the child aged 0 - 36 months were used to compile a questionnaire and an observation sheet after various assessment instruments were evaluated. Scoring of the instrument is uncomplicated and can be used to evaluate a day care centre during a single visit by the researcher or a research assistant. Validity and reliability was not tested but assumed, based on the experience of the prior use of the instrument. However, the pilot study resulted in some changes to the research instrument.

CHAPTER 4

METHODOLOGY

4.1 Introduction

The purpose of this study is to investigate the quality of care provided to children between 0 - 36 months by caregivers in Limpopo Province, South Africa while their parents are at work. To this purpose a questionnaire and observation sheet have been designed based on key factors isolated from recent literature influencing the quality of care. Both instruments were evaluated in the pilot study and certain sections were removed as it was not possible to collect information reliably and efficiently.

4.2 Research Design

A non-experimental, quantitative, cross sectional descriptive design is used to research the quality of care that caregivers at day care facilities provide in the chosen districts in Limpopo Province, South Africa.

The research instruments, a questionnaire and an observation sheet were designed to survey a sample of caregivers in Limpopo Province using a questionnaire and observations, while not manipulating the research population in any way.[44] Thus a key aspect of the study is to observe a sample of caregivers in their everyday setting and to present the findings based on an interview and on recorded observations, being as non-intrusive as possible.

4.3 Population

The population for this study was all the people in Limpopo Province providing caring services to children between the ages of 0 - 36 months, for payment or not, while their parents are working.

4.4 Sample Selection

It was estimated by Prof. P. Bekker, statistician of the NRC, that a sample of 97 subjects needed to be surveyed in order to attain reliable results. The sample size for this study was based on estimating the proportion of day care facilities that provide adequate care. No information was available to base a sample size calculation on and therefore the "worst scenario", requiring the maximum sample size, was considered, e.g. 50% of day care centres are expected to provide adequate care. In order to estimate this proportion to an accuracy of within 10% with 95% confidence requires a sample size of at least 97 subjects. nQuery Advisor Vision 5.0 software [45] was employed to compute this sample size.

This study was intended to investigate the services and facilities offered by the day mothers in Limpopo Province, that is a woman caring for 4 to 15 children from her home and in order to get a cross section of subjects from both urban and rural areas, subjects were to be selected from the Capricorn district, the Mopani district and Levhubu area of the Vhembe district in Limpopo Province.

It was assumed that day mothers could be identified from the statistics of the Department of Health and Welfare (now Department of Health an Social Services) of the different municipalities as regular inspections should be done by these authorities to ensure continuous quality service to the child in day care. However, when contacting the different municipalities, it was found that few care centres and individual day mothers were registered with the local municipalities.

Therefore the sample was limited by the following circumstances which lead to the fact that a representative sample could not be contacted.

- The Department of Health and Welfare of some municipalities could not be contacted or no Department of Health and Welfare existed at that municipality.

- The list of registered day mothers provided by the Department of Health and Welfare of some municipalities were limited in numbers.
- The representatives of the Department of Health and Welfare of some municipalities were in the process of identifying day mothers and urging them to register.
- This study is limited to the caregivers and day care facilities in the named areas that could be traced. Many children are left in the care of nannies or family members, these care arrangements are not included in the study.

Many day mothers included in this study were therefore traced through word of mouth from parents and friends. As this meant that the number of day mothers traced was limited and day care centres, caring for larger numbers of children, were therefore also included in the study. The selection criteria therefore were adjusted to include centres registered at training facilities for caregivers and teachers, PEPPS ECD TRAINING [24] and not just those registered at the municipalities.
These caregivers at the day care facilities provide care for larger numbers of children and do not fit the definition of day mothers decided on when this study was planned. In this study the term *day mother* was therefore used for the urban sample where 4-15 children were cared for but replaced with the term *caregiver* for the rural sample where larger numbers of children were cared for in day care centres.

20 day mothers were traced through registration and by word of mouth in the urban areas. The day mothers (working from home and caring for less than 15 infants and children) that could be traced were identified in the following towns:

Polokwane	11 day mothers	(Capricorn district)
Tzaneen	2 day mothers	(Mopani district)
Mokophane	7 day mothers	(Capricorn district)

PEPPS EDC TRAINING [24] provided contact details of nine different areas in Limpopo, where caregivers were identified and included in the sample for this study.

The caregivers were in Phalaborwa, Jane Furse, Levhubu, Namakgale, Ellis Ras, Haenertsburg, Letaba and Giyani. Representatives in these areas indicated their willingness to participate in this study, but unfortunately only subjects in 5 areas responded within the time schedule and could be included in the study. The areas and number of participating caregivers are:

Levhubu	8 caregivers	(area in Vhemba district)
Namakgale	4 caregivers	(Mopani district)
Letaba	20 caregivers	(Mopani district)
Giyani	9 caregivers	(Mopani district)
Polokwane	51 caregivers	(Capricorn district)

These caregivers are all from the areas surrounding the named towns.

A sampling procedure could not be used as all day mothers and caregivers who were identified and prepared to participate, were included in the study.

Many of the caregivers participating in this study are part of training project to establish nursery school caring for children from 0 - 6 years in Limpopo Province. (PEPPS EDU TRAINING) Questionnaires were completed with caregivers and observations made on the group from 0 - 36 months of age.

4.5 Research Assistants

This study was not designed to use research assistants however, as the sample selection had been so time consuming, research assistants were used to conduct the interviews and to make the observations in many of the rural areas. The main reason for this was to complete the data collection in a relatively short period of time.

The research assistants were contacted through the training office of PEPPS in Polokwane. They were all teachers who were familiar with all the terms used in the research instruments, as these terms are also used in the training caregivers. They

were practiced in observing and evaluating as they made regular visits to the care facilities for supervision and guidance as stipulated by PEPPS.
Subjectivity in their scoring was controlled for by the use of the set questionnaire, training and their understanding that the information would be handled confidentially and individual scoring sheets would only reflect codes and no personal information on either the day care centre, or the caregiver or the research assistant.

The researcher met with all the research assistants at PEPPS in Polokwane. Each point on the questionnaire and the observation sheet was explained to them, including the method of scoring and how to follow the guidelines (Appendix C) to complete the information sheet (Appendix D), the consent form (Appendix D), the questionnaire (Appendix A) and the observation sheet (Appendix B) used as the research instrument. The guidelines were presented in written form to be used at every interview.

The research assistants completed the research instruments on their regular visits to the different day care centres. The contact details of the researcher were provided in case they would need any assistance or advice. The research assistants returned the completed forms by mail to the researcher.

4.6 Ethical considerations

The information sheet (Appendix D) was discussed with each participant. She had the choice to read it personally and/or to keep a copy for reference.
It was explained that the interview was for research purposes and was not an inspection, but merely a procedure to collect data. Each participant was given a choice to participate or not.

The willing participant then signed the consent form. It was explained at this time that a code would be used for the information provided by her to ensure confidentiality and that the questionnaire and the observation sheet will be coded

separately from the consent form. No pressure was put on participants to sign the consent form or to participate and it was explained that they could withdraw at any time. Participants were given the choice of receiving feedback if requested.

The code allocated to each participant indicates the town or area in which the day care facility is located with a number for the specific participant. As the questionnaire and observation sheet are separated from the consent forms, the information on each research instrument is handled confidentially without the details of the participant.

4.7 Research procedure

An appointment was made by telephone by only the researcher. Telephonic appointments were not made by the research assistants. Working hours were chosen to observe the centre, when the children and programs were active. Unfortunately caregivers were reluctant to make appointments during the busy hours of the day, which is when they are actually involved with the daily program. Interviews and observations were mostly made during the children's sleeping time, when caregivers have free time. The area used for the interview was a convenient place, appointed by the caregiver, on the premises of the day care facility.

The research assistants did not make any other prior arrangements as they completed the forms on their regular visits to the day care centres which took place during working hours.

The researcher or research assistant explained that there are no "right" or "wrong" answers and that the information will be used confidentially without criticizing the caregiver or day care facility. The paragraph in italics at the top of the questionnaire was read to the participant, emphasizing the confidential nature of this interview.

The researcher or research assistant completed the Questionnaire (Appendix A) by asking the questions from A.1 to E.4. The answer to each question is a simple “yes” or “no”.
The Observation sheet (Appendix B) was completed by the researcher or research assistant on the premises in the presence of the caregiver, as she needed to provide information on some aspects, for instance the record keeping of the children, First Aid kit and certificates of her training, as well as of the toys which were stored.

When the two forms were completed, the caregiver was thanked for participating and for the time she spent with the researcher or research assistant. Contact details of the researcher were offered and provided if the caregiver was interested.

4.8 Research Instruments

The research instruments were specifically designed by the researcher for this research project. The details of how the instruments were designed and tested for reliability and validity are recorded in Chapter 3.
The research instruments included:

- The questionnaire (Appendix A) is a reflection of the training of the caregiver and the services that are provided at the specific day care centre,
- The observation sheet (Appendix B) collected data on the physical aspects of the day care facility. The unit of measurement is a scale from 1 – 5, 1 being of poor quality and 5 being excellent.

4.9 Data Collection

The data was collected from the caregiver in a semi structured interview conducted by the researcher or research assistant where all the questions in the questionnaire were asked. The participant was also asked questions and to provide some evidence for some questions on the observation sheet while other information was observed. The information was recorded onto the questionnaire and observation

sheet using the scoring system that had been devised by the researcher. The questionnaire and the observation sheet were scored separately. (See Appendices A and B for the details) The completed questionnaires and observation sheets were returned to the researcher.

The researcher used a spread sheet to record these scores. The code for each participant indicated the area of the Province. Each item on the research instruments were numbered on the spread sheet according to the numbers on the research instruments. The scores of the questionnaires and the observation sheets as well as the scores of each item were kept separate for data analysis. Each item was recorded by the researcher according to the scores on the completed questionnaires and observation sheets.

4.10 Data Analysis

As some aspects are more important than others, there are variables in each group that are scored half of the others. The scores for the variables in each group are added to provide a total average score for the group of participants. The statistician, Prof. P.Bekker, analysed the data and calculated the weighting of items [45, 46] from the interview and observation sheet. Ordinal data were collected from the completed questionnaire and observation sheet to provide an ordinal data scale reflecting the quality of care provided by the participants of this study. Descriptive statistics were used to describe, organize and summarize the data. [44] Each section of the questionnaire, consisting of a number of variables, was analysed by providing the frequency and the percentage. This was completed for the total sample and the day mothers and caregivers separately as well.

The central tendency of each section was described by the mean. The mean describes the quality care provided by all the participants for a specific section of variables representing a certain aspect of care. A mean to establish whether the scores fell above or below the acceptable level of 3 was calculated.

The overall mean values for the day mothers and caregivers were compared using a t test.

4.11 Summary

This study was conducted to investigate the quality of care provided at day care facilities to children aged 0 - 36 months. A non-experimental, quantitative, descriptive design was used to research the quality of care at day care facilities in Limpopo Province, South Africa. The research instrument (a questionnaire and observation sheet) was designed to observe a sample of caregivers, record these observations while being as non-intrusive as possible. A sample, representing both urban and rural areas within the Limpopo Province, was selected from specific districts, which were Capricorn, Mopani and Levhubu area of the Vhembe district.

Research assistants were trained to use the research instruments and to collect data in the rural areas, mainly to save time. The research assistants were teachers at training centres for caregivers and they completed the research instruments on their regular visits to the day care centres. Participants signed a consent form without any pressure from the researcher or the research assistants. A specific procedure was followed to collect data and to score aspects of the day care facility using the specifically designed research instruments. The research instruments consisted of a questionnaire and an observation sheet which were both completed during a single visit to the day care centre. Descriptive statistics and mean values were used to organise and summarize the data.

CHAPTER 5

RESULTS

5.1 Introduction

The purpose of this study is to determine the current state of day care in the Limpopo Province in South Africa. Initially the study sample was limited to day mothers providing care for small children in their homes. As an insufficient number of day mothers could be traced the sample was extended to include caregivers in crèche and nursery school environments. For this reason the results are set out to distinguish between these two groups within the study sample.

116 subjects were interviewed by either the researcher or a research assistant about various aspects of their child care facilities and the information was recorded on the Questionnaire (Appendix A). The researcher / research assistant also observed the day care facility and her observations were recorded on the Observation Sheet (Appendix B). However, only 111 of the 116 submitted forms could be used in the data analysis as the remaining 5 forms were incomplete.

5.2 Demographics of the sample

Table 5.1, 5.2 and 5.3 provides the demographic information of the sample that participated in the study, including the number of day mothers / caregivers in a specific area and the average number of children in the care centre for a specific area.

Table 5.1 Demographics of the urban sample

Type	Area	Nr. Centres	Av. Nr. Children per day mother	Urban /Rural	District
Day Mother	Polokwane	10	6.9	Urban	Capricorn
Day Mother	Tzaneen	2	15.5	Urban	Mopani
Day Mother	Mokophane	7	8	Urban	Capricorn
Total		***19***	*8.2*		

Table 5.2 Demographics of the rural sample

Type	Area	Nr. Centres	Av. Nr. Children per care centre	Urban /Rural	District
Care Centre	Polokwane	51	48.4	Rural	Capricorn
Care Centre	Namakgale	4	70.75	Rural	Mopani
Care Centre	Giyani	9	26.3	Rural	Mopani
Care Centre	Letaba	20	149.5	Rural	Mopani
Care Centre	Levubu	8	37.8	Rural	Vhemba
Total		***92***	***97.5***		

Day mothers could only be located in the urban areas. In the rural areas child care is in the context of nursery schools and crèches. Most of the samples in this study were from rural areas. A map indicating the different districts and areas of the Limpopo Province is in Appendix E. As can be seen, all the facilities in the rural areas have a larger average number of children per care centre than that cared for by a day mother.

Table 5.3. Education Level of sample

	Training Attended	**Total Sample**	**Total Day Mothers**	**Total Care Centres**
B.2.1.	Matriculation certificate	78.3%	72.7%	77.2%
B.3.1.	Tertiary education	34.2%	27.3%	34.8%

Table 5.3 indicates that 78.3% of all subjects had a matriculation level of education and 34.2% had tertiary education.

5.3 Results of the questionnaire (Appendix A)

The information recorded in the questionnaire was provided by the participantsin an interview conducted by the researcher / research assistant. The information collected related to: registration, inspection, training and services provided.

5.3.1 Registration of Day Mothers and Care Centres

Question A 1 determines the **registration status** of the day mothers and care centres

Table 5.3.1 Registration

	Registration With	**Percentage Positive Responses**		
		Total Sample	**Total Day Mothers (16)**	**Total Care Centres (40)**
A.1.1.	Department of Health	50.4%	84.2%	43.5%
A.1.2.	Department of Welfare	35%	0%	42.3%
A.1.3.	Society of Day Mothers	.04%	0%	4.4%
	Total registered with NGO	55.8%		
A.1.4.	• Society Pre-School Development		0%	16.3%
A.1.5.	• Other		0%	51.1%

One day mother and 14 care centres indicated that they are not registered with any governmental or non governmental body.

Table 5.3.1 indicates that the majority of carers are registered with some organisation. The day mothers are registered with the Department of Health while the care centres are registered with both governmental and NGO's. The subjects registered with the Society of Day Mothers fall into the government registered group as they all belong to a society initiated by a social worker employed by the government. The only subjects registered with this organisation worked in nursery school /crèche facilities and were not truly day mothers.

The percentages for those registered with government departments is misleading as a number of day mothers / caregivers indicate they are registered with more than one government department: the Department of Health and the Department of Welfare. However in Limpopo Province the departments of Health and Welfare form one department. This affects the total percentage of the registrations.

5.3.2 Inspection of Day Care Facilities

Question A2 involves the number of **inspections** each facility is subjected to. Just over half of the subjects indicate that their facilities are inspected and the frequency of these inspections is indicated in table 5.3.2.1

Table 5.3.2.1 Inspections

	Frequency of inspections	**Total sample**	**Total Day Mothers (15)**	**Total Care Centres (41)**
A.2.1.	Inspections	50.5%	73.7%	44.6%
Of those inspected regularly inspection occurs				
A.2.3.	Monthly	57.1%	13.3%	76.9%
A.2.4.	Quarterly	19.6%	46.7%	10.3%
A.2.5.	Bi-annually	5.4%	20%	0%
A.2.6.	Annually	7.1%	13.3%	5.2%
A.2.7.	Less frequently	7.1%	6.7%	7.7%
	Total	**100%**	**100%**	**100%**

Only the day mothers and care centres that are registered are inspected. Day mother inspections are most frequently carried out quarterly. All but 10 of the 44.6% of the care centres inspected are in the Namakgale, Giyani, Letaba areas in the Mopani district and here monthly inspections are more frequent.

Table 5.3.2.2 Aspects Inspected

	Aspect	Total Nr inspected	Total Day Mothers (15)	Total Care Centres (41)
A.3.1.	Hygiene	98.2%	93.3%	100%
A.3.2.	Safety	100%	100%	100%
A.3.3.	Staff	70.9%	46.6%	78.1%
A.3.4.	Size	83.6%	100%	82.9%
A.3.5.	Equipment	70.9%	40%	80.5%
A.3.6.	Toys: Safety	65.4%	26.6%	78.1%
A.3.7.	Toys: Correct for age	54.5%	26.7%	63.4%
A.3.8.	Toys: Cleanliness	76.3%	26.7%	92.7%
A.3.9.	Toys: Number of toys	60%	20%	73.2%
A.3.10.	Sleeping facilities	83.6%	100%	75.6%
A.3.11.	Program for stimulation	63.6%	26.7%	75.6%
A.3.12.	Emotional well-being children	67.2%	46.7%	75.6%
A.3.13.	Records of health of children	75.9%	53.3%	80.5%
A.3.14.	Developmental stages available	61.1%	20%	73.2%
A.3.15	Developmental delay in children	57.4%	20%	68.3%

Table 5.3.2.2 indicates the frequency of evaluation of the different aspects inspected at the premises of the 50.5 % of participants who indicated regular inspections.

Aspects of the facilities evaluated at both day mothers and caregivers with a frequency of more than 75% overall are hygiene, safety, size of premises and sleeping facilities. The other 11 aspects are frequently inspected at the premises of care centres with the lowest aspect being 63.4% for toys for age. At the day mothers' premises many aspects are evaluated much less frequently with the highest frequency being for the health records of the children at 53.3%. The lowest inspection rate relates to the toys available (20-26.7%) and whether there is developmental delay in the children in care (20%).

5.3.3 Training of Day Mothers / Caregivers

This section provides information on **the training** that the day mother / caregiver at centre received to support quality care of the babies and toddlers entrusted to her.

Table 5.3.3.1 Training Attended

	Training Attended	Percentage Trained Participants	Total Day Mothers (19)	Total Care Centres (92)
B.1.1.	Any Formal Training	46.8%	0%	56.5%
Training received was as follows				
B.1.3.	1 - 5 day workshops	46.2%	0%	46.2%
B.1.4.	1 – 3 week course	44.2%	0%	44.2%
B.1.5.	1 – 3 month course	26.9%	0%	26.9%
B.1.6.	1 year course	40.4%	0%	40.4%
B.1.7.	Diploma	9.6%	0%	9.6%
B.1.8.	Degree	1.9%	0%	1.9%
B.1.9.	Other	21.2%	0%	21.2%

Table 5.3.3.1 indicate that 52 caregivers have some formal training in child care but that no day mothers have attended any child care related training. 59 subjects have not received any training and the 52 (46.8 %) who reported

having had formal training, all work in care centres. The table also indicates that the length of training each participant received before working with the children in her care varied. The type of training is reflected in table 5.3.3.1. The total percentage is not reflected as some participants had been on more than one training course.

The first question (Appendix A, B1) related to training indicates training as a day mother therefore the workshops and courses were related to care giving and child care, however a matriculation certificate as well as the diplomas and degrees indicated as a training option, were not necessarily related to child care. The "other" training specified by 11 (21.2% of the 52 who had received training) of the participants was done at the companies they worked for prior to being a day mother or caregiver.

When considering previous levels of education there is little difference between the caregivers working as day mothers and those at care centres. Day mothers have better access to relevant literature while caregivers from care centres attend more workshops and meetings about child care to access information (Table 5.3.3.2). 81.1% of participants felt they would like to improve their knowledge in the area of child care, the majority of these being from care centres. None of the tertiary education reported by 34.2% of the participants included training related to child care.

Table 5.3.3.2 Access to Information

		Total Sample	Total Day Mothers	Total Care Centres
B.4.1.	Literature on child care (books/magazines)	37.8%	68.4%	31.6%
B.5.1.	Attends Workshops/ Meetings regularly	70.2%	31.7%	78.3%

B.6.1.	Feel need for training/to improve knowledge	81.1%	57.9%	85.9%

Table 5.3.3.2 indicates that more day mothers use child care literature (68.4%) while caregivers from care centres attend more workshops and meetings about child care to access information about child care. 79.64% of participants felt they would like to improve their knowledge in the area of child care, the majority of these being from care centres.

5.3.4 Service Provided

5.3.4.1 Quantity of time child spends at day care centre

The majority of infants and children (92 %) spend five full days per week at the day care facility. (Table 5.3.4.1)

Table 5.3.4.1 Quantity of Time Child spends at Day Care Centre

	Days	**Total sample (111)**	**Total Day Mothers (19)**	**Total Care Centre (92)**
C.2.1.	Half day 5 days/week	7.3%	5.5%	7.4%
C.2.2.	Half day certain days/week	0.4%	1.5%	0%
C.2.3.	Full day 5 days /week	92%	91.9%	93.6%
C.2.4.	Full day certain days /week	0.3%	1.1%	0%
	Total	100%	100%	100%

An insignificant number of children spend only certain days, that is less than 5 days per week, at day mothers whereas all children attend care centres for 5 days a week.

A small number of children (1.5%) spend half the day on certain days with day mothers while all children attending care centres, attend 5 days a week. 5

care facilities, 1 day mother and 4 care centres, offer half day care to a small number of children.

5.3.4.2 Number of Meals

The number of participating child care facilities providing meals is 90, with one day mother and 20 care centres reporting they do not provide meals. Two day mothers do not provide meals as they offer only half day care. Overall more day mothers provide meals than care centres.

Table 5.3.4.2 Number of Meals

	Meals / Food	**Total sample (111)**	**Total Day Mothers (19)**	**Total Care Centre (92)**
C.3.1.	Provide meals	81.1%	94.7%	78.3%
Meals provided are as follows				
C.4.1.	3 meals / day	24.4%	5.6%	29.2%
C.4.2.	2 meals / day	61.1%	94.4%	52.8%
C.4.3.	1 meal / day	1.1%	0%	16.7%
C.4.4.	Provide snacks	63.3%	94.4%	55.6%

From Table 5.3.4.2 most facilities provide 2 meals a day with more care centres than day mothers offering 3 meals. Snacks are provided by 57 of the facilities that also provide meals.

5.3.4.3 Menu

Of the 90 participants who reported providing meals approximately 25.5% use a set menu. The provision of porridge / cereals, vegetables and sugar are provided by more than 80% of them. Milk / formula, meat / fish; fresh fruit;

rooibos tea and fresh fruit juice are provided by between 60% and 80% of participants. (Table 5.3.4.3)

Table 5.3.4.3 Menu

	Menu / Food	Total sample	Total Day Mothers	Total Care Centres
C.5.1.	Use of a specific menu for the centre	25.5%	16.7%	27.8%
C.5.2.	Porridge / Cereals	91.1%	100%	87.5%
C.5.3.	Milk / Formula	62.2%	100%	52.8%
C.5.4.	Meat / Fish	73.3%	88.9%	69.4%
C.5.5.	Egg	47.7%	83.3%	38.9%
C.5.6.	Vegetables	87.7%	100%	84.7%
C.5.7.	Fresh Fruit	73.3%	88.9%	69.4%
C.5.8.	Biscuits / Sweets / Cakes	58.8%	88.9%	51.4%
C.5.9.	Rooibos Tea	67.7%	83.3%	63.9%
C.5.10.	Fresh Fruit Juice	72.2%	77.8%	70.8%
C.5.11.	Sugar	85.5%	100%	81.9%
C 5.12	Preservatives and Colorants	30%	47.4%	19.6%

Eggs are more frequently part of the food supplied by day mothers (83.3%) but care centres do not often include eggs in the meals provided (38.9%).

Only 27 subjects indicate that they consider the use of preservatives and colorants in the food provided to the children, nearly half of those are day mothers but only a small percentage are from the care centres.

5.3.5 Stimulation Programs

More care centres than day mothers report using a stimulation program.

Table 5.3.5.1 Stimulation Program

	Program	Total sample (111)	Total Day Mothers (19)	Total Care Centres (92)
D.1.1.	Any program used	78.3%	47.4%	84.8%
Type of programme used				
D.2.1.	Program compiled by professional	28.7%	11.1%	30.8%
D.2.2.	Training received to use program	68.9%	0%	76.9%
D.2.3.	Compiled by yourself / friend	64.4%	88.9%	61.5%

Table 5.3.5.1 indicates that few day care providers use a stimulation program designed by professionals (28%), but most use a program that they have designed themselves or have been designed by a friend. Of the 28% of the sample using stimulation programs designed by professionals 76.9% caregivers report having been trained to use the program. It is not clear what program they have been trained to use or who designed the program. 11.1% of day mothers use a professionally designed stimulation program but none were trained to use the program. This is consistent with the finding reported in 5.3.3.

The 87 (78.3%) participants who indicate that they use a program also indicate using more than one type of program, as reflected in the percentages for items D2.1 – D2.3 in Table 5.3.5.1.

5.3.5.1 Aspects of Development covered in Program

Of the 87 facilities that offer a stimulation program, the percentage of the number which includes the following content in each program is reflected in Table 5.3.5.2 All scores for the total group except the use of developmental

tables are above 80%, which indicates that the programs used, cover all the important aspects of a child's development. It is noted that the day mothers who use programs they had designed, and who received no training in the use of programs, scored below 80% in eight of the 12 areas of development considered.

Table 5.3.5.2 Aspects of Development covered in Program

	Aspect of Development	**Total sample (78.3 5 of 111)**	**Total Day Mothers (47.4% of 19)**	**Total Care Centres 84.8% of 92)**
D.3.1.	Big Muscle Development	96.6%	88.9%	97.4%
D.3.2.	Development	93.1%	88.9%	93.6%
D.3.3.	Hand Grip Development	86.2,%	77.8%	87.2%
D.3.4.	Development of Senses	90.8%	77.8%	92.3%
D.3.5.	Speech/Language Development	93.1%	77.8%	94.9%
D.3.6.	Self Care Activities	94.3%	88.9%	94.9%
D.3.7.	Rhythm, Song and Rhyme	97.7%	88.9%	97.4%
D.3.8.	Emotional Development	95.4%	77.8%	97.4%
D.3.9.	Social Skills	94.3%	77.8%	96.2%
D.3.10.	Parent-Child Interaction	86.2%	55.6%	89.8%
D.3.11.	Age Differentiation	93.1%	66.7%	96.2%
D.3.12.	Developmental tables available	79.3%	55.6%	82.1%

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5.3.6 Procedure for Referral to Professional Services

105 of the participants report that they have a procedure in place for referral to professional services. 70.4% of the participants are confident in their own knowledge of developmental stages and 60% feel confident to refer to a specific professional. Less than 30% feel inadequate when referring and that they lack knowledge of particular problems and less than 50% refer only when the child is ill.

The sample is unanimous about reporting the problem to the parents. Only 41.9% report referring the child to a doctor but 62.8% state they would refer to another professional. Caregivers (67.8%) appear more likely to refer to another professional than day mothers (38.9%) but both groups feel confident about their knowledge to do this (more than 50%).

Table 5.3.6 Procedure for Referral to Professional Services

	Procedure	**Total sample**	**Total Day Mothers**	**Total Care Centres**
E.1.1.	Have a standard procedure in place	94.6%	94.7%	94.6%
Procedure used				
E.2.1.	Talk to child's parents about the problem	100%	100%	100%
E.2.2.	Recommend a doctor	41,9%	44.4%	41.4%
E.2.3.	Recommend another professional	62,8%	38.9%	67.8%
E.2.4.	Feel confident to refer to specific professional	60,0%	50.0%	62.1%
E.2.7.	Confidence in your own knowledge of developmental stages	70,4%	72.2%	70.1%
E.2.5.	Feel inadequate when referring	24.8%	27.8%	24.1%
E.2.6.	Feel you lack knowledge of possible problems	27.6%	22.2%	28.7%
E.2.8.	Refer only when child is ill	46.6%	72.2%	41.4%

5.4 Results of the observation sheet (Appendix B)

The data on the Observation Sheet (Appendix B) for the 111 subjects is presented as the frequency of those that scored average and above (3, 4 or 5) on each of the items. Scoring of each section is considered separately.

5.4.1 Premises

Items are weighted in terms of importance (See 3.4.2.1). When scoring, the parking area and reception are rated as less important than the other areas, as these are not essential items in terms of adequate care.

Table 5.4.1 Premises

	Area scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5)	% day mothers ↑ average	% care centres ↑ average
1.1.1.	Parking Area	52.5%	84.2%	45%
1.1.2.	Gate Safety	73.1%	94.7%	68.5%
1.1.3.	Reception	35.6%	78.9%	25.9%
1.1.4.	Indoors Playing Area	67%	52.6%	70%
1.1.5.	Sleeping Area	58.1%	84.2%	52.3%
1.1.6.	Kitchen	62%	89.5%	56.2%
1.1.7.	Bathroom	29.3%	89.5%	15%
1.1.8.	Nappy changing area	31.4%	84.2%	19.3%
1.1.9.	Outdoors playing area	73.1%	73.7%	73%
1.1.10.	General safety	78.1%	89.5%	79.6%

As can be seen, facilities are found less often at the care centres. Fewer care centres have bathrooms (15%), nappy changing areas (19.3%) and reception areas (25.9%) than the premises of day mothers where more than 78% score adequate and above. Fewer day mothers have indoor play areas (52.6%) than care centres (70%).

Outdoor playing areas (72.5%) and general safety (78%) have a high frequency in both day mothers and care centres. The premises of day mothers, all of which were in urban areas, have a high frequency related to parking areas (84.2%) and gate safety (84.2%).

5.4.2 Staff

In this section only the wearing of a uniform is scored as less important (See 3.4.2.1).

Only 32.6% are recorded as wearing uniforms, but more day mothers are wearing a uniform. Caregivers are observed to be friendlier and presented a cleaner personal appearance. In both cases the hair of only 66% of day mothers and 69% of caregivers are covered.

Table 5.4.2 Staff

	Area scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5)	% day mothers ↑ average	% care centres ↑ average
1.2.1.	Uniform	32.3%	50%	31%
1.2.2.	Friendliness	88%	50%	90.7%
1.2.3.	Cleanliness	94. 8%	83.3%	95.6%
1.2.4.	Hair Covered	69.1%	66.7%	69.3%

Friendliness and cleanliness of the caregivers at the care centres are considered adequate at most centres with frequencies of over 90%. Cleanliness of the staff at day mothers are also considered adequate by the researcher / research assistants at 83.3% of facilities, but friendliness of staff at day mothers' premises is considered adequate at only 50% of the participating day mothers.

5.4.3 Equipment and Office

The display of certificates is the only item weighted as less important in this section (See 3.4.2.1). The availability of walking rings and "Jolly Jumpers" are low and this is desirable as these items do not promote normal physical development of the child.

A telephone is available at all day mother's premises but at only 19.5% of care centres. Certificates of qualifications and training are displayed at only 5.3% of day mothers and only at 38.1% of care centres. The keeping of records and reporting to parents are scored higher by the researcher / researcher

assistants at care centres, while low to very low at day mother. Keeping record of the children's health and reporting to parents are scored adequate at more than 80% of care centres, while general information on the children are adequate at 71.7%. A specific cupboard to store medication safely are available at 73.7% of day mothers and only at 47, 7% of care centres

Table 5.4.3 Equipment and Office

	Area scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5) (111)	% day mothers ↑ average (19)	% care centres ↑ average (92)
1.3.1.	Telephone available	34%	100%	19.5%
1.3.2.	Certificates displayed	32%	5.3%	38.1%
	Record keeping of:			
1.3.3.	General info on children	71.7%	52.6%	75.9%
1.3.4.	Info on children's health	79.2%	52.6%	85.1%
1.3.5.	Report to parents	69.4%	15.8%	80.9%
1.3.6.	Cupboard for medicine	52.3%	73.7%	47.7%
1.3.7.	First Aid Kit available	42.5%	42.1%	42.5%
1.3.8.	First Aid Certificate	21%	26.3%	19.8%
1.3.9.	Tables and chairs for children	55%	47.4%	56.7%
1.3.10.	Use of Walking Rings	26.5%	31.6%	25.3%
1.3.11.	Use of Feeding Chairs	24%	31.6%	22.4%
1.3.12.	Use of Jolly Jumper	8.8%	0.0%	11.1%

First Aid equipment is available at approximately 42% of facilities while participants with a First Aid Certificate are slightly higher at 26% of day mothers and 19% of care centres.

The availability of tables and chairs of the correct size for children are low at both care centres and day mothers. Walking rings and Jolly Jumpers are not

available at most centres, which is positive. Feeding chairs are used at less than 30% of care centres and day mothers.

5.4.4 Toys Indoors

When considering the indoor toys only scissors and posters are weighted as less important (See 3.2.1) as children 0-3 years have not developed the skills to use these items.

Table 5.4.4 Toys Indoors

	Items scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5)	% day mothers ↑ average	% care centres ↑ average
1.4.1.	Balls	54.6%	68.4%	51.7%
1.4.2.	Cars / Vehicles	47.7%	73.7%	42.0%
1.4.3.	Scissors	66,4%	31.6%	73.9%
1.4.4.	Storage of Toys	56,5%	47.4%	58.4%
1.4.5.	Buckets and lids	37,7%	47.4%	31.0%
1.4.6.	Wooden Blocks	69,2%	57.9%	71.6%
1.4.7.	Shape Sorter	47,6%	57.9%	45.3%
1.4.8.	Jigsaw Puzzles	49.1%	47.4%	49.4%
1.4.9.	Books: to read to child	67,9%	68.4%	67.8%
1.4.10.	Books: child to page	67,9%	52.6%	71.3%
1.4.11.	Music: for songs	72.2%	68.4%	73.0%
1.4.12.	Music: background	33,3%	15.8%	37.5%
1.4.13.	Music Instruments	40.2%	36.8%	40.9%
1.4.14.	Quiet Corner	37%	10.5%	42.7%
1.4.15	Corner to express emotions	30,5%	5.3%	36.0%
1.4.16.	Household Objects	41,9%	26.3%	45.3%
1.4.17.	Dolls	60,2%	84.2%	55.1%
1.4.18.	Doll's Blankets & Clothes	46.3%	57.9%	43.8%
1.4.19.	Work bench with tools	18,4%	21.1%	17.9%
1.4.20.	Mirror	22,4%	15.8%	23.9%
1.4.21.	Black board	38,9%	31.6%	40.4%

1.4.22.	Posters	71,7%	42.1%	78.2%
1.4.23.	Adequate Size	50%	63.2%	47.1%
1.4.24.	General Safety of Toys	69,4%	78.9%	67.4%

The only indoor toy that is available at over an 80% frequency is dolls at the day mothers. General safety of toys is observed at a 69.7% frequency which is slightly higher at day mother's premises. Both scissors (73.9%) and posters (78.2%) are readily available at care centres but not as frequently observed at day mothers premises. At more than 60% of day mothers balls, cars/vehicles, books to read to child, music for songs and dolls are available, whereas scissors, wooden blocks, books to read to child, books for child to page, music for songs and posters are available at most care centres.

Scissors, background music, music instruments, a quiet corner, a corner to express emotions, household objects, a workbench with tools, a mirror, a blackboard and posters are available at less than 40% of the premises of day mothers. At care centres cars/vehicles, buckets and lids, a work bench with tools and a mirror are available at less than 40% of premises.

At day mothers' premises balls, cars/vehicles, buckets and lids, shape sorters, dolls, doll's blankets and clothes are available at more than 5% in comparison to the availability at care centres. Whereas scissors, storage space for toys, wooden blocks, books which children could page, background music, household objects, mirrors, black boards and posters are more than 5% more available at care centres than at day mothers. A corner to express emotions is more available at care centres than at day mothers. The size of the indoors play areas are more acceptable at day mothers as well as the general safety of the toys. The availability of jigsaw puzzles, books to read to children, songs, musical instruments and a work bench with tools differ less than 5% between day mothers and care centres.

The average score of day mothers and care centres indicates that scissors, wooden blocks, books to read to child, books for child to page, music for songs, dolls and posters are the only indoors toys available at more than 60% of facilities.

According to the average scores of day mothers and care centres, indoor toys that are available at less than 40% of participants are buckets and lids, music background, music instruments, a quiet corner, a corner to express emotions, a workbench with tools, a mirror and a blackboard.

5.4.5 Outdoor Play Area

Pets and a vegetable garden are weighted as less important in the outdoor play area (See 3.4.2.1).

Table 5.4.5 Outdoor Play Area

	Area scored on scale from 1 - 5	% centres ↑average (111)	% day mothers ↑ average (19)	% care centres ↑ average (92)
1.5.1.	Lawn: sun and shade	50.9%	84.2%	43.8%
1.5.2.	Flowers and Shrubs	28.3%	52.6%	23.0%
1.5.3.	Jungle Gym	28.2%	42.1%	26.4%
1.5.4.	Swings	47.2%	68.4%	42.5%
1.5.5.	Pets	16.2%	57.9%	6.3%
1.5.6.	Vegetable Garden	29.2%	5.3%	34.5%
1.5.7.	Adequate Size	46.5%	89.5%	36.6%
1.5.8.	General Safety	72%	84.2%	69.1%

Three aspects of the outdoor play areas are adequately available with frequencies of over 80% at day mothers; these are a lawn with both shade and sun areas, an adequate size of the area and the general safety of the area. A vegetable garden is more frequently available at more of the care

centres than day mothers. All other aspects are more frequently available at the day mothers' premises.

The average scores of day mothers and care centres indicate that less than 40% of all participants have flowers and shrubs, a jungle gym, pets and a vegetable garden available on the outdoors play areas of their premises.

5.4.6 Sleeping Area

Only background music is weighted as less important (See 3.4.2.1).

Table 5.4.6 Sleeping Area

	Area scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5)	% day mothers ↑ average	% care centres ↑ average
1.7.1.	Cots / mattresses	46.2%	89.5%	36.5%
1.7.2.	Shelf for child's bag	30.1%	52.6%	25.0%
1.7.3.	Chair to nurse baby	26.7%	73.7%	16.3%
1.7.4.	General Safety	62.3%	89.5%	56.3%
1.7.5.	Background music	33.3%	5.3%	39.5%

Cots and or mattresses and the general safety of the sleeping area are scored as adequate at the premises of 89.5% of day mothers. Shelves to store each child's personal bag and chairs to nurse babies are more available at day mothers than at care centres. Background music is available at more care centres (39.5%) than at day mothers, although at 39.5% the percentage is very low.

5.4.7 Dining Area

Preparation of food, serving of food and washing of dishes are weighted as not as important as the other factors (See 3.4.2.1).

Small tables and chairs, feeding chairs and general safety of the area are adequate at an average of 13% more of the day mothers than the care centres. Whereas the children participating in the preparation of food, serving food and assist in the washing of dishes, are on average performed at 16,6% more care centres than day mothers.

The dining areas are observed to be inadequate at most of the day mother's and care centres' premises (all items scored less than 80%) although general safety is the factor that scored the highest in both groups (78.9% and 57.6% respectively).

Table 5.4.7 Dining Area

	Area scored on scale from 1 - 5	% centres ↑average (scored 3; 4 or 5)	% day mothers ↑ average	% care centres ↑ average
1.8.1.	Small tables and chairs	44.3%	52.6%	42.5%
1.8.2.	Feeding Chairs	20.2%	26.3%	18.8%
1.8.3.	General Safety	61.5%	78.9%	57.6%
1.8.4.	Preparation of food	44.8%	36.8%	46.5%
1.8.5.	To serve food	53.3%	47.4%	54.7%
1.8.6.	To wash dishes	42.9%	15.8%	48.8%
1.8.7.	Use of Menu	60.6%	26.3%	68.2%

Menus are observed to be used more readily at care centres than at day mothers, however this figure contradicts the finding in the Questionnaire (Table 5.3.4.3) that only 25.5% of the sample used a menu. The inconsistency regarding the use of feeding chairs (Table 5.4.7: 20.2% and Table 5.4.3: 24%) as well as the use of small tables and chairs (Table 5.4.7: 44.3% and Table 5.4.3: 55%) is as a result of the lower reliability of the observation sheet as discussed in 3.5.3.

5.4.8 Average scores for each section

The average scores of each section of the observation sheet is provided in Table 5.4.8.

The only aspect with a mean in the average and above section, relates to the premises of day mothers. All other aspects have a mean of between 2 and 3, indicating that these aspects are inadequate to provide quality day care to the babies and children.

The availability of appropriate toys is significantly higher at care centres than at day mothers. The dining areas at care centres are rated as significantly more appropriate to meet the needs of quality care as at day mothers, as is the average of observations made in all sections.

Table 5.4.8 Average Scores of Observation Sheet

	Section evaluated	**Mean**	**Mean % day mothers ↑ average**	**Mean % care centres ↑ average**	**Difference in means**
1.1.	Premises (Table 5.4.1)	2.9	3.0	2.8	p = 0.50
1.2.	Staff (Table 5.4.2)	2.5	2.1	2.9	p = 0.07
1.3.	Equipment / Office (Table 5.4.3)	2.7	2.5	2.9	p = 0.50
1.4.	Toys (Table 5.4.4)	2.4	2.1	2.7	p = 0.01*
1.5.	Outdoors Play Area (Table 5.4.5)	2.5	2.6	2.3	p = 0.13
1.7.	Sleeping Area (Table 5.4.6)	2.3	2.5	2.1	p = 0.11
1.8.	Dining Area (Table 5.4.7)	2.4	2.0	2.7	p = 0.03*
	Total of all Sections	2.5	2.4	2.6	p = 0.04*

* Significant difference $p < 0.05$

5.5 Summary

In total 111 participants from urban and rural areas of Limpopo Province in South Africa participated in providing the results for this study. Day mothers in the urban areas provide care for significantly less children than the care centres in the rural areas.

Most day mothers and care centres are registered at a governmental or non governmental body, although only half of all participants receive inspections from such a body. Inspections are mainly done to investigate hygiene, safety, staff, size of premises and sleeping facilities.

A significant percentage of the participants have an education level of matriculation, but few have tertiary education. Not one of the day mothers received any formal training for her present work, whereas 56.5% of participating caregivers at care centres are trained to work with the children they care for. Training varies from 1 to 5 workshops to a 1 year course and/or a diploma in child care. Day mothers make more use of literature to improve their knowledge, whereas caregivers attend more workshops and meetings. An average of 81.1% of all participants express a need to improve their skill and knowledge related to child care.

The majority of infants and children spend 5 full days at the day care facility where they enjoy 2 or 3 meals per day. Day mothers provide more meals and snacks than care centres. Of the participants that provide meals, only 25.5% use a set menu.

A stimulation program is used at most (84.8%) care centres, but at less than half (47.4%) of the day mothers. The programs that are used at both the day mothers and care centres cover most of the important aspects of development in the young child. The aspects of parent-child interaction and the availability of developmental tables are addressed in a significantly lesser way at the day mothers.

Most participants have a procedure for referral to professional services and all talk to the child's parents about problem areas.

The observations on the premises, staff, office and equipment, toys indoors, outdoors play areas, sleeping areas and dining areas are all scored on average lower than the expectations for a quality day care facility. Significant differences between the day mothers and the care centres are only found with the availability of toys, which scores higher at the care centres.

Chapter 6

Discussion

6.1 Introduction

This chapter will interpret and discuss the research results and reflect on different aspects of the quality of care that is provided by a sample of day care facilities, urban and rural, for the infant and child from 0 – 36 months of age when compared to guidelines available in the literature for such care.

Aspects to be considered will be:

- the **regulations and control** of child care in terms of registration and inspection, in light of the Rights of Children from 0-36 months, [5]
- **the caregivers** as the child has a right to be with an adult with whom they can form an attachment,
- **programs** offered to meet the right of the child to have things to look at, touch, hear, smell, taste, and support in acquiring new motor, language and thinking skills and daily opportunities to play with a variety of objects,
- as well as **health, safety and nutrition** considering the right to protection from physical danger; adequate nutrition and health care,
- and **facilities** which allow opportunities to the child to begin to learn to care for themselves, a chance to develop some independence and opportunities to explore their world.
- **management** with administration of records is the final aspect discussed.

6.2 Regulations and control

The sample used in this study represents urban and rural care facilities and gives an indication of the differences between these facilities. The day mothers are from urban areas and the care centres are all in rural areas, thus providing two distinct samples which was not the intention at the conception of the study. Participants from

care centres in rural areas exceed those from urban areas both in the number of day care centres and in the number of children attending these centres.
This is evident as the day mothers form a relative small sample (19 participants) in relation to the care centres (92 participants), and although the total sample of 111 exceeded the 97 participants required for significant statistical analysis, this imbalance may have affected the results as will be explained later.

The distribution of the sample is consistent with the nationwide audit on ECD[19] that found 85% of child care centres in Limpopo Province (previously Northern Province) are located in the rural areas, and only 13% are home based..

The largest number of participants resided in the rural areas of Polokwane and Letaba. The day mothers were found mostly in the urban areas of Polokwane and Mokophane with the largest sample of both being situated in the Capricorn district.

The average number of children cared for at the care centres was 97.5 which is 10 times greater than the average number of children at each day mother (8.2) (See Table 5.1 and 5.2) The day mothers care for between 6.9 – 15.5 children between 0 – 36 months while the care centres have between 26.3 and 149.5 children per centre. These figures are consistent with the findings that 74% of learners below the age of 6 years surveyed in the national ECD audit attend community based care in Limpopo Province and as well as the poor educator: learner ratio of early learners to staff of (1:23), which is the highest in South Africa. The ideal group size of three to four infants per caregiver [15] is clearly not met in Limpopo Province, or in South Africa as a whole where the national average is 19:1.[19]

Day care facilities in South Africa are not governed by a single authority, which made the identification of a representative sample for the purposes of this study, difficult. The limited sample sourced from various contacts (see 4.1) resulted in the participants being from specific areas in Limpopo Province and are not

representative of the total Province. According to a national audit those ECD sites that have registered within the province, have done so with the Department of Education and the Department of Welfare. [19] The Department of Education was not used to source sites for this study.

It appears from the most recent Department of Social Development (that now incorporates the Department of Welfare) regulations that this department has a policy of inter-sectoral collaboration and integration for early childhood development service delivery with the provincial departments of Education and Health and any other department or NGO dealing with ECD. This is emphasised in Ministry for Social Development's *White Paper on Social Welfare, 1997*. Regulations published in 2006 by the Department of Social Development indicate that these partners are also now obliged to keep a provincial register of all registered early childhood development services .[5] Thus although day mothers and care centres are allowed to register with different organisations and government departments which was found to be the case in this study, the overall registration of all ECD services under the Department of Social Welfare should eventually require that they all follow this single set of guidelines set down by this department.

This however was not the finding of this study completed in 2004. It is disturbing to note that not even 70% of participating centres in this study are registered at some government authority. More day mothers (84.2%) are registered than care centres (43.5%). (See Table 5.3.1). The day mothers are registered with the Departments of Health and Welfare and the care centres are registered at various governmental and non governmental organisations. Of more concern were the 14 care centres and 1 day mother not registered with any organisation even though the Regulations to the Child Care Act, 1983, requires the local municipalities to approve the establishment of and register early childhood facilities caring for more than six children. Section 30(6) of the Act indicates that failure to comply with the registration of places of care is an offence.

Local municipalities are also required to regulate and inspect day-care facilities[5] and therefore all day mothers in urban areas, at least should be registered with them.

Regulations, inspections and monitoring provides supervision and controls which are important aspects to ensure quality of care.[16] This was not available to the day mothers or the other 38 participants who indicated they are not supervised. Infants and children are therefore are being left in the care of people who receive no supervision or support and possibly have doubtful training (Table 5.3.2.1). Regular inspections are essential to provide this support to and regulate compliance with the minimum standard of care. [16] The Department of Social Development has set out guidelines for establishing and operating a day care facility with high standards requiring at least an annual inspection [5] and as reported in the literature a higher quality of care can be expected if stricter state regulations are enforced. [15]

This study found that only 15 day mothers and 41 care centres are inspected and of these less than 70% are inspected according to the guidelines laid down by government authority. It is encouraging to note however that the inspections that did take place occurred more frequently than is deemed essential by the Department of Social Development, with most sites being inspected monthly or three monthly. A much higher percentage of day mothers in urban areas (73.7%) than the care centres in rural areas (44.6%) are inspected.

Of interest is that one care centre that reported not being registered received inspections. This may be due to the fact that they do not see working under an NGO as being registered, thus the actual programs being run by NGO's need to be encouraged to register with the Department of Social Development so all ECD activities can be monitored within Limpopo Province.

The infrequent inspections occurred less than annually at 6.7% and 7.7% of day mothers and care centres respectively. This results in inadequate support, educational development and control of the quality of child care. [15]

Inspections at day mothers address mainly hygiene, safety, size of premises and sleeping facilities. At the care centres on the other hand all aspects of quality child care identified in this research are inspected with the exception of developmental delay and whether the toys available are age appropriate (Table 5.3.2.2). This indicates that inspections at care centres are more thorough and cover the aspects laid down in the Quality Assurance guidelines, [5] even though these are the facilities mostly inspected by NGOs. It would appear that inspections of facilities registered with government departments are not being as well inspected as all aspects required by the guidelines for quality assurance are not being addressed. [5] Of particular concern is the lack of inspection of aspects like toys that are important in providing a stimulating environment for the infants and children [4] which is done at only 20% of the day mothers. This been identified not only by this research as important, but also falls into the quality assurance for ECD.

From the literature it was established that the availability of information on the developmental stages and the assessment of developmental delay in children is crucial to identify problems early and to initiate early intervention if a child with a problem is to have an improved outcome. [14] This aspect is however not addressed in the Department of Social Development regulations for ECD where only illnesses and child abuse are considered [5] and is inspected at only 20% of day mothers compared to 68.3% of the care centres. Since the nationwide audit ECD identified a total of 1 163 children with various disabilities attending care facilities in Limpopo Province[19] this is an aspect that must be brought to the attention of the authorities and the role of caregivers in identifying children at risk needing referral to professional services emphasized.[4] It can be presumed therefore that other children

with developmental delay are not being identified at an early age so that they can receive the special care they need. [14]

6.3 Caregivers

The most important aspect when reviewing caregivers is their training and ability to work with young children.

The basic qualification for an ECD worker laid down by the Department of Social Development is a basic certificate at NQF level 1 which is equivalent to a Grade 10 education. The qualifications of the participants in this study varied, but 78.3% had a matriculation certificate (Table 5.3) which is equivalent to a NQF level four qualification, but not the National Certificate in ECD which is now required to be an ECD site supervisor or head [5]. It would appear therefore that approximately 20% of day mothers working alone in caring for children are under qualified, in terms of the level of qualification alone. The ECD audit [19] indicates that 28% of the educators of this Province are under qualified, however, the specific qualifications for the caregivers of the age 0 – 36 months is not addressed in the study.

The researcher found a mere 46.8% of the participating caregivers received any formal training before starting to work with infants and children. These participants all worked at care centres and not one of the day mothers was formally trained for this work. (Table 5.3.3.1) indicating possibly an even higher rate of under qualified ECD caregivers, caring for children between 0-36 months.

A similar number of caregivers at care centres in the rural areas and day mothers in the urban areas had a matriculation certificate and tertiary education. Of the carers at the care centres 40.4% attended a 1 year course, with most of the others attending only 1 – 5 day workshops. Therefore according to the NQF levels and exit level outcome skills set for child carer workers [5] which have now been identified future studies should assess childcare workers according to certificates qualifications in ECD.

The study was limited to observations made on the premises which were not comprehensive observations in terms of the caregiver's skills of because the caregivers were reluctant to continue with the day to day activities with an observer present and it was therefore impossible to evaluate their skill during a single visit. Thus it is not possible to judge the quality of the care given by caregivers irrespective of their actual training.

Regulations state that all caregivers must receive ongoing training in early childhood development and the management of programs and facilities for young children.[27] The participants should be aware that they need more training and improvement in their knowledge. This was indicated as more important to caregivers at care centres (85.9%) where more formal training has been received than to day mothers (57.9%). More participants at care centres used workshops and meetings to access information whereas day mothers use literature on child care.(Table 5.3.3.2) Literature is possibly less easily available to carers in the rural areas.

A quality that is emphasized in terms of the well-being of infants and children is the friendliness of the caregivers as warm, friendly adults have a positive effect on children.[29] This is observed in their real interest in young children, patience and ability to get on well with other staff and families of the children. The overall friendliness of staff was observed to be 88% and this aspect therefore rated well, especially at the care centres, with the friendliness of day mothers being lower at 50%. The day mothers were not necessarily observed interacting with other staff or children at the time of the visit and this may have affected their scores.

In terms of appearance, cleanliness and uniforms were considered in this study. Although there are no regulations about the wearing of uniforms 32.3% of staff wear uniforms which may add to the professionalism of the staff and give them pride in their appearance. The EDC audit [19] indicates that Limpopo Province is the poorest

in South Africa and the majority of day care facilities are depended on fees often as low as R25 per month [19] which means that money is not freely available for non essentials like uniforms.
Cleanliness scored high at 94.8% overall. (See Table 5.4.2). This is also important in terms of the health of the children and assumes that staff has adequate access to washing facilities when dealing with nappies and food.

6.4 Programs offered

For occupational therapists, where preventable developmental delay and early remediation of learning problems is important, the use of a program of appropriate activities to stimulate infants and children to facilitate normal development is essential. This needs to ensure that all areas of development are covered, that activities are structured, that the caregiver has prepared for the activity and that the necessary equipment is available. [5] Since the ECD audit indicates that 90% of child care in Limpopo Province totals between 5 – 10 hours a day[19], and this study found that 92% of the children spend 5 full days a week in childcare (Table 5.3.4.1) this aspect becomes even more important as children spend more waking hours in care than with their parents.

78.3% of the total caregivers in the study use a program for stimulation. (Table 5.3.5.1) Of these, only 28.7% of programs were compiled by a professional person and 64.4% were compiled by the caregivers themselves. In view of the percentage of caregivers who have received training and the high percentage of under qualification discussed above this in of concern. Of the caregivers using a program in the care centres only 76.9% have received training to use it, and of the 47.4% of day mothers that use programs none received training to use it, as most of them used a program designed by themselves or a friend.

Minimum standards set out in the guidelines for ECD by the Department of Social Development state that children must be provided with appropriate developmental

opportunities and effective programs to help them to develop their full potential. [5] This means that caregivers must organize each day with many different and carefully planned activities taking into account the developmental needs of each child. Although the quality assurance expected of caregivers [5] clearly emphasises that activity programs should be in place and the equipment needed to carry these out, the data being inspections indicates that this is not being considered as the day mothers who are inspected more frequently have the least number of programs and professionally designed programs in place. Thus there is a need to look at the quality of the inspections being carried out.

The quality of the program used for stimulation is also reliant on the equipment being used; in this case the toys available, as well as how suitable they are for children between the ages of 0-36 months.

The questions on available toys in the observation sheet were compiled to address this most of the important aspects of the young child's development. As infants and children spend many hours at the day care facilities, the unavailability of certain toys might deprive the child and increase the number of at-risk children.[4]

The items readily available for children to play with are on average low in numbers. Only 2 items are available on average in more than 70% of the care centres and day mothers, these are music for songs and posters.(Table 5.4.4) These only stimulate a specific part of auditory perception and language and a relatively small part of visual perception. This means that infants and children at most centres do not have access to the toys required to provide a stimulating environment which address all aspects of development; intellectual, physical, emotional and social. [27]. A deprived environment can have effects on adaptability and intelligence. [40]

Neither the emotional state nor the participation in activity of the infants and children could be effectively observed during a single visit during this study, thus the

information supporting programs was an observation of what toys were available and a report on the program offered. The section on questionnaire of whether the toys were suitable for different aspects of development of the child and adequate related to the number of infants and children attending the day care facility also had to be removed as explained in 3.5.2.

However the aspects covered in the program are more important than the access to toys as creative activities using natural materials, talking and listening activities can provide stimulation as well. In view of the lack of resources available due to low fees [19] the need to look for programs that do not rely on expensive equipment need to be emphasized.

All aspects of development are covered at both care centres and day mothers more than 80% of the time. (Table 5.3.5.2) In terms of gross motor or big muscle development this is addressed in 96.6% of the care facilities and swings are available at 68.4% of day mothers and 42.5% of care centres. Swings are also important to stimulate the vestibular system, which can, amongst others, improve balance. [4, 40] A jungle gym is an effective but expensive piece of equipment that can be used to promote movement, balance and gross motor development. Jungle gyms are available at 42.1% of day mothers and at only 26.4% of care centres. A jungle gym for the age group addressed in this study should be lower and smaller in size than one used for older children, however the size was not stipulated in the research instrument. Balls which develop eye-hand and eye foot co-ordination are more readily available at 68.4% of day mothers and 51.7% of care centres but these items are all available in small numbers, thus this aspect of development in children attending day care in Limpopo, might also be at risk. Again circumstances dictate that programs should not rely on the availability of equipment but should make creative use of others methods of stimulating the necessary aspects of development, particularly in the less well financed rural areas [19].

6.5 Health, Safety and Nutrition

In order for children to remain healthy, basic sanitation is a minimum requirement and according to the Department of Social Development there should be toilet facilities available, clean piped water and areas for washing of hands. [5] Findings from the nationwide audit [19] suggest that a large number of care centres do not have electricity, piped water or flushing toilets. This was observed in that only 19.3%of care centres had acceptable nappy changing areas and only 15% had acceptable bathroom facilities.(Table 5.4.1) These areas are acceptable in the homes of the day mothers in urban areas at 84.2% and 89.5% respectively.

Information on the infants and children's health is recorded at 79.2% of the centres. The record keeping of children's health is scored higher at care centres (85.1%) than at day mothers (52.6%).

At the present time malnutrition, child abuse and child negligence are often in the news in South Africa. Effective records of the infants and children can be used to identify and report such problems. Reports of the children are given to parents at 80.9% of care centres and at 15.8% of day mothers. This may be due to the formal training received by the caregivers at the care centres making them more aware of these procedures.

Along with health, general safety of all children is a basic human right.[19] The general safety of was found to be acceptable at only 78.1% of the facilities, 79.6% of the care centres and 89.5% of the day mothers (Table 5.4.1). All areas where children spend time should be 100% safe and this is one aspect that is evaluated in the facilities that are inspected. Therefore the lack of registration and inspection is again a possible serious problem in the safety issues that arise in the care to young children in Limpopo Province.

Safety is also compromised at the majority of care centres as neither emergency services nor parents can be contacted as only 19.5% have a telephone available. Again expense and the lack of telephone lines available or mobile phone signals in rural areas affect this. 100% of day mothers have access to a telephone.

Guidelines from the Department of Social Development indicate that a first aid box must be available and that staff must receive regular training on how to use this equipment and deal with accidents [5]. Taking into consideration that only 21% of the caregivers have a First Aid Certificate and only 42.5% have a first aid kit available, (Table 5.4.3) the safety of the children in their care could be severely compromised. There is a guideline as to what a first aid kit should contain [5] but this was not considered in this study.

Another safety measure explicit in the guidelines for early childcare is the availability of a cupboard to store medicine so medicine (often provided by parents to be given to the child at specific times) can be locked away from children or unauthorized persons.[4] Strict rules should accompany medication, including effective record keeping of the quantity and time given. Reactions of the child on the medication should be recorded and reported to the parents. Just more than half of the centres (52.3 %) have a cupboard for medicine, but this does not indicate the responsibility with which medicine is handled. Again the better resources for safety was found at the day mothers, 73.7% of whom have a cupboard available compared to 47.7% of care centres.

Safety at the entrance gate of the premises was acceptable at 94.7% of day mothers and at 68.5% of care centres. Taking into account the poor communication systems (availability of telephones) and the high incidence of crime in South Africa, this is an essential requirement for the basic rights of the children.

Meals and nutrition are an important part of the basic right to health [4] The amount of food and drink provided must be adequate and appropriate for the child's age and the number of meals depends on the hours of care that is provided. Meals can be provided by the caregiver or the parents [5]

61% of children have 2 meals while in care and 24.4% have 3 meals. (Table 5.3.4.2) This means that these children have nearly 50% or more of their 21 meals per week in care. This indicates the importance of food and that a balanced diet should be offered at a care centre. Specific nutrients are important at critical stages of the child's development to ensure optimal growth and development. [25, 40, 42] The ECD audit [19] did not investigate the nutritional aspect of ECD and no research is available on the diet of infants and children in day care facilities in Limpopo Province. The fact that the care centres provide less meals than day mothers relying on parents to provide food for their children while in care, probably reflects the problems with finance as 40% of ECD care facilities depend on fees alone and the 100% payment rate of fees is less than 20% [19]. Therefore the care centres can not provide sufficiently nutritious meals and the nutritional quality of the meals provided by the parents was not covered in this study.

Day mothers on the other hand appear to be better resourced and provide more snacks than care centres. As 88.9% of day mothers indicated that they provide biscuits, sweets and cakes with 100% indicating that they provide sugar, thus the nutritional value of the snacks provided is debatable. 51.4% of care centres also provide biscuits, sweets and cakes which are expensive items with little nutritional value. Porridge/cereal, vegetables and sugar are provided the most frequently by care centres, whereas day mothers provide a bigger variety of food: milk/formula, meat/fish, egg, fresh fruit, rooibos tea and sugar. Care centres do not provide many proteins, which is an expensive food type, which are an important nutrient for the growing child.

Minimum standards for childcare require that a menu is provided and a record of this is displayed and available. [27]. 68.2% of care centres complied with this regulation and only 26.3% of day mothers.

34.5% care centres have their own vegetable garden compared to 5.3% of day mothers. Although this aspect is included in the questionnaire to evaluate the stimulation which the outside play area provides, a vegetable garden could improve the diet and menu at care centres and limit costs. Fresh produce is reasonably readily available in urban areas but often at a cost that varies with the seasonal availability.

The acceptability of areas available for food preparation, the serving of food and the washing of dishes are at 53.3% (Table 5.3.7) and below for all facilities. This may need further investigation as this may affect the children's health as well as nutrition if foods cannot be prepared in sterile and hygienic conditions especially in the case of infants and young children.

6.6 Facilities

In terms of space requirements the guidelines state that at least 2 m^2 of safe outside playing space per child must be provided with an indoor area of at least 1, 5 m^2 per child.[5]

These are the areas in which the infants and children spend most of their time - indoors playing area, outdoors playing area, dining area and sleeping area. The general appearance is acceptable in 58.1% to 73.1% of centres. 70% of care centres had indoor play areas compared to 52.6%of day mothers who care for children in their homes, where areas are often part of the home and not specifically furnished for children. Acceptable outdoor play areas were found over all 73.1% of the time. (Table 5.4.1)

The size of the outdoors play areas is adequate at 84.2% of day mothers and at only 36.6% of care centres. This is an indication that most children at the care centres

and some children at day mothers do not have adequate space to run and play, to explore and develop their gross motor function, in relation to the number of children being cared for.

A lawn, with sun and shade, is available at 84.2% of the day mothers and at only 43.8% of care centres. In a sunny and often very warm area like Limpopo Province the lack of shade may inhibit children playing outside on hot days. The lack of adequate outside areas at care centres corresponds with findings of the ECD audit [19] identifying the lack of funds and therefore resources at care facilities as a concern.

The parking areas and reception areas are acceptable at only 52.5% of day mothers and 35.6% of centres respectively. As these areas have more to do with the general attractiveness of the facility the poor ratings are not of concern as most of the centres are in rural areas have limited resources and poor road maintenance and many infants and children do not arrive by car which makes parking space irrelevant.

ECD centresare required to be suitably furnished with appropriate seating and working surfaces available and all furniture and equipment must be safe and in good repair [5]. Child friendly furniture indicates a place where children can comfortably sit at a table during various activities. Even small children should be encouraged to be independent when eating and to use acceptable table manners. Tables and chairs for children are used in 55% of centres (Table 5.4.3) and small tables and chairs are available in 44.3% of the dining areas. (Table 5.4.7) It is more accepted that a child will eat and do fine motor activities sitting at a table but at facilities without this furniture children sit on the floor during meals and activities which can influence participation, posture and performance negatively. Training of caregivers and nursery school teachers in rural areas usually includes instructions to make tables and chairs from Appropriate Paper Based Technology so they can provide seating for the children within their resources. [4]

Feeding chairs are used in the dining area of 20.2% of the facilities, but are more readily available at the day mothers (26.3%) than at the care centres (18.8%). Feeding chairs are an expensive commodity and are only used for a limited number of months during a child's development and are therefore unessential items.

Chairs in which to nurse a baby are available at only 16.3% of care centres and at 73.7% of day mothers. (Table 5.4.3) Day mothers, working from home, may use any chair in their house for this purpose and if chairs are not available in rural areas it is culturally acceptable to sit on the floor with the back against a wall when nursing a baby.

Most care centres and day mothers do not make use of walking rings (26.5%) and Jolly Jumpers (8.8%).This is excellent, as many parents and caregivers see these items as a good way to keep infants "busy". Long periods in these items can inhibit curiosity and creativeness and can inhibit normal physical development such as crawling.

Cots and/or mattresses however are essential to ensure peaceful sleep in infants and children. These are only available at 36.5% of the care centres, but at 89.5% of day mothers (Table 5.4.6). The quality and quantity of the mattresses were not evaluated neither were the surfaces infants and children use for sleeping at the 53.8% of centres which scored below average.

Although the sleeping patterns of infants and children are not covered in the literature review for this research, it is an aspect of quality care that should not be ignored. The availability of background music in the sleeping areas was assessed and is used by 5.3 % of day mothers and 39.5% of care centres. Both singing by adults is an effective method to soothe babies and background music is report to assist babies to sleep. The practicality of using this is debatable, when considering the average

caregiver: child ratio of up to 1:23 which cannot leave caregivers with time for peaceful singing when children are put to sleep or while they are sleeping.

6.7 Management

The general organization of the day care centre, including administration, is important to provide structure and systems for the benefit of the children and their parents.

General information on each child is recorded at 75.9% of care centres versus 52.6% at day mothers. Day mothers take care of smaller numbers of children, which makes informal record keeping easier, although not more effective as well as contravening the minimum standards for ECD care [(5)].

92% of facilities participating in this study had a standard procedure to refer to professional services and 100% spoke to the child's parents about a problem. This is most important as parents should always be informed about their child. Only 41, 9% of those with a standard procedure, would however recommend a doctor and 62% would recommend another professional.(Table 5. For the sake of early intervention it would be valuable if the caregiver could recommend professional intervention but not necessarily a specific person. This is recommended especially if the parents do not have the contacts or knowledge of where to go to for assistance.

Most of the caregivers and day mothers feel confidant in their own knowledge of developmental stages and have confidence to refer a child to a specific professional. This is excellent, as referrals can promote early intervention in the young child with problems and this can lead to a positive outcome. However, this does not correlate with the lack of training and the unavailability of developmental tables at especially with respect to the day mothers. Feeling confident can thus be misleading to the carer and to parents who rely on her knowledge and expertise. Quality inspections and support to the caregivers can address this problem. [(17)]

Because Limpopo Province has few resources [19] many of the children attending these care facilities can be classified as at-risk children. [16] Intervention as early as possible will prepare them for school and effective education, resulting in positive adult economic outcomes.[12]

6.8 In Summary

When day mothers and care centres were compared in terms of the areas defined in the results it was found that the care centres scored significantly higher on toys, (more centres had a greater variety) dining area (because of menu use) and in the overall scores for most sections of both the questionnaire and observation form.. These results need to be interpreted with caution as the variety of items in each section varied and although the weighting was taken into account. It is of more importance that the average scores on a scale of 1-5 fell between 3.0 for day mother facilities and 2.0 for the day mother dining area. Items that affected significance may not be as essential as other items and aspects like the number of toys per child were not considered, so the variety of toys available to the care centres may be misleading. Since scores between 5 – 3 was considered acceptable with 3 being average none of the areas except day mothers facilities measured up overall as all other values fall between 2.9 and 2.0. Therefore various areas need to be addressed to make the standard of child care for 0-36 month olds in Limpopo Province acceptable.

Day care facilities are not governed, inspected or controlled by a single authority in South Africa. Although the Department of Social Development now has guidelines and regulations for childcare facilities and the authority to register and co-ordinate ECD activities is not actually happening in Limpopo Province. This is reflected in the sampling for this research and in the results which indicate that various aspects of quality care for infants and children are not meeting desirable standards. This also leads to a lack of enforcement in terms of registration and inspection which means there are no consequences for offering a below standard service.

Although the relative poor rural areas included care facilities that lack in basic sanitation, have poor adult to child ratios, few resources and scored lower on average than day mothers in outdoor play areas, premises and sleeping areas. They are using stimulation programs, are inspected more frequently and the caregivers have received more formal training and therefore scored higher on average in the areas of staff, offices, dining areas and overall scores. These centres are registered for the main part with NGO's who are concentrating on the aspects of staff development and programs.

In the urban areas the typical day mother cares for a few children in her home and although better resourced none of these caregivers have ever received formal training in childcare. The training requirements set out for ECD have recently been published [5] and formal training has not always been available. It was not possible in this study to assess the knowledge and skills of these day mothers.
The lack of formal training may also have affected their record keeping in terms of the children and their health, making their office score lower.

Compared to the ideal environment for child care as described in the literature study, most aspects of quality care in Limpopo Province, South Africa need urgent attention to protect the very young child from factors that increase the risk of a negative outcome. The child to carer ratio is of great concern but not unexpected in a poor Province. [19] The number of child in care indicate that this is a much needed service that needs the minimum standards set out in the guidelines to be applied, so the standard can be at the level where the care for and stimulation of the very young child allows them to grow into intelligent, responsible people who can make contributions to the benefit of the society in which he / she lives.

Chapter 7

CONCLUSION

7.1 Child care in South Africa

Early childhood interventions can improve the lives of participating children and families in both the short run and longer run. [12, page 128]

The most important years that can predict the outcome for a child are the very early years, especially from 0 – 36 months. Many infants and children in this age group are attending day care facilities for extensive periods of each day. The quality of care that they receive can have an effect on their cognitive, emotional and physical development.

Limited research is available on child care in South Africa. The nationwide audit [19] addresses early childhood development in an extensive review in each Province in South Africa. This covered many centres for early education in South Africa and also in the Limpopo Province (named Northern Province in the audit) but focussed on the care and education for the child from 0 – 9 years and did not specifically research the care of the child from 0 – 36 months. The National Departments of Social Development and Health are primarily focused on the development of the 0 – 5 year old group. The government has identified children as a national priority, the United Nations Conventions on the Rights of the Child was accepted in 1995 and the African Charter on the Rights and Welfare of the Child was promulgated in 2000. [19]

The literature review of this research study indicates the importance of the training of the caregiver and of the control and supervision of the caregiver. These aspects are poorly met at present as regulations are not enforced and registrations can be at various governmental and non governmental institutions and there is poor co-

ordination. Although a comprehensive guideline has recently been published by the National Department of Social Services, these are not being used at provincial level. These guidelines include an NQF standard for training or qualifications of child caregivers, as well as standards for premises and facilities and the need for a program to stimulate a child in the 3 most important years of development. These basic early childhood skills are a necessary foundation for learning other skills in school, thus it is as important as or even more important to implement programs to develop these skills in the very young child than it is to educate the older child.

Longitudinal research studies [16, 29] carried out in other countries provide valuable information and guidelines which can be used to establish quality of care in South Africa, specifically in Limpopo Province. These also address the importance of parent and family involvement in care and in intervention, especially in high-risk families as the very poor. Early childhood intervention can compensate for risk factors in the child's environment and can protect a child from various potentially negative influences on the child's development in the early years. [12]

7.2 Child care in Limpopo Province

This research study investigates the quality of care provided in Limpopo Province, South Africa for specifically the age group 0 – 36 months. The research instruments used variables to evaluate the key environmental factors, needed for quality child care, at a sample of caregivers and day mothers in rural and urban areas of Limpopo Province.

The results from the non-experimental, quantitative, cross sectional descriptive design indicate that many needs for quality child care are not met at present in Limpopo Province, South Africa. Although there are many differences between the two samples, rural care centres and urban day mothers, both fall behind in many aspects of quality care and not a single care facility addressed all of the needs of quality care as stipulated in the research instruments. One first ways to rectifying this

is an effective manner to implement the guidelines of the Department of Social Services. So all persons delivering services are registered and monitored in a co-ordinated manner.

Limpopo is one of the poorest Provinces in South Africa, [19] which assumes that the number of at-risk children and families would be relatively high. Intervention and the decrease of the risk factors can be addressed at day care facilities which have adequate equipment and which make use of qualified staff. This research has found that day care facilities in urban and rural areas lack supervision and control, are poorly equipped and do not have qualified or trained staff. This is a present problem, but it can have unfortunate effects for the future of this Province as children with limited skills, who are poorly equipped for the many demanding tasks at school, will be entering the school system shortly. These children are at risk of developing learning difficulties, grade failure and might prematurely end their education, which will result in other implications which were not investigated in this study.

Although basic sanitation, running water and electricity seem to be important factors, and will make the keeping of hygiene standards easier, the absence of these will not have a negative influence on the child's physical and emotional development if the other important factors for quality child care are met. The results of this research study indicate that at present child care facilities in Limpopo Province need qualified and well trained staff, governmental guidance and control, equipment and programs to stimulate the different aspects of a child's development, nutrition, safety measures and regulated measures for reporting problems to ensure early intervention of possible developmental delay or other health issues.

7.3 Day mother versus care centre

The researcher and research assistants recorded the variables in the research instruments from day mothers in urban areas, caring for a few children in her home

and care centres in rural areas caring for larger numbers of children. The results from this research indicate differences and similarities.

Both groups were relatively poorly qualified or trained for the work they are doing with children. Although the premises of neither were ideal, the premises of the day mothers have the advantage of being a home, one aspect that a child in day care has to do without for long periods of time. Sanitation was better in the urban areas of the day mothers and day mothers provided a bigger variety in food, probably resulting in more nutrients. The equipment regarding toys is better at day mothers, although more care centres use a program to stimulate the children in their care. Caregivers at care centres are better trained for the work that they do than day mothers.

Average scores of the observations made in different areas of the premises indicated a few significantly differences between the premises of the two groups. The percentage of care centres with scores of adequate and above in average for all sections of the premises were significantly higher than those at day mothers.

This research study did not investigate the adult to child ratio, the parent-child interaction at the care centre, the advice and support to parents and the influence of the care facility on the child. Further research in this regard could provide valuable information to develop standards and guidelines for care centres.

7.4 Status of caregivers

Caregivers trained or not, provide a most important service for parents and children, and indirectly for the community. Without these caregivers, both parents would not be able to work and the poverty in Limpopo Province might even increase. At present, caregivers (day mothers and care centres) do not receive funding from the government [(19)] and need to rely on fees from parents, of which a big proportion are very poor. The training of staff, the improvement of premises and equipment, the appointment of adequate staff and the nutrition of the children are impossible without

funding. This means that a large proportion of the children in Limpopo Province are deprived of the quality of care that is the basic right of every child.

Funding, although the source of this is unclear, will ensure a better salary for the day mother or caregiver at a care centre. This will result in better work and home conditions for the caregiver with many positive outcomes.

7.5 Resulting research

This study has investigated various aspects of quality care at day mothers and care centres in Limpopo Province. Like much research it raises more questions than it answers.

Research that should result from this study:

- To investigate the contents and standard of training programs for day mothers and caregivers in South Africa.
- To investigate the available study material and information packages for day mothers, including availability, language, price and contents.
- To investigate the quality of child care in other areas of South Africa.
- To investigate the implementation of different projects that can be used to improve the quality of child care.
- To develop and standardize a program to be used at care centres and day mothers to ensure the normal development of the infant and child aged 0 – 36 months.
- To investigate the nutritional and sleeping needs of a child aged 0 – 36 months at day care centres and to introduce a standard of these aspects that will meet these needs and which can be implemented as criteria for quality care in South Africa.

- To investigate the various organizations which can assist in funding for the improvement of quality of child care in Limpopo Province and in South Africa.