

**CONSUMER TESTING OF THE PRELIMINARY PAEDIATRIC FOOD-
BASED DIETARY GUIDELINES, AMONG ENGLISH- AND AFRIKAANS-
SPEAKING MOTHERS, FOR HEALTHY CHILDREN AGED 1 – 7 YEARS
IN THE CITY OF CAPE TOWN, SOUTH AFRICA**

A thesis
presented to the Department of Human Nutrition
of the Stellenbosch University
in partial fulfillment
of the requirements for the degree of
Master of Nutrition
by

The crest of Stellenbosch University is centered behind the text. It features a shield with various symbols, topped by a crown and surrounded by a decorative border. Below the shield is a motto scroll with the Latin text "Pectora roburant cultus recti".

Lesley Dalene Scott

Research Study Leader: Mrs Debbi Marais

Research Study Co-leader: Dr Lesley Bourne

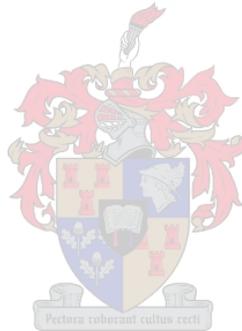
Degree of confidentiality: A

Date: April 2006

DECLARATION

Hereby I, Lesley Dalene Scott, declare that this thesis is my own original work and that all sources have been accurately reported and acknowledged, and that this document has not previously in its entirety or in part been submitted at any university in order to obtain an academic qualification.

L.D. Scott



March 2006

ABSTRACT

PROJECT AIM

The aim of this qualitative cross-sectional descriptive study was to test the comprehensibility of the preliminary Food-Based Dietary Guidelines for healthy children aged 1-7 years. Objectives included assessing exposure to Food-Based Dietary Guidelines, assessing comprehension of the proposed Paediatric Food-Based Dietary Guidelines (perceptions, interpretation and understanding of terminology, concepts and descriptions), and assessing whether the guidelines can be used in meal planning.

METHOD

The proposed study was submitted to the Committee for Human Research, Faculty of Health Sciences, Stellenbosch University, and was subsequently approved.

Focus group discussions were used to collect data. The discussions were facilitated by the investigator in either English or Afrikaans, according to a predetermined discussion guideline. Mothers with children aged 1-7 years old voluntarily participated in the study. With permission from the Department of Education, mothers were contacted via randomly chosen pre-primary schools, crèches and playgroups. Focus groups were formed on the basis of language and socio-economic status (SES), using randomly selected suburbs to represent lower, middle and upper SES groups. Sixteen focus groups were conducted: 2 pilot groups, 1 English and 1 Afrikaans lower SES, 3 English and 3 Afrikaans middle SES groups, and 3 English and 3 Afrikaans upper SES groups.

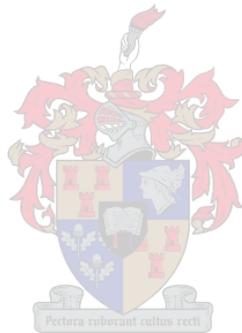
RESULTS

A total of 76 mothers participated in the study. On the whole, the mothers understood the proposed Paediatric Food-Based Dietary Guidelines as intended by the Paediatric Working Group. The rationale behind the guidelines was not always known, but grasped once explained. No substantial differences were found between English and Afrikaans data. Differences were found between SES groups, with the highly educated upper SES groups having a better understanding of the nutritional information than the other

groups. In all groups, mothers suggested that slight changes be made to the wording of the guidelines, and that examples and additional information be given along with each of the guidelines. Overall they agreed that the proposed guidelines might prove to be useful.

CONCLUSION

The proposed Paediatric Food-Based Dietary Guidelines were well received by the mothers in the focus groups. The target population which would most benefit from these guidelines would be the less educated, lower SES groups, as more highly educated mothers seem to already have greater exposure to nutritional information. This study shows that once the guidelines have been modified, they may be used as a comprehensive guide for nutritional education.



OPSOMMING

PROJEK DOEL

Die doel van hierdie kwalitatiewe dwarsnit beskrywende studie was om die verstaanbaarheid van die voorgestelde Voedselgebaseerde Dieëtriglyne vir gesonde kinders tussen 1 en 7 jaar oud, te bepaal. Doelwitte het die bepaling van bloodstelling aan Voedselgebaseerde Dieët Riglyne, die bepaling van die begrip van die voorgestelde Pediatriese Voedselgebaseerde Dieëtriglyne (waarnemings, interpretasie en begrip van terminologie, konsepte en beskrywings), en die bepaling of die riglyne gebruik kan word in die beplanning van maaltye, ingesluit.

METODE

Die voorgestelde studie is aan die Komitee vir Menslike Navorsing, Fakulteit Gesondheidswetenskappe, Universiteit van Stellenbosch voorgelê, en gevolglik aanvaar.

Fokus groep besprekings is gebruik om data te versamel. Die besprekings is deur die navorser toegepas in óf Engels óf Afrikaans, volgens 'n vasgestelde besprekingsriglyn. Moeders met kinders van 1-7 jaar oud het vrywillig aan die studie deelgeneem. Met die goedkeuring van die Departement van Opvoeding, is moeders gekontak deur voorskole, nasorgsentrumms en speelgroepe. Laasgenoemde instellings is ewekansig gekies. Fokusgroepe is op die basis van taal en sosio-ekonomiese status (SES) gevorm, met die gebruik van ewekansige gekose voorstede wat laer, middel en hoër SES groepe verteenwoordig het. Sestien fokusgroep besprekings is gehou: 2 toetsgroepe, 1 Engelse en 1 Afrikaanse laer SES groep, 3 Engelse en 3 Afrikaanse middel SES groepe, en 3 Engelse en 3 Afrikaanse hoër SES groepe.

RESULTATE

'n Totaal van 76 moeders het aan die studie deelgeneem. In die geheel, het die moeders die voorgestelde Paediatriese Voedselgebaseerde Dieëtriglyne verstaan soos uiteengesit deur die Paediatric Working Group. Die grondrede van die riglyne was nie

altyd duidelik verstaanbaar nie, maar is na verduideliking daarvan begryp. Geen betekiningsvolle verskille is tussen die Engelse en Afrikaanse data gevind nie. Verskille is wel gevind tussen SES groepe, met die hoër opgevoede en hoër SES groepe wat 'n beter begrip van die voedingsinligting getoon het as die ander groepe. In alle groepe het moeders voorgestel dat klein veranderinge aan die bewoording van die riglyne gemaak word, en dat voorbeelde en bykomende inligting saam met elke riglyn gegee word. Grootliks het hulle saamgestem dat die voorgestelde riglyne van waarde kan wees.

GEVOLGTREKKING

Die voorgestelde Paediatriese Voedselgebaseerde Dieëtriglyne is goed ontvang deur die moeders in die fokusgroepe. Die teiken populasie wat die meeste van hierdie riglyne sal baat vind sal die minder opgevoede, laer SES wees, want die hoër opgevoede moeders blyk meer bloedgestel te wees aan voedsel inligting. Hierdie studie bewys dat sodra die riglyne aangepas word, sal hulle as 'n saambevattende riglyn vir voedingsvoorligting gebruik kan word.



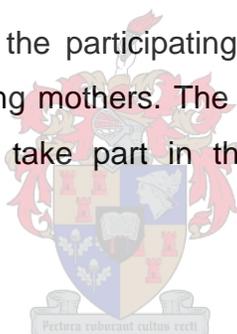
ACKNOWLEDGEMENTS

Firstly the author would like to thank Mrs. Debbi Marais, the study leader, for her continual guidance, reassurance and positive advice, and Dr Lesley Bourne, the study co-leader, for her expert recommendations, assistance and enthusiastic support. Their continual availability and leadership went a long way in making this project possible.

The author would also like to acknowledge the Medical Research Council of South Africa for its generous financial assistance provided to conduct the research.

A thanks also goes to Mrs. W Pool from the Tygerberg Campus Library for her help in locating a large proportion of the literature used in the study.

The author wishes to thank all the participating pre-primary schools, playgroups and crèches for their help in recruiting mothers. The responses given by the mothers, who willingly gave of their time to take part in the focus groups, provided invaluable information and great insight.



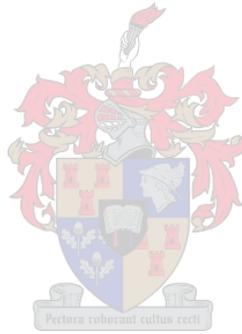
DEDICATION:

To my parents James and Annette: for their love and support, and for giving me the opportunity to do what I'm doing. To Andrew and Margot: for their encouragement, and for reminding me that I know what I'm doing. To Graham: for believing in me and for his interest in what I'm doing. To the children of South Africa: for whom I did this.

TABLE OF CONTENTS

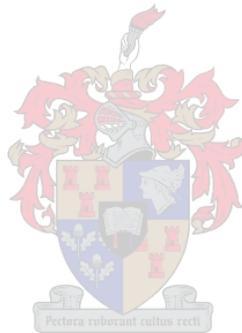
Declaration	ii
Abstract	iii
Opsomming	v
Acknowledgements and Dedication	vii
List of Tables	xii
List of Figures	xiii
List of Appendices	xiv
List of Abbreviations	xv
CHAPTER 1: INTRODUCTION AND AIM	16
1.1 Background to the development of Food-Based Dietary Guidelines in South Africa	16
1.2 FBDG for adults and children >7 years of age	16
1.3 Background to the development of Paediatric FBDG in South Africa	17
1.4 Aim and objectives	18
1.5 Chapter layout	19
CHAPTER 2: LITERATURE REVIEW	20
2.1 Malnutrition and its influencing factors in South Africa	20
2.1.1 Consequences of undernutrition	21
2.1.2 Consequences of overnutrition	22
2.2 Dietary guidelines	23
2.2.1 Dietary guidelines	23
2.2.2 Food-Based Dietary Guidelines	24
2.2.3 Consumer's role in the development of FBDG	25
2.3 Proposed South African PFBDG: 1-7 years	26
2.4 Evidence-based support for the proposed PFBDG	26
2.4.1 Encourage children to enjoy a variety of foods	26
2.4.2 Feed children 5 small meals a day	27
2.4.3 Make starchy foods the basis of a child's main meals	28
2.4.4 Children need plenty of vegetables and fruits every day	28
2.4.5 Children need to drink milk every day	29
2.4.6 Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day	30
2.4.7 If children have sweet treats or drinks, offer small amounts with meals	31

2.4.8	Offer children clean, safe water regularly	31
2.4.9	Take children to the clinic every 3 months	32
2.4.10	Encourage children to be active every day	33
2.5	Concluding remark	34
CHAPTER 3: METHODOLOGY		35
3.1	Study design	35
3.1.1	Qualitative research	35
3.2	Study population	35
3.2.1	Sample selection and size	37
3.2.2	Language selection	40
3.3	Voluntary participation	41
3.3.1	Inclusion and exclusion criteria	41
3.3.2	Risks and benefits	41
3.4	Data collection methods	41
3.4.1	Focus group discussions	41
3.5	Data analysis	42
3.6	Validity and reliability	43
3.6.1	Generalisability	44
3.6.2	Researcher bias	44
3.7	Ethical considerations	45
3.8	Summary of methods	45
CHAPTER 4: RESULTS		46
4.1	Sample characteristics	46
4.1.1	Recruitment of mothers	46
4.1.2	Results from the socio-demographic questionnaires	46
4.2	Results of language data	49
4.3	Results of SES and maternal level of education data	49
4.3.1	Consumer exposure to FBDG	49
4.3.1.1	Use of guidelines	49
4.3.1.2	Exposure to FBDG	49
4.3.1.3	Importance of using a guideline	50
4.3.2	Consumer comprehension of the proposed PFBDG	50
4.3.2.1	Encourage children to enjoy a variety of foods	50
4.3.2.2	Feed children 5 small meals a day	51



4.3.2.3	Make starchy foods the basis of a child's main meals	54
4.3.2.4	Children need plenty of vegetables and fruits every day	55
4.3.2.5	Children need to drink milk every day	57
4.3.2.6	Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day	58
4.3.2.7	If children have sweet treats or drinks, offer small amounts with meals	60
4.3.2.8	Offer children clean, safe water regularly	62
4.3.2.9	Take children to the clinic every 3 months	64
4.3.2.10	Encourage children to be active every day	65
4.3.3	Usage of PFBDG	67
4.4	Additional comments given at the end of focus groups	68
CHAPTER 5: DISCUSSION		70
5.1	Recruitment of mothers	70
5.2	Socio-demographics	70
5.2.1	Quality of the discussions	71
5.3	Discussion of language group data	72
5.4	Discussion of SES and maternal level of education data	72
5.4.1	Exposure to FBDG	73
5.4.2	Consumer comprehension of the proposed PFBDG	73
5.4.2.1	Encourage children to enjoy a variety of foods	73
5.4.2.2	Feed children 5 small meals a day	74
5.4.2.3	Make starchy foods the basis of a child's main meals	75
5.4.2.4	Children need plenty of vegetables and fruits every day	76
5.4.2.5	Children need to drink milk every day	77
5.4.2.6	Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day	78
5.4.2.7	If children have sweet treats or drinks, offer small amounts with meals	79
5.4.2.8	Offer children clean, safe water regularly	80
5.4.2.9	Take children to the clinic every 3 months	81
5.4.2.10	Encourage children to be active every day	83
5.4.3	Usage of PFBDG	84
5.5	Discussion of additional comments	85
CHAPTER 6: CONCLUSION AND RECOMMENDATIONS		86
6.1	Conclusion	86
6.2	General recommendations	87
6.3	Recommendations for each guideline	88

6.3.1	Encourage children to enjoy a variety of foods	88
6.3.2	Feed children 5 small meals a day	88
6.3.3	Make starchy foods the basis of a child's main meals	88
6.3.4	Children need plenty of vegetables and fruits every day	88
6.3.5	Children need to drink milk every day	89
6.3.6	Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day	89
6.3.7	If children have sweet treats or drinks, offer small amounts with meals	89
6.3.8	Offer children clean, safe water regularly	89
6.3.9	Take children to the clinic every 3 months	90
6.3.10	Encourage children to be active every day	90
6.4	Recommendations for future research and implementation	90
6.5	Limitations of the study	91
CHAPTER 7: REFERENCES		92
APPENDICES		100



LIST OF TABLES

Table 3.1	Number of focus groups planned for representative SES suburbs	37
Table 3.2:	Number of Afrikaans, English, IsiXhosa and IsiZulu females in the City of Cape Town	40
Table 4.1	Culture and gender category percentages within each SES group	47
Table 5.1:	Female level of education in the City of Cape Town	71
Table 5.2:	Ages at which vaccines are due in South Africa	82



LIST OF FIGURES

Figure 3.1	A map of the Western Cape	36
Figure 3.2	City of Cape Town, roughly delineated by the blue outline	36
Figure 3.3	Photographs of lower SES housing within the randomly selected areas	38
Figure 3.4	Photographs of middle SES housing within the randomly selected areas	38
Figure 3.5	Photographs of upper SES housing within the randomly selected areas	38
Figure 3.6	Objectives for the focus group discussions regarding proposed PFBDG for children 1-7 years	42
Figure 4.1	Language group representations within each SES group	47
Figure 4.2	Maternal level of education within each SES group	48
Figure 4.3	Employment status within each SES group	48

LIST OF APPENDICES

Addendum 1	FBDG for adults and dietary guidelines for people living with HIV/AIDS	100
Addendum 2	Letter to Department of Health	102
Addendum 3	Letter to the Department of Education	105
Addendum 4	Letter to playgroups, crèches, preprimary schools, and clinics Brief aan speelgroepe, nasorgsentrum, voorskole, en klinieke	108
Addendum 5	Letter to mothers at playgroups, crèches, preprimary schools, and clinics Brief aan moeders by speelgroepe, nasorgsentrum, voorskole, en klinieke	113
Addendum 6	Participant information leaflet and Consent form Deelnemer informasie pamflet en Toestemmings vorm	116
Addendum 7	Socio-demographic questionnaire Sosio-demografiese vraelys	123
Addendum 8	Focus group session guide Fokus groep sessie riglyn	126

LIST OF ABBREVIATIONS

FAO	Food and Agriculture Organisation
FTT	Failure To Thrive
FBDG	Food-Based Dietary Guidelines
GI	Glycaemic Index
HIV/AIDS	Human Immuno-deficiency Virus/Acquired Immuno-deficiency Syndrome
IMCI	Integrated Management of Childhood Illnesses
INP	Integrated Nutritional Programme
IQ	Intelligence Quotient
MRC	Medical Research Council
NFCS	National Food Consumption Survey
PFBDG	Paediatric Food-Based Dietary Guidelines
RDA	Recommended Dietary Allowance
SAVACG	South African Vitamin A Consultative Group
SES	Socio-Economic Status
WHO	World Health Organisation

CHAPTER 1: INTRODUCTION AND AIM

1.1 BACKGROUND TO THE DEVELOPMENT OF FOOD-BASED DIETARY GUIDELINES IN SOUTH AFRICA

Infant and child morbidity, especially due to malnutrition, is a pressing issue. It has been estimated that malnutrition underlies over half of child mortality in sub-Saharan Africa and that in South Africa alone, almost 2.3 million children suffer from malnutrition.¹ This may be prevented or at least reduced by ensuring that their nutrition is improved, as diet is a significant factor that determines health.² In Rome, 1992, the Food and Agriculture Organisation (FAO) and the World Health Organisation (WHO) convened the International Conference on Nutrition. Here, the World Declaration and Plan of Action for Nutrition was adopted as a means of improving global nutritional well-being. It includes the strategy of promoting healthy lifestyles by providing country-specific dietary guidelines for different age groups.²

Motivated by strategies contained within the World Declaration and Plan of Action for Nutrition, the Nutrition Society of South Africa initiated the formation of a working group that would eventually develop country-specific Food-Based Dietary Guidelines (FBDG) for South Africa.³

1.2 FBDG FOR ADULTS AND CHILDREN >7 YEARS OF AGE

After the FAO/WHO recommendations were made in 1996, the South African Food-Based Dietary Guidelines Working Group was set up in 1997. They developed a first draft set of FBDG for South Africans, which was released in August 1998 for healthy adults and children over 7 years of age. Once these FBDG were adopted by the Department of Health, the process of developing modified dietary guidelines for groups with specific dietary needs started in 2000. These groups were children younger than 7 years of age, pregnant and lactating women, the elderly and people living with HIV and AIDS (Addendum 1).⁴

1.3 BACKGROUND TO THE DEVELOPMENT OF PAEDIATRIC FBDG IN SOUTH AFRICA

Children aged 1-7 years have specific dietary needs for growth and development and therefore they require their own age-specific set of FBDG.⁵ The Paediatric Working Group was set up in December 2000 as a subcommittee of the South African Food-Based Dietary Guidelines Working Group. It is chaired by Dr L Bourne from the Medical Research Council (MRC) and the members include experts in paediatric nutrition from the Department of Health, the MRC, the Red Cross Children's Hospital and Child Health Institute, the Universities of Cape Town, Stellenbosch and the Western Cape, as well as the Association for Dietetics in South Africa, the Nutrition Society of South Africa and the South African Dental Association.⁶

Among the members of the Paediatric Working Group, it was agreed that the focus should be on low-income groups, and that the Paediatric FBDG (PFBDG) should address the problems of under- and over-nutrition.⁷ It was also decided that the PFBDG would be formulated for the healthy child. Once these have been accepted, they will be adapted for various conditions (such as diabetes mellitus) at a later date.⁸

Instead of developing one set of FBDG for all children under 7 years of age, separate age group categories were decided on, given the differing nutrient requirements and growth and developmental aspects of infants and young children. At first, the cut-off of <6 years was chosen as the cut-off between FBDG for children and FBDG for older ages as it was felt that children older than the cut-off would be adequately covered by the existing FBDG. This category was further split into 0-6 months, 6-12 months, 12-24 months and 2-5 years to reflect the varied patterns of eating.⁶ The Paediatric Working Group later decided that a cut-off age of 7 would be more appropriate because this age corresponds to one of the Recommended Dietary Allowance (RDA) cut-offs for both genders and would also allow for the coverage of preschoolers. The Department of Education also relates 6 years of age to 'preschool' and 7 years of age to 'readiness for

school' and a child of 7 years and over would then, in the case of particularly vulnerable children, be subject to the Primary School Feeding Scheme.⁹

The PFBDG were formulated based on previous brainstorming sessions during which nutrition policy documentation, such as the Integrated Management of Childhood Illnesses (IMCI), the Integrated Nutritional Programme (INP) based on the United Nations Children's Fund Conceptual Framework, and the Paediatric Case Management Guidelines, was taken into account. Consensus was achieved for the age groups of 0-6 months, 6-12 months, and 1-7 years.¹⁰ In 2003, the following preliminary PFBDG for the 1-7 year old age group were approved for testing:

1. Encourage children to enjoy a variety of foods.
2. Feed children 5 small meals a day.
3. Make starchy foods the basis of a child's main meals.
4. Children need plenty of vegetables and fruits every day.
5. Children need to drink milk every day.
6. Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day.
7. If children have sweet treats or drinks, offer small amounts with meals.
8. Offer children clean, safe water regularly.
9. Take children to the clinic every 3 months.
10. Encourage children to be active every day.

1.4 AIM AND OBJECTIVES

The aim of this study was the consumer testing, among English- and Afrikaans-speaking mothers, of the preliminary PFBDG for healthy[#] children aged 1-7 years, in the City of Cape Town, South Africa.

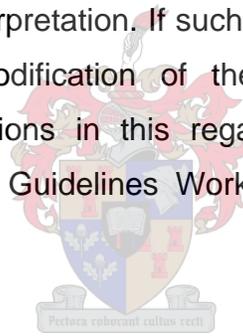
[#] WHO definition of Health: Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.¹¹ The proposed PFBDG exclude low birth weight babies.⁸

To reach this aim, specific objectives were:

- to assess exposure of consumers to FBDG
- to assess comprehension of the proposed PFBDG
- to assess whether the guidelines can be used in meal planning

These objectives were explored through asking questions relating to the use of and perceived importance of using guidelines for meal planning, asking whether mothers had heard of FBDG, asking mothers to give their opinions regarding the perceptions, interpretations and understandings of terminology, concepts and descriptions for each guideline, and finally asking whether they believe the proposed PFBDG provide appropriate information in order for mothers to use them in preparing meals for their children.

The results of this study will highlight any ambiguities in the proposed PFBDG and any possible differences in their interpretation. If such differences exist, these results can be used as a basis for the modification of these PFBDG in terms of consumer comprehension. Recommendations in this regard will be provided to the National Paediatric Food-Based Dietary Guidelines Working Group for further implementation and decision-making.



1.5 CHAPTER LAYOUT

Chapter 2 covers past and recent literature that is relevant to child nutrition, previous dietary guidelines, the process of forming FBDG, the proposed PFBDG and factors influencing the above-mentioned objectives, namely language, socio-economic status and maternal education levels.

Chapter 3 covers the study design and methodology used in sample selection, focus group discussions, data capturing and data analysis.

Chapter 4 gives the results of the research. Sample characteristics are put forward and the themes emerging from the focus groups are presented. Chapter 5 provides a discussion of the results in Chapter 4.

Chapter 6 offers a conclusion as well as recommendations, while also mentioning the shortcomings of the study. Chapter 7 is a list of references.

CHAPTER 2: LITERATURE REVIEW

2.1 MALNUTRITION AND ITS INFLUENCING FACTORS IN SOUTH AFRICA

Undernutrition, as well as micronutrient deficiencies, infections and a lack of growth monitoring, are public health issues that concern younger children.^{5,12,13} Over the past two decades, results from numerous studies have shown that there is a relatively high prevalence of malnutrition among preschool children in South Africa.¹⁴ According to the National Food Consumption Survey (NFCS) done in 1999, 1 out of 10 children aged 1-9 years was underweight, and 1 in 5 was stunted.¹⁴ The South African Vitamin A Consultative Group (SAVACG) suggested in 1994 that roughly 660 000 preschool children were identifiably malnourished.¹⁵

Overnutrition is also a health problem. Globally, overweight and obesity rates are on the increase. In recent years, the rates among children have increased by up to 13% in the United States of America, 2.6% in England, 5.5% in Australia and 8.6% in Egypt.¹⁶ Childhood obesity seems to be more frequent in upper socio-economic groups: in South Africa's urban formal housing areas, 1 in 13 children was found to be overweight.^{13,14,17}

The level of maternal education is observed to be a factor that influences a child's nutritional status.^{1,14} According to the NFCS, improved maternal education is coupled with reductions in the prevalence of wasting, stunting and overweight, except in formal urban areas, where the prevalence of overweight is increased.¹⁴ As a result, one of the recommendations made in the NFCS report was that maternal nutrition education programs be implemented that contain messages that are united with current eating patterns.¹⁴

Poverty is also a factor that strongly influences health. According to research done by the WHO, poverty is strongly associated with child underweight, consumption of unsafe water and little or no sanitation.¹³ Poverty is a significant obstacle in the treatment of diseases as costs involved in treatment are often too high for the impoverished to afford.

It also has the potential to hinder any efforts made to prevent diseases that are related to nutritional status.^{18,19} Even if guidelines are in place, caregivers might not be able to afford good nutritious food, and therefore cannot apply the guidelines as they should. Walker stated that while milk, dairy, meat, fruit and vegetable supplies are sufficient, their consumption in South Africa remains low, possibly because of their expense.¹⁸

2.1.1 CONSEQUENCES OF UNDERNUTRITION

Malnutrition is a serious cause of mortality and morbidity for children under the age of five.^{12,13} Undernutrition results from a deficiency of carbohydrate, protein, fat, vitamins, minerals and trace elements.^{20,21} Failure to thrive (FTT) is a manifestation of such undernutrition. It consists of poor growth, which can be seen within the first 3 years of life.²² The incidence of FTT is higher in families living in poverty, possibly because of a lack of food and frequent household stressors.^{15,22}

Undernutrition may lead to stunting (low height-for-age) and wasting (low weight-for-height). According to the WHO criteria for undernutrition, a Z-score of <-2 indicates low weight-for-age, low weight-for-height and low height-for-age which are classified as moderate and severe underweight. A Z-score of <-3 defines severe undernutrition. On the other hand, a Z-score of $>+2$ classifies high weight-for-height as overweight.^{22,23}

Micronutrient deficiency is also a possible result of undernutrition. Vitamin A deficiency in children results in reduced resistance against infections, impaired vision and blindness, while zinc deficiency results in poor immune function, diarrhea, and short stature. Iodine deficiency may lead to mental impairment and brain damage, whereas folate and vitamin B₆ deficiencies can cause forms of anemia. Niacin deficiency results in weakness, dermatitis and dementia, and riboflavin deficiency leads to dermatitis along with photophobia and soreness in the oral cavity. Thiamin deficiency in infants may result in cardiac failure. A deficiency of vitamin C results in impaired immune function, fatigue and decreased absorption of iron. Vitamin D deficiency results in rickets due to a drastic reduce in the absorption of calcium, which is needed for maximal bone mineral

density. Magnesium deficiency results in weakness and cardiac abnormalities, while an iron deficiency results in a form of anemia and impaired psychomotor development.^{13,24,25} As can be seen, micronutrient deficiencies negatively affect a child's health and development in a very powerful way.

2.1.2 CONSEQUENCES OF OVERNUTRITION

With the spread of Western influences, eating patterns have changed. While this may lead to a decrease in the prevalence of deficiencies, it has made fast foods more convenient and may often lead to a child becoming obese or insulin resistant, followed by diabetes.²⁶ The insulin resistance syndrome has been detected in children that are as young as 5 years of age.¹⁶ Appearance of type 2 diabetes is also emerging among children, along with its accompanying complications. Obesity is associated with asthma and exercise intolerance, thereby drastically reducing the ability to take part in physical activity as a means of maintaining weight.¹⁶ Overweight among children is a cause of poor self-esteem, sadness and loneliness. The long-term consequences of childhood obesity are unclear, but Wright and colleagues found a significant correlation between childhood body mass index and adult body mass index.²⁷ They also found however, that although obese teenagers were likely to become obese adults, obese adults were not necessarily obese as children.²⁷

The adiposity rebound stage, normally occurring around the age of 5-6 years, has the potential to predict the risk for obesity in later life, with an early adiposity rebound possibly increasing the risk.^{16,28,29,30} Reilly *et al.* reported that the early life environment (up to 3 years) plays a key role in the development of future obesity. Besides the early adiposity rebound stage, they reported further early life risk factors that increase the likelihood of childhood obesity, including: parental obesity, watching over eight hours of television per week at the age of 3, weight gain in the first year of life, and catch-up growth.³⁰ According to the Barker Hypothesis, adult disease can be traced back to the fetal stage of life.³¹ Undernutrition during the fetal stage may result in a baby being born as small for gestational age. Due to the adverse intra-uterine environment, the fetus

adapts to undernutrition, causing permanent changes to take place in the body's mechanisms. As a result, the child is programmed in such a way that it will one day be prone to lifestyle diseases such as obesity, diabetes mellitus, cardiovascular disease and hypertension.^{31,32}

2.2 DIETARY GUIDELINES

2.2.1 DIETARY GUIDELINES

Dietary guidelines are statements giving provisional dietary advice for the population and thus act as broad targets for which people can aim.² They are tools which move away from nutrient standards and dietary goals that provide purely quantitative information and are intended for use by health professionals.³³ The Dietary Guidelines for Americans are used for healthy Americans over the age of 2 and are structured around aiming for fitness, building a healthy base and choosing foods sensibly.³⁴ Previously, guidelines used by South Africans were developed based on the American guidelines, and were as follows: Enjoy a variety of foods; Reach and maintain a healthy body weight; Eat lots of grain products, vegetables and fruit; Choose foods low in fat; Use sugars and salt in moderation; and Limit alcohol intake.³⁵

Since 2000, three guidelines were added to the Dietary Guidelines for Americans, namely a guideline for fruits and vegetables, a guideline regarding food safety and a guideline for physical activity.³⁴ These guidelines underwent consumer testing and the conclusions drawn were that awareness of guidelines needs to be increased and that scientific facts and concepts have to be put forward in a more comprehensive manner to allow all consumers to understand and benefit from them.^{34,36}

2.2.2 FOOD-BASED DIETARY GUIDELINES

A possible reason for nutrition messages not having changed people's dietary behaviours, may be because they are not country-specific, are largely nutrient-based or

only aimed at a population eating a typical Western diet.^{5,33} FBDG, on the other hand, are “the expression of the principles of nutrition education mostly as foods”, and they take into account the “ecological setting, socio-economic and cultural factors, and the biological and physical environment” of the population for which they are developed.² For any dietary behavioural change to be successful, the guidelines should have certain characteristics, namely:^{2,5}

1. Each one should convey one understandable message only
2. Each one should be unambiguous
3. The message given should be a positive one
4. They should be compatible with all cultures
5. They should be based on affordable, available foods
6. They should be sustainable
7. They should support environmentally friendly agricultural practices
8. They should lead to selection of foods that are eaten together in a way that is compatible with current dietary patterns
9. They should address over- and under-nutrition
10. They should emphasise the joy of eating
11. They should be communicated to the target population in a way that takes into account the population's perceptions, attitudes and behaviours

The FAO/WHO Consultation suggested that FBDG must be developed so as to be relevant to a country's specific public health issues. Once the issues have been identified, achievable food-based strategies, rather than nutrient-based strategies, have to be put into place. Non-nutritional factors such as infection and physical activity have to be taken into account if the FBDG are to be successful .²

To date, FBDG have been published in various countries. Developed countries such as the United States of America have guidelines that highlight the prevention of chronic diseases of lifestyle, whereas lesser developed countries such as China have guidelines

that focus on undernutrition as well as overnutrition and chronic diseases of lifestyle. India provides two sets of guidelines: one for the poor and one for the affluent.³³

South African FBDG are appropriate for all South Africans older than 7 years of age. Due to their qualitative nature, they can be used by individuals who are under-, over- or adequately nourished because they can be adapted according to each individual's eating patterns and dietary intakes.³³ These FBDG were tested among consumers and finalized in 2003.⁴

2.2.3 CONSUMER'S ROLE IN THE DEVELOPMENT OF FBDG

The FAO/WHO Consultation suggested that steps be followed for developing FBDG and one of these steps includes pilot testing of the FBDG with consumers so that the guidelines can be revised if need be. Consumer testing of preliminary FBDG is important; they may work theoretically, but if there is no understanding of how consumers perceive nutrition messages, then they may in fact not have an impact on the consumers and therefore be useless to a large percentage of the population.³³ Communication and comprehensibility of the FBDG are also critical. If they are misunderstood, they may be rejected or applied incorrectly.²

The South African FBDG (for individuals 7 years and older as well as for infants aged 6-12 months) have undergone consumer testing. Focus groups were arranged during which individuals responded to questions regarding the draft sets of FBDG. Results showed that for both sets of FBDG, some modifications were necessary before the guidelines could be finalized. The FBDG for infants aged 6-12 months are still being finalized.^{4,33} This highlights the importance of consumer testing as it shows that consumers may not always perceive nutrition information in the way that health professionals believe they will.

2.3 PROPOSED SOUTH AFRICAN PFBDG: 1-7 YEARS

As mentioned in paragraph 1.3, children aged 1-7 have their own specific dietary needs and therefore they would benefit from their own set of FBDG. In 2003, the following preliminary PFBDG, developed by the Paediatric Working Group, were approved for testing:

1. Encourage children to enjoy a variety of foods.
2. Feed children 5 small meals a day.
3. Make starchy foods the basis of a child's main meals.
4. Children need plenty of vegetables and fruits every day.
5. Children need to drink milk every day.
6. Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day.
7. If children have sweet treats or drinks, offer small amounts with meals.
8. Offer children clean, safe water regularly.
9. Take children to the clinic every 3 months.
10. Encourage children to be active every day.

2.4 EVIDENCE-BASED SUPPORT FOR THE PROPOSED PFBDG

2.4.1 ENCOURAGE CHILDREN TO ENJOY A VARIETY OF FOODS

Variety can be defined as consuming a wide range of foods within and among the major food groups.³⁷ With a more varied diet, the chances improve that a child's nutrient needs will be met.³⁸ In a recent study, it was shown that when children were given access to a variety of foods while not in the company of their parents, they chose intakes that met their needs.³⁹ Consuming a variety of foods also helps increase the intake of a range of vitamins and minerals, thus preventing micronutrient deficiencies. While some vitamins and minerals such as vitamin C are only found in fruit and vegetables, others such as niacin and thiamin are generally found in meat, poultry, fish and nuts, while still others

are found in dairy products and enriched grains. Folate, for example, is found in all of the above.²⁵

With fast foods becoming more convenient, cheap and available in larger portions, children in today's society are consuming large amounts of sugar and fat and less fruits, vegetables, grains and dairy products.³⁹ As reported in the NFCS, the intake of the following nutrients among South African children was less than 67% of the RDAs for South African children: energy, calcium, iron, zinc, selenium, vitamins A, D, C, E and B₆, riboflavin and niacin.¹⁴ It is therefore important that parents offer a variety of foods to their children in order to ensure that nutrient needs are met.

2.4.2 FEED CHILDREN 5 SMALL MEALS A DAY

Developing good snacking habits from an early age is beneficial to overall health.⁴⁰ Most children naturally eat between 4 and 6 meals a day.³⁸ Data from the NFCS shows that the Western Cape had the highest energy intake of all the provinces, and that carbohydrate contributed more to total energy intake than fat or protein.¹⁴ As reported in a Canadian study, all of the 3,5 - 4 year-old children ate at least one snack between meals.⁴⁰ In a study done among white preschool children in 3 rural white communities in the south-western Cape Province, snacking was seen between breakfast, lunch and supper.⁴⁰ Snacks provided a significant amount of the nutrient intake and the researchers concluded that eating between meals helped children to meet their nutrient needs.⁴⁰ Bremner and colleagues suggest that unsweetened fruit juices, milk, fruit and whole grain meal products are healthy snack choices.⁴⁰

In a study on portion sizes, it was demonstrated that younger children of about 3 years old ate the same amount every time regardless of portion size, while 5 year-old children ate more if given a larger portion. This may imply that the older children become less receptive to their own hunger and satiety cues¹⁶

2.4.3 MAKE STARCHY FOODS THE BASIS OF A CHILD'S MAIN MEALS

Starchy foods are a source of glucose, the primary metabolic fuel in the body.²⁵ The intake of carbohydrates, gluconeogenesis and glycogenolysis are the processes involved in maintaining a relatively constant blood glucose level and providing sustained energy.²⁵ Starch is a term associated with the carbohydrate, which can be classified as either having a high glycemic index (GI), a medium GI or a low GI. If meals consist of predominantly high GI carbohydrates, they will rapidly increase blood glucose levels but just as rapidly decrease blood glucose levels, leading to feelings of hunger soon after the food has been consumed. This in turn may lead to over-consumption of food and weight gain, a phenomenon that is becoming more common during childhood.^{16,25}

Carbohydrate intake should contribute 45 to 65% of energy intake.²¹ According to the NFCS¹⁴, mean reported carbohydrate intakes were higher in the Western Cape, KwaZulu/Natal and Eastern Cape, than in the rest of the provinces.

2.4.4 CHILDREN NEED PLENTY OF VEGETABLES AND FRUITS EVERY DAY

Vegetables and fruits are rich sources of vitamins and minerals, which are needed in small amounts from the diet to facilitate functions within the body.²⁵ Antioxidants, flavonoids, carotenoids, vitamin C and folic acid found within vegetables and fruits have been shown to play a role in the prevention of oxidative DNA damage, thereby reducing the risk of disease and cancer.¹³

Studies report that vitamin and mineral deficiencies are rare in the United States, but that calcium, folic acid, iron, vitamin A, zinc and vitamin B₆ levels are the most likely to be low.³⁸ In the United Kingdom, children are not eating the recommended 5 or more servings of fruit and vegetables per day.⁴¹ Wardle and colleagues found that, in a sample of 2-6 year-old children in London, fruit and vegetable consumption was negatively correlated with parental control, but positively correlated with parental intake of fruit and vegetables.⁴¹

It was reported that 1.3 million children under the age of 5 in Africa were affected by vitamin A deficiency and the SAVACG reported in 1996 that South Africa has a serious public health problem of vitamin A deficiency. Children with marginal vitamin A deficiency are also at greater risk of being anaemic, with a reported prevalence of 1 in 5 children.¹⁵ However, the vitamin A and vitamin C intake of urban Western Cape children were found to be meeting requirements in 1999.¹⁴ Bremner found that fresh fruit was a well-liked snack during the summer season.⁴⁰

2.4.5 CHILDREN NEED TO DRINK MILK EVERY DAY

The primary dietary source of calcium is dairy products, yet it can be found in tofu and various green vegetables.²⁵ The international values for adequate intakes of calcium for children aged 1-8 years are between 500 and 800mg calcium per day.^{21,25} Calcium requirements are affected by various factors, namely growth velocity, phosphorus intake, vitamin D levels and protein intake.³⁸

According to the NFCS, about 95% of all children in all provinces had a mean calcium intake less than half of the recommended intake.¹⁴ In the Western Cape, children aged 1-3 met the requirements, whereas children aged 4-6 fell short of the requirements even though they had the highest mean calcium intake of all provinces.¹⁴

Approximately 99% of calcium in the body is stored in bone. The trabecular portion of skeletal bone is highly susceptible to calcium deficiency, and is frequently the site of osteoporosis.²⁵ A relationship has been observed between peak bone mineral density and lifetime history of calcium intake. It has been suggested that by maintaining an adequate calcium intake, bone will grow optimally and bone mineral density will remain high, which will delay the appearance of bone loss and reduce the risk of fractures.^{25,42} Calcium is also a major component of teeth and its intake is therefore important when teeth are developing.²⁵ Milk intake has also been linked to possibly increasing the level of insulin-like growth-factor I and thus have an indirect positive effect on growth.⁴³

Many mothers believe that their children are allergic or intolerant to milk, when in fact the prevalence of milk allergy is approximately only 5-7%.⁴⁴ An allergy to cow's milk is an immune-mediated reaction that is usually outgrown by age 3.^{45,46} Exposure to cow's milk in the early postnatal period is a risk factor for allergy and symptoms include hives, wheezing, asthma and anaphylaxis.^{47,48} Lactose intolerance is more common in adults, and symptoms include abdominal bloating, cramping, vomiting and diarrhoea.⁴⁸ Food intolerance is not an immune-mediated reaction and individuals with milk intolerance can usually tolerate small amounts.⁴⁹ Large amounts in children may result in vomiting, diarrhoea, colic and insomnia.⁴⁸ If a mother suspects her child of having an allergy, she should have her suspicions confirmed through an allergy test before unnecessarily removing any food from the child's diet.

2.4.6 CHILDREN CAN EAT CHICKEN, FISH, MEAT, EGGS, BEANS, SOYA OR PEANUT BUTTER EVERY DAY

In children, dietary protein is required to maintain body protein stores and to add to protein mass while the child is growing.^{25,38} Unless energy needs are met, dietary protein will be used as an energy source and not for growth.⁵⁰ Protein has six functions, namely helping to maintain body function, aiding mobility, playing a role in the transport of oxygen and nutrients, playing a role in metabolism, involvement in regulation and in immune function.²⁵

Fish, meat and poultry are important sources of vitamin B₁₂, riboflavin, vitamin A, zinc and iron.¹⁹ In a study of children in Kenya, it was found that their diet was mostly cereal-based, with maize being an important staple food. The intake of protein was below recommendations and vitamin A, iron and zinc levels were recorded as low.¹⁹

The RDA for iron for children aged 1-8 years in South Africa is between 7-10mg iron per day.²¹ According to the NFCS, the highest mean intakes for protein were found in the Western Cape, with urban children having a greater intake than rural children.¹⁴ Protein intake should contribute 5 to 20% of energy intake.²¹

2.4.7 IF CHILDREN HAVE SWEET TREATS OR DRINKS, OFFER SMALL AMOUNTS WITH MEALS

According to Bremner and colleagues, soft drinks, fruit, sweets and chocolates are often consumed between meals, with soft drinks being the most predominant. In the NFCS, it was found that the highest sugar intake was in the Western Cape, Eastern Cape and Gauteng.¹⁴

Excessive intake of soft drinks, fruit juices and juice drinks made from concentrate may contribute to poor nutrition if they increase energy intake or replace milk as a drink. Excessive intake has been linked to diarrhoea and even FTT.^{38,42,45,51,52} Dentists offer dietary advice that is focused on decreasing the intake of sugar in an effort to reduce the development of dental caries, and therefore regular visits to the dentist are important.⁵¹ Consuming starchy foods high in sugar, eating sweet treats that are sticky and leave a residue in the mouth, and putting children to sleep with a bottle may contribute to the development of caries.^{25,38} It must be kept in mind though that if a child is breastfed after the eruption of teeth, dental caries may also develop.⁵¹

It is a widespread belief that sugar intake is related to hyperactivity, yet this has not been sufficiently proved.^{53,38} The increase in activity may be due to increased energy intake or conduct disorder.⁵⁴

Protein foods such as cheeses and meats do not increase the acid environment of the mouth and may therefore protect a child from caries. Therefore eating sugar foods along with protein foods will prevent a reduction in the pH of plaque and so decrease the exposure of teeth to an acidic environment. Thus desserts should be eaten with meals and snacks should be low in sucrose and stimulate saliva flow.³⁸

2.4.8 OFFER CHILDREN CLEAN, SAFE WATER REGULARLY

Water is an essential nutrient. It is found throughout the human body and plays a central role in a person's hydration status and thermoregulation.⁵⁵ Water requirements vary from person to person and also from day to day depending on metabolic needs. The

recommendation for water intake in children is approximately 1.5ml/kcal energy expenditure/day.⁵⁵ Dehydration is already present when one experiences thirst, and therefore keeping the body hydrated on a regular basis is of value.⁵⁵ Bourne refers to an article on the role of water intake and obesity in childhood, in which Levine suggests that the replacement of soft drinks with milk and water may lead to better weight control and overall health.⁵⁵

Providing children with clean, safe water is important because water-related diseases can compromise a child's health. Diarrhoea is a common unfavourable consequence of unclean water intake and is one of the leading causes of child morbidity and mortality.^{13,18,55} The method of collection and storage of water is also important and can influence how clean and safe the water remains.⁵⁵ The Western Cape has previously been recorded as having the highest percentage of residences with a tap inside the home.⁵⁵ Water is also an important source of fluoride, which plays a role in prevention of dental caries. In South Africa, water supply fluoride levels are adjusted according to regulations made by the Department of Health and the Department of Water Affairs and Forestry.⁵⁵

2.4.9 TAKE CHILDREN TO THE CLINIC EVERY 3 MONTHS

After the 1st year of life, dentists may possibly see children more often than any other health care providers. As a result, they are in a position to promote good dietary practices among children, not only for prevention of dental caries, but for overall health.⁵¹ Clinic visits are also an opportunity to have a child's growth monitored. Monitoring a child's weight-for-age will allow the timely detection of diseases or any problems related to a child's nutritional status, as poor growth is associated with poor nutrient intake or infections.¹²

Immunization is essential for a child's health, and therefore attending a clinic when a child is due for an immunization is critical. The IMCI is a strategy that has been developed by the WHO's Division of Child Health and Development along with the

United Nations Children's Fund. Based on IMCI guidelines, the Western Cape Department of Health developed protocols for treating conditions that affect children in the Western Cape, with malnutrition being one of these conditions. IMCI, along with the INP, also focuses on the prevention of diseases among children, with clinics offering services such as growth monitoring, de-worming, nutritional advice and immunisations.⁵⁶

The SAVACG reported that only six out of ten children had had all their immunizations done by the age of one and that coverage was less in rural areas and in cases where mothers were poorly educated. It was recommended that opportunities should be created within communities for children to be immunized and that each child should have a health record set up with all information relating to the child's health.¹⁵

2.4.10 ENCOURAGE CHILDREN TO BE ACTIVE EVERY DAY

Physical activity, even in the form of play, has been shown to keep children fit, enhance psychological and cognitive functioning, improve self-esteem and it plays a part in healthy emotional development. Social skills are also developed and practiced through play.^{53,57}



On average, by 1 year of age, a child can walk alone and drink from a cup. Manipulation of objects also becomes more sophisticated from the age of 3.^{53,58} By 2 years a child can run and climb stairs and between the ages of 2 and 5, a child's physical activity levels are at a peak.⁵⁸ Playful activities such as stringing beads help to exercise hand-eye coordination.⁵³ Spending time outdoors increases vitamin D levels and this ensures good absorption of calcium from the diet.⁴²

Children's attention spans are relatively short, from 15-20 minutes among 2 -3 year olds and gradually becoming longer as the child grows, and so the duration of activities presented to a child should change as the attention span changes, whether it is playing a game or sitting down to eat a meal.^{17,43} Parental involvement and the creation of

opportunities that stimulate a child have been identified as factors that predict high IQs among children.⁵³

Lack of physical activity might lead to childhood obesity. In some schools, physical education is no longer a part of the program, and in some places, activities are limited due to a lack of outside areas that are safe and convenient to use. Television viewing, if it takes the place of physical activity and encourages increased caloric intake, may lead to increased weight gain. Eating family meals has been shown to reduce the amount of time spent watching television and improve the quality of the diet.^{16,29}

Recently, Member States adopted the WHO Global Strategy on Diet, Physical Activity and Health in an effort to decrease the burden of non-communicable diseases such as cardiovascular disease, type 2 diabetes, cancers and obesity-related conditions. Emphasis is placed on the “need to limit the consumption of saturated fats and trans fatty acids, salt and sugars, and to increase consumption of fruit and vegetables and levels of physical activity. It also addresses the role of prevention in health services; food and agriculture policies; fiscal policies; surveillance systems; regulatory policies; consumer education and communication including marketing, health claims and nutrition labelling; and school policies as they affect food and physical activity choices”.⁵⁹

2.5 CONCLUDING REMARK

The 1 to 7 year-old period is a time during which children develop mentally, physically and emotionally; a healthy diet will undoubtedly aid in healthy development. These guidelines, based on extensive literature, have been set up with the aim of improving child nutrition. Consumer testing of these proposed guidelines will help to ensure that they meet the characteristics set out in paragraph 2.2.2 and that they will have a positive impact on consumers.

CHAPTER 3: METHODOLOGY

3.1 STUDY DESIGN

A qualitative, cross-sectional descriptive study design was followed. Focus group discussions were used to collect data, which according to the FAO/WHO report of 1998, is the best way to assess attitudes, behaviour and perceptions.² Some quantitative data was also collected using a socio-demographic questionnaire.

3.1.1 QUALITATIVE RESEARCH

Qualitative research allows the investigator to gain in-depth information regarding how people perceive a situation. It centres on the principle that people's behaviour and actions are based on personal beliefs and meanings which can only be explored in context, not through statistical processes. A focus group allows a group of participants to discuss a topic in the presence of a facilitator. Through discussion, the investigator is able to find out what the group members' opinions are. Groups should remain homogeneous to allow all members to feel confident to express their opinions. Points covered during the discussion should be determined, but should not limit discussion.⁶⁰

3.2 STUDY POPULATION

The sample population was all English- and Afrikaans-speaking mothers in the City of Cape Town, in the Western Cape, with children aged 1 to 7 years (Figures 3.1 and 3.2). The study did not follow the same sampling process as studies that have already done consumer testing of FBDG for other age categories. Due to the changes that have taken place in South Africa since 1994, cultural segregation is no longer prominent and therefore it was decided that the focus groups would not be racially exclusive. Rather, all cultures were allowed to take part in the focus groups, which led to some groups with various cultures within it, but of the same language group. In this thesis, "culture" refers to a person's ethnicity, for example White, Black, Coloured or Other.

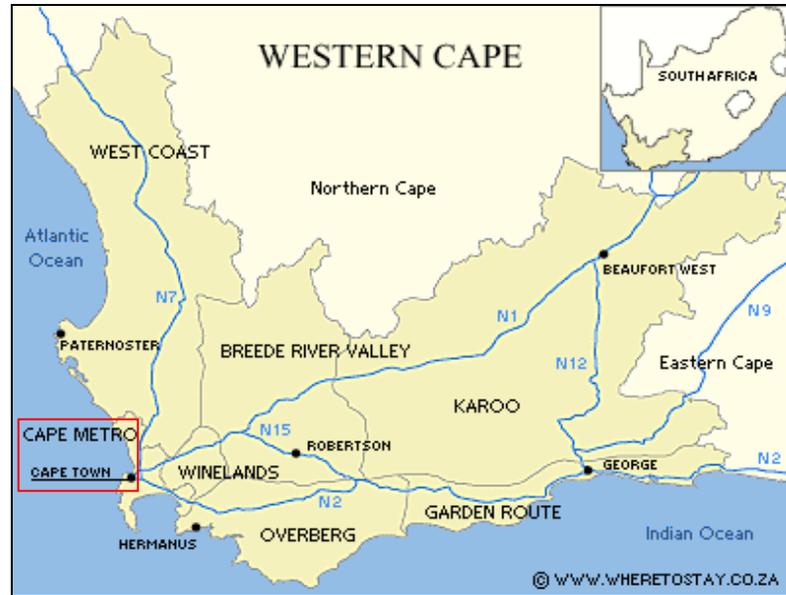


Figure 3.1: A map of the Western Cape

Source: <http://images.google.co.za>



Figure 3.2: City of Cape Town, roughly delineated by the blue outline

Source: <http://images.google.co.za>

3.2.1 Sample selection and size

Specific areas within the City of Cape Town were randomly selected according to SES to represent lower, middle and upper SES groups using randomisation tables (Table 3.1 and Figures 3.3, 3.4, and 3.5). The average property value of a suburb/area was used as a proxy for socio-economic status. Knowledge Factory Pty Ltd, a member of the Primedia Group, provided the necessary information. Their websites are:

- SA Property Transfer Guide on <http://www.saptg.co.za>
- <http://www.knowledgefactory.co.za>

Focus groups, consisting of an aimed-for 6-8 people in each group, were based on SES and conducted within the randomly selected SES areas (Table 3.1). Focus groups were organised with the understanding that research could be stopped once the saturation point had been reached – the point where no new information is gathered for each language and SES category. The necessary number of Afrikaans institutions was not available in the Upper SES areas, and so the next randomly chosen area was used, namely Tamboerskloof/Oranjezicht.

Table 3.1: Number of focus groups planned for representative SES suburbs

Number of focus groups	Suburbs representing lower SES groups
3 English focus groups	Langa, Manenberg, Mitchells Plain
3 Afrikaans focus groups	
	Suburbs representing middle SES groups
3 English focus groups	Pinelands, Rosebank, Athlone
3 Afrikaans focus groups	
	Suburbs representing upper SES groups
3 English groups	Camps Bay, Bishopscourt, Newlands, Tamboerskloof/Oranjezicht
3 Afrikaans groups	



Figure 3.3: Photographs of lower SES housing within the randomly selected areas



Figure 3.4: Photographs of middle SES housing within the randomly selected areas



Figure 3.5: Photographs of upper SES housing within the randomly selected areas

Mothers were sampled purposively from randomly chosen playgroups, crèches and pre-primary schools in the previously randomly selected suburbs/areas. The playgroups, crèches and pre-primary schools were chosen from:

- Western Cape Education Department Online: 'Find-a-school' by suburb search facility on <http://wced.wcape.gov.za/home.html>
- Rainbow Kids: lists crèches, playgroups and pre-primary schools on <http://www.rainbowkids.com>
- Child Minders Association: list of daycares and playgroups sent by childminders@telkomsa.net

It was also planned that lower SES mothers would be sampled from clinics if playgroups, pre-primary schools and crèches in the lower SES areas could not help with the recruitment of mothers. Clinics were randomly selected from a list of clinics in the Cape Metropole that was supplied by Mrs H Goeman, Deputy Director: Nutrition, Provincial Administration Western Cape.

Letters were sent to the Department of Health (Addendum 2) and the Department of Education (Addendum 3) asking for permission to do research at the above-mentioned institutions as necessary. Approval was subsequently granted by the Department of Education. Unfortunately, timely approval was not given by the Department of Health to make use of clinics in Mitchells Plain and Langa.

Pre-primary schools, crèches and playgroups selected randomly were then sent a letter asking permission to use their institution for the research (Addendum 4). Those institutions granting permission to recruit mothers from them were then given invitations to hand out to the mothers with children between the ages of 1 and 7 years (Addendum 5). The mothers then contacted the institution to say whether they would like to take part in the focus groups sessions. Areas of convenience were organised in which to hold the focus group discussions. These included venues provided by the playgroups, crèches and pre-primary schools.

3.2.2 LANGUAGE SELECTION

Focus groups were conducted in English and Afrikaans. It was decided to select only two languages because of the size of the study area, the number of guidelines to be discussed, and because English and Afrikaans are prominent languages in the City of Cape Town, with Afrikaans being the most predominant, followed by isiXhosa, which is very closely followed by English (Table 3.2). Also, the investigator was fluent in English and Afrikaans and was therefore able to conduct all focus groups herself. To reduce bias related to mother tongue language proficiency versus second language proficiency of the participants, mothers were asked to take part in the English focus groups only if their mother tongue was English and in the Afrikaans focus groups only if their mother tongue was Afrikaans.

Table 3.2: Number of Afrikaans, English, isiXhosa and isiZulu females in the City of Cape Town

Table: Census 2001 by district council, gender and language.			
City of Cape Town	Female	Afrikaans	626105
		English	424889
		isiXhosa	428784
		isiZulu	3091
Footnote: Universe for all persons Figures greater than 0 and less than 4 are randomised to preserve confidentiality Users of these data should refer to the extract from the Report of the Census Sub-Committee			

Source: South African Statistics Council on Census 2001, <http://www.statssa.gov.za> Accessed: 3 August 2005

Pilot focus group discussions were done with one English group and one Afrikaans group to assess the appropriateness of the topic guide for both languages. They were conducted outside of the study areas, in Stellenbosch.

3.3 VOLUNTARY PARTICIPATION

Mothers participated on a voluntary basis. No incentives were given, however refreshments were served as the sessions were planned to run for over an hour. Each participant had to complete a consent form before taking part (Addendum 6).

3.3.1 INCLUSION AND EXCLUSION CRITERIA

Inclusion criteria:

- Women who have healthy children aged 1-7 years
- They should preferably be the only member in the household who makes the decisions about which foods are purchased and eaten
 - They should have no former formal training in nutrition
 - They must be willing to participate

Exclusion criteria:

- Women who are not English- or Afrikaans-speaking. Refer to paragraph 3.2.2.

3.3.2 RISKS AND BENEFITS



No known risks were involved in the research. Benefits included:

- Participants gaining information regarding the feeding of their children.
- Information being obtained that will help the Paediatric Working Group to finalise the PFBDG for children aged 1-7 years, and thus provide understandable and appropriate guidelines which the community can use.

3.4 DATA COLLECTION METHODS

3.4.1 FOCUS GROUP DISCUSSIONS

The sessions started off with the investigator introducing herself, welcoming the mothers and telling them briefly what the discussion would be about. All participants were given a

consent form to sign in either English or Afrikaans (Addendum 6). A questionnaire was given to each participant, in her home language, asking for basic demographic information such as age, home language, education level, employment status and details of her children. (Addendum 7). Thereafter, group discussions followed according to a topic guide (Addendum 8) in either English or Afrikaans to determine specified objectives with regard to exposure to, comprehension of and usage of the preliminary PFBDG (Figure 3.6). The investigator facilitated all sessions which were videotaped for later transcription. The tapes will be erased after a certain amount of time in storage. The time of each session was planned to be roughly 90 minutes long and refreshments were served.

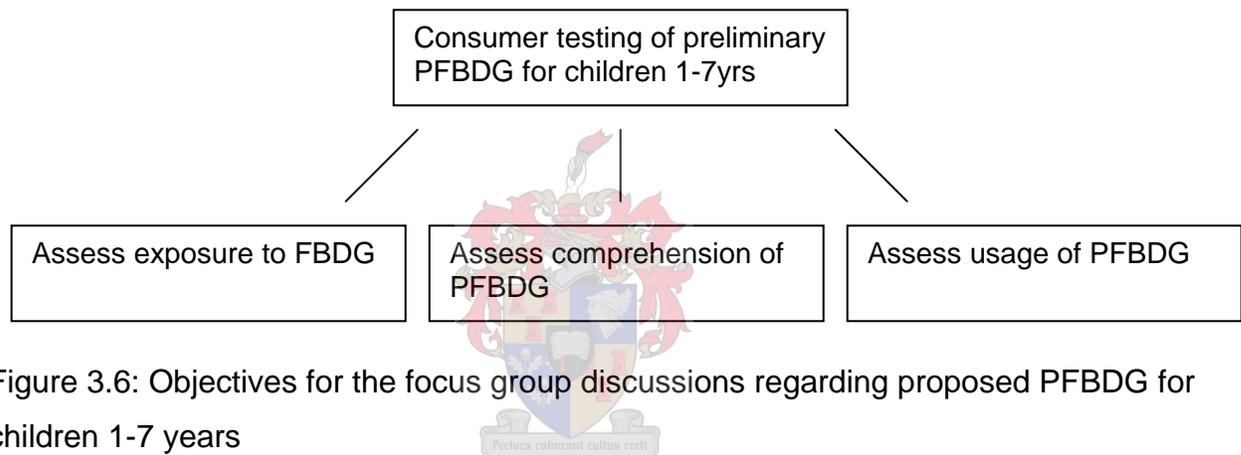


Figure 3.6: Objectives for the focus group discussions regarding proposed PFBDG for children 1-7 years

3.5 DATA ANALYSIS

A statistician from Stellenbosch University acted as a consultant for the analysis of the data as required. Data from the socio-demographic questionnaires were used to calculate descriptive statistics of the study sample, as well as formulate graphs for several of the questionnaire categories.

After the focus groups were conducted and the video recordings transcribed, content analysis was used to analyse the data and look for group themes relating to the following objectives:

- exposure to FBDG
- comprehension of the discussed preliminary PFBDG

- ease of use of such guidelines

Themes were previously determined based on the questions asked for each guideline and the answers obtained during the pilot study.

Firstly, data was analysed according to language to determine whether language has an influence on the above-mentioned objectives:

1. Assessment of the English focus group data
2. Assessment of the Afrikaans focus group data

Secondly, data was analysed according to SES to determine whether SES has an influence on the above-mentioned objectives:

1. Assessment of the lower SES data
2. Assessment of the middle SES data
3. Assessment of the upper SES data

Thirdly, data was analysed according to the level of maternal education to determine whether level of maternal education has an influence on the above-mentioned objectives:

1. Assessment of none – Grade11 data
2. Assessment of completed matric data and tertiary education data

A short summary of the results will be made available to the participating mothers via the pre-primary schools, playgroups and crèches that helped with the recruitment of mothers.

3.6 VALIDITY AND RELIABILITY

Validity refers to the degree to which the research accurately reflects the topic under investigation. To enhance the validity of this study, the triangulation method was used in the form of video recorded focus group discussions, transcription of the responses (and body language) from the video recordings, and having an independent qualified dietician

transcribe a video recording from one of the sessions. Her transcription matched the transcription made by the investigator. Content validity of the topic guide was enhanced by having professionals examine it, and face validity of the topic guide was ensured during the pilot tests.

To enhance the reliability of this study, a standardised topic guide was used. The focus group topic guide was based on the proposed PFBDG. The responses from the pilot study were useful in showing that the questions from the topic guide elicited responses that were in-depth and could be used to gain insight into the consumer's comprehension and opinions of the proposed PFBDG. The video recordings also allowed the investigator to refer back to the discussion sessions, and so re-contextualise the themes that were found during content analysis of the transcribed data.

3.6.1 GENERALISABILITY

Generalisability was enhanced through the use of random sampling of suburbs, pre-primary schools, playgroups and crèches.



3.6.2 RESEARCHER BIAS

The investigator believes that she entered into each focus group discussion without pre-conceived ideas of how the groups would respond to the questions put forward, and that any probing questions used were not asked in such a manner as to elicit responses that would only help to confirm that the guidelines are without fault. Participants were reminded not to ask for the investigator's opinion regarding the scientific rationale for the guidelines until the end of the session, so as not to influence their responses. Care was taken in the transcription of the videotapes, ensuring that all details were recorded and taken into consideration during the summarising of the data. The matching transcription of one of the video recordings by the independent qualified dietician increased the reliability of the results.

3.7 ETHICAL CONSIDERATIONS

A protocol for the study was submitted to and approved by the Committee for Human Research, Stellenbosch University. The committee assigned the reference number N05/03/046 to the research project. All participants were given a consent form to sign as explained above. In the consent form, it was stated that confidentiality would be ensured and that all responses would remain anonymous. The only form of identification was a number that the participants had to pin to themselves, but it was found that mothers were reluctant to handle the pins. Therefore, the investigator first asked the mothers to be seated and then handed out the consent and socio-demographic forms, usually from left to right, making a note on the session topic guide that the left most person was participant 1 and that the numbers followed on to the right.

3.8 SUMMARY OF METHODS

Qualitative methods were used to gather data regarding the exposure to, comprehension of, and ease of use of the proposed PFBDG. Focus groups, based on SES and language, were conducted in various randomly selected suburbs in the City of Cape Town. Pre-primary schools, playgroups and crèches were used to recruit mothers and used as venues for the sessions. A standardised topic guide was used during discussions and video recordings were made. These recordings were transcribed and used for content analysis of the data. All information was collected anonymously and participants were given a consent form to sign before taking part in the research.

CHAPTER 4: RESULTS

4.1 SAMPLE CHARACTERISTICS

4.1.1 RECRUITMENT OF MOTHERS

A total of 76 mothers took part in the study: 30 participants in the upper SES group, 35 participants in the middle SES group and 11 in the lower SES group. In all, 14 focus groups were conducted:

- | | |
|----------------------|---|
| 6 upper SES groups: | Bishopscourt, Newlands, Camps Bay,
Oranjezicht/Tamboerskloof |
| 6 middle SES groups: | Rosebank, Pinelands, Athlone |
| 2 lower SES groups: | Manenberg |

The sessions were conducted in convenient venues, these most often being at the randomly selected preprimary schools, playgroups and crèches. Only two of the focus groups were conducted at the houses of participating mothers.

4.1.2 RESULTS FROM THE SOCIO-DEMOGRAPHIC QUESTIONNAIRES

The average age for upper SES mothers was 38.4 (± 4.8) years. The average number of children per mother was 2 (± 1), with the average age of their 1-7 year old child(ren) being 4.6 (± 1.6) years old. The average age for middle SES mothers was 36.6 (± 7.5) years. The average number of children per mother was 2 (± 1), with the average age of their 1-7 year old child(ren) being 4.7 (± 1.4) years old. The average age for lower SES mothers was 39.4 (± 13.2) years. The average number of children per mother was 2 (± 1) with the average age of their 1-7 year old child(ren) being 4.1 (± 1.2) years old.

Average birth weight could not be calculated, as most mothers could not remember their children's birth weight. Table 4.1 shows the percentages for the maternal culture and child gender categories within each SES group .

Table 4.1 Culture and gender category percentages within each SES group

Categories		Upper SES	Middle SES	Lower SES
Maternal culture	White (%)	93.3	40.0	0.0
	Black (%)	3.3	0.0	0.0
	Coloured (%)	3.3	57.1	100.0
	Other (%)	0.0	2.9	0.0
Gender of children	Female (%)	63.4	58.3	54.5
	Male (%)	36.6	41.7	45.5

The total number of English mothers was 39 and the total number of Afrikaans mothers was 37. Use of the *Pearson chi square* statistical test revealed that there was no significant difference between the number of English- and Afrikaans-speaking mothers ($\chi^2 = 0.05$, $p = 0.81$) (Figure 4.1).

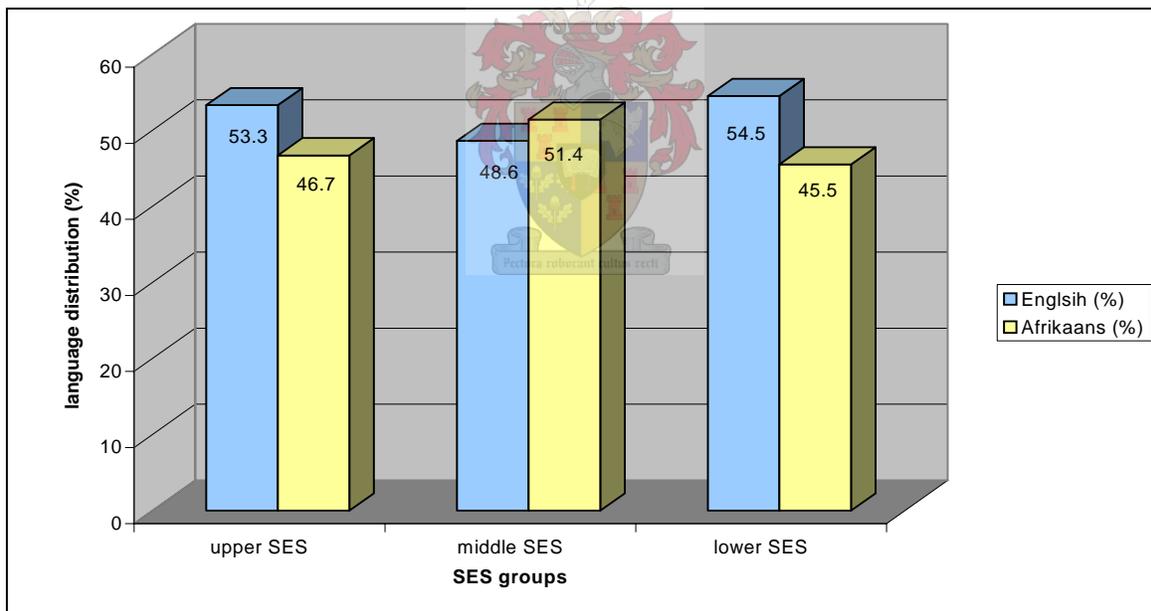


Figure 4.1: Language group representations within each SES group

The level of maternal education varied greatly across the SES groups, with a statistically significant difference ($\chi^2 = 22.64$, $p = <0.001$) (Figure 4.2). Ninety percent of upper SES mothers had completed matric or tertiary education whereas 91% of lower SES mothers had not reached a matric level of education.

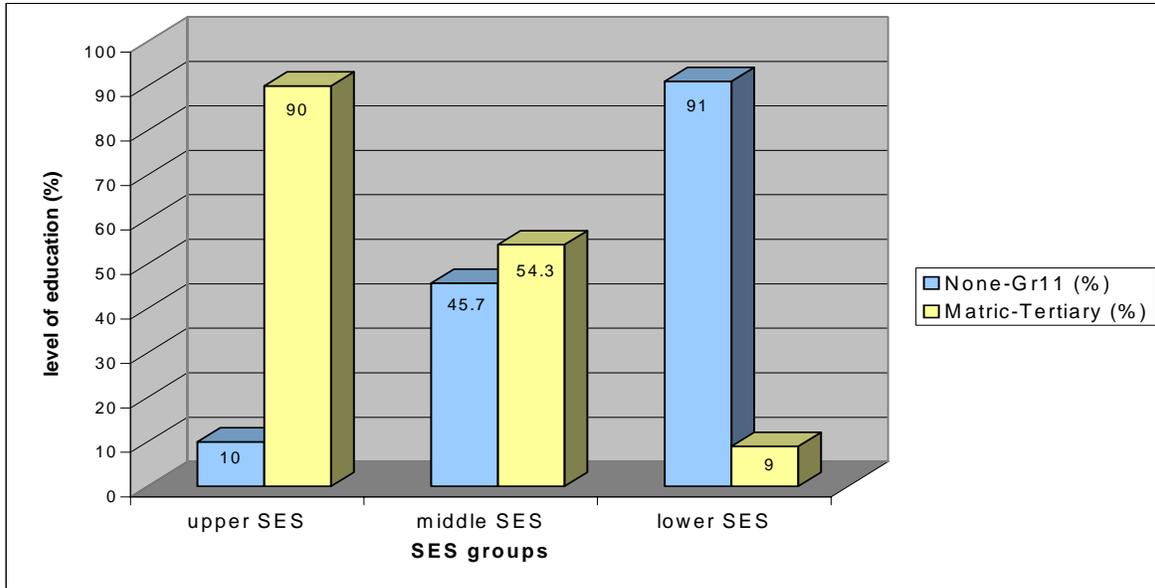


Figure 4.2: Maternal level of education within each SES group

Employment status also varied between SES groups (Figure 4.3), with an increase in unemployment status as SES level decreases. A statistically significant difference was revealed ($\chi^2 = 11.45$, $p = 0.003$).

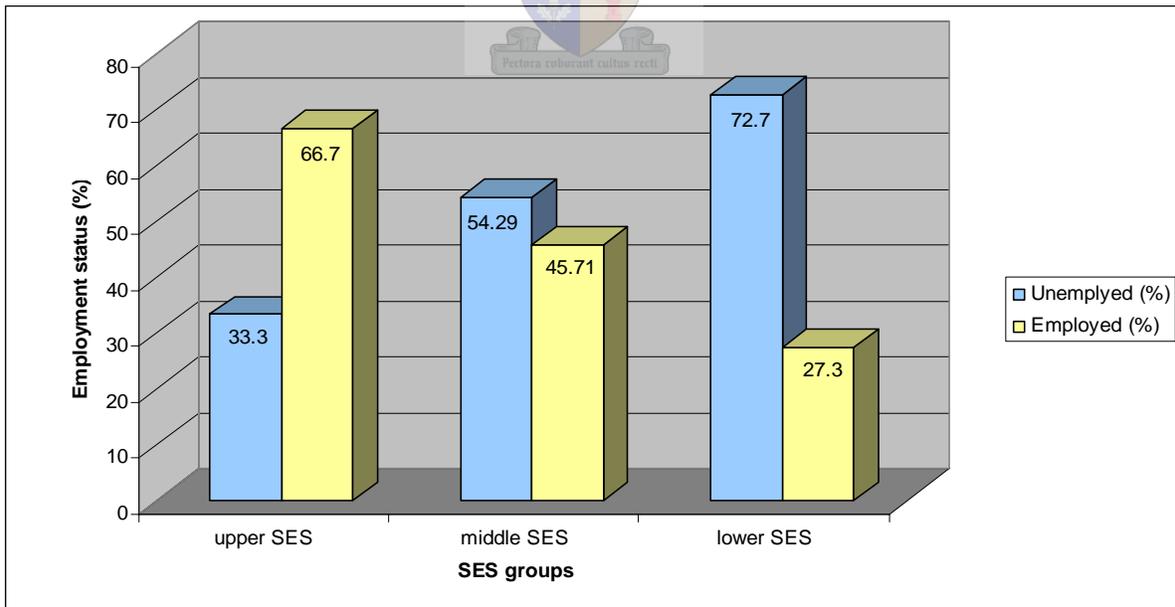


Figure 4.3: Employment status within each SES group

4.2 RESULTS OF LANGUAGE DATA

No considerable difference was found between English and Afrikaans groups regarding exposure to, comprehension of and ease of use of the guidelines.

4.3 RESULTS OF SES AND MATERNAL LEVEL OF EDUCATION DATA

The level of maternal education followed a similar pattern to that of the SES groups. As the SES level changed so did the level of education, with the upper SES mothers being the most highly educated, and the lower SES mothers having a lower level of education (Figure 4.2). Due to this, the following classifications will be used in the presentation of results, and shown as footnotes throughout the chapter:

- Group A: all upper SES, highly educated groups
- Group B: all middle SES, highly and less educated groups
- Group C: all lower SES, least educated groups

4.3.1 CONSUMER EXPOSURE TO FBDG

4.3.1.1 Use of guidelines

Across all three groups the general response from the participants was that they do not necessarily use guidelines when it comes to planning meals, but that subconsciously they have an idea of what and how to feed their children using what they have at home. It had to be explained to Group C what a guideline was. Feeding a child 3 times a day was mentioned as a rough guideline, but that it must be kept in mind that a child cannot be forced to eat something. The participants from Group A and B stated that they would use a guideline if they had the time.

4.3.1.2 Exposure to FBDG

The majority of all participants had not heard of FBDG, but Group A and B participants mentioned other sources of dietary information such as the Food Guide Pyramid, textbooks and magazines.

4.3.1.3 Importance of using a guideline

The widely held opinion was that, if one has the time, using a guideline is a good idea and good practice. Group A mothers said that they would look at the guideline and use it if it made sense to them. As one mother from Group A stated, “*common sense is not always common practice*”, and therefore a guideline is useful.

4.3.2 CONSUMER COMPREHENSION OF THE PROPOSED PFBGD: 1-7 YEAR OLD GROUP

4.3.2.1 Encourage children to enjoy a variety of foods

All groups shared the following opinions regarding “encourage”, “enjoy” and “variety”:

- Presenting it in a nice way so that children want to eat it
- Explaining what is good about the food
- Trying new and different foods many times
- Showing that you enjoy it
- Exposing the children to all the different types of food

Group A respondents included giving the children a choice of foods, asking them to taste, introducing a range of foods in a nurturing and ongoing manner, sitting together, and not forcing the child to eat. As one mother mentioned, enjoying a meal “*goes beyond the function of eating*”. Among Group B participants, some mothers felt that children have their own tastes for food and as a result even following the advice from a dietician proves to be difficult because children cannot be forced to eat something. They also mentioned that food has to be exciting and colourful.

All participants believed that their children enjoy some form of a variety of foods. As mentioned by Group A, the variety is offered but children do not always eat it because they only like certain foods. Among Group A and B mothers, it was stated that their older children tended to have less of a variety than their younger children, with the result that the older children are now fussier eaters.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

There was consensus among the groups that being encouraged to enjoy a variety of foods is important. Reasons given were similar across the groups, but different terms were used in the explanation:

Group A:

- so that they get all the correct nutrients for a balanced diet
- it makes them interested in food
- they will be less fussy eaters when they are older
- supplements can also be used to complement the diet
- it will allow them to grow properly

Group B:

- so that they have a balanced nutrition, because one type of food does not have everything in it
- if they've been restricted then they might not try other foods
- it takes away the need for supplements
- *"the quality of our food is drastically being reduced so they need to eat a variety to get all their vitamins and minerals in"*

Group C:

- Some food has carbohydrate and some has protein
- Makes them strong and keeps them healthy

None of the participants expressed a desire to have the wording of the guideline changed. One participant said that she is confident in the fact that she has introduced her child to the right foods and that there is no need to choose from exotic foods.

4.3.2.2 Feed children 5 small meals a day

The understanding of "small" was similar in all groups, with responses such as:

- A sandwich
- Fruit portion
- Yoghurt

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

- A handful
- Not a plate of food

On the other hand, the word “meal” had the following connotations:

- A plate of nutritious food
- Sitting down at the table
- The volume is more substantial with a balance of vegetables, carbohydrate and protein
- The 3 main meals of the day, namely breakfast, lunch and supper
- Cooking all day, a lot of work

The common response was that children naturally tend to eat throughout the day, which the mothers referred to as “*grazing*”. Only one mother from Group B said that her child is not encouraged to snack because he is overweight and another mother said that it is better not to snack at night. Mothers agreed that a child should eat throughout the day: 3 main meals and then snacks in between, with a snack being something that can be eaten while playing. At most of the schools, the children have a snack between ten and eleven o’clock, whether it is supplied by the playgroup/crèche/pre-primary school or brought from home. Snack options ranged from fruits, to yoghurts, to a glass of milk, to sweets and chocolates.

From Group A’s participants’ discussions, it was made clear that they always make snacks available to their children, whereas Group B mothers mentioned that their children would snack if there is a snack available. One such group attributed the tendency for the children to eat more throughout the day to the lack of structured activities at playgroup/crèche/pre-primary school, such as sport, to keep the preschoolers busy. Group C mothers made no mention of the availability of snacks.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

When asked why a child should eat throughout the day, the familiar response was that it provided children with sustained energy. However, other answers were given:

Group A:

- It stops them from becoming miserable and allows them to function
- They dictate their requirements themselves and like eating right through the day
- It helps stabilize their blood sugar
- Eating 3 meals a day provides regularity, otherwise they only learn to snack

Group B:

- If they're active they will need to eat more
- It prevents cravings and hunger
- It allows them to concentrate better
- If they're not that hungry they shouldn't eat and must learn to respond to internal cues of hunger

Group C:

- They get hungry



It was felt that the essence of the guideline is correct and that its message is a good thing to strive for, yet most mothers thought that some people may take the guideline literally and thus feed their children large plates of food five times a day because of the connotations attached to the word “meal”, as described above, even though it is preceded by the word “small”.

Options given for alternate, more understandable phrasing of the guideline include:

- 3 meals and 2 snacks (with an explanation of what a snack is)
- 3 meals and 2 healthy, nutritious snacks
- 3 meals and 2 snacks, if necessary
- 5 small portions or light meals a day

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

4.3.2.3 Make starchy foods the basis of a child's main meals

Before asking any questions relating to the guideline, most of Group A and some of Group B's participants disagreed strongly with this guideline.

All groups mentioned rice, potatoes, pasta, bread, mieliepap, butternut and lentils as "starchy foods". Some participants associated starch with the word "carbohydrate". A few Group A mothers, described starch as "*shocking terminology*" and "*old-fashioned*", and that the guideline should be about carbohydrate instead, and that people must be educated as to what carbohydrate is, because unlike starch it can be classified into complex and simple carbohydrate or low, medium and high GI.

There was agreement that the word "basis" refers to the biggest component of the meal, with Group A participants quantifying it as 40-60% of the plate. The participants, however, did not agree that it should form the *basis* of the main meals, because it "*gives a false sense of being full*", and removes the importance from the rest of the food groups. Instead, there should be a balance between protein, carbohydrate and vegetables.

The participants were aware that starchy foods are an important source of energy, and that children should have some carbohydrate in their diet. Only Group C believed that starch helps to build up the body and make it stronger. Among Group B mothers, rice and potatoes were cited as the main ingredients in their meals. When asked why they believed that starchy foods should *not* form the basis of the meals, opinions were expressed differently among the groups:

Group A:

- "*I thought it was the main problem, that's why the Atkins diet came out*"
- The danger is that they will get too much starch
- They get hungry again quicker
- They must not have fast-digesting carbohydrates

Group B:

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

- Too much will result in weight issues
- Not all children like starch

Group C did not give a reason for why it should not form the basis of the main meals and also did not say that they would change the wording of the guideline.

Opinions given from Group A and B participants for alternate wording of the guideline include:

- Include starch as a part of a child's diet
- Make starch a third, or a quarter, or the major component, of the meal
- Use the words "low GI" and "unrefined"
- Use the word carbohydrate" instead of starch because starch has a bad connotation

Mothers also felt that the term "starchy foods" should be elaborated to specify what it is. Group A mothers felt that the GI system should be brought in on a very basic level and one Group A mother said that white bread should be banned in South Africa.

4.3.2.4 Children need plenty of vegetables and fruits every day

Mothers from all the groups believed that this guideline is an important and very necessary one.

The term "plenty" was comprehended in several ways. Group A mothers said that it meant a variety, a great deal, or more than one serving a day, but that it is almost impossible to give children a lot of fruit and vegetables. To Group B, "plenty" meant as much as possible, as much as the children will have, or up to 5 servings a day. Group C mothers responded to "plenty" by saying that they would give fruit twice a day or after meals, if it can be afforded.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

All mothers give their children some fruit and vegetables during the day. Group A mothers give a range of fruit and vegetables and make use of smoothies, soups and stews to increase their children's intake. They said that fruit is easier to give to the children, and some children had never eaten a vegetable. One mother mentioned that it should not be forced, as it would then cause the child to become over-conscious about "health". It was suggested that the fruit be made accessible to the children by placing it on the bottom shelf of the fridge. Group B mothers also found it easier to give children fruit and that vegetables have to be disguised so that the children would consume them. It was believed that if a child has one or the other, they don't need fruits *and* vegetables. They also mentioned that vegetables should not be in competition with other foods otherwise children would choose the less healthy, more sugar-dense foods. Fruit was believed to be easier to give because of the sugar it contains which the children like. Group C mothers give their children fruit during the day, and vegetables with lunch on a Sunday.

All participants said that fruit and vegetables are an important source of vitamins, minerals, fiber, and natural sugars. Group A mothers pointed out that they were taught to have many vegetables and fruit and so know that it is good for their children and that it develops good food habits by stopping cravings. One mother also read a book that claimed that if children tried something 7 times, they would like it. Group B mothers said it is a good and unprocessed snack because it keeps children full. Group C participants believed it to be good because of the vitamin C that can be used when a child is sick and that fruit and vegetables build a child up.

Group A mothers felt that the guideline is an ideal for which to strive, but that perhaps an amount should be given at the end of the guideline, such as 3 or 5 *fresh portions* a day because they were not certain about how much is correct. They felt that using the term "portions" is better than saying 3 or 5 vegetables or fruits because it can be difficult for a child to finish an entire fruit. Group B mothers also implied that they would like to have a

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

minimum specified and that examples should be given, but that the guideline is good because it changes one's mindset about snacking – a fruit is better than a biscuit. Group C mothers did not express any wish to change the guideline or have a minimum number of portions specified.

4.3.2.5 Children need to drink milk every day

Responses regarding the importance of this guideline, as well as the benefits of drinking milk as a source of calcium, varied greatly among and within groups.

Mothers give their children either 2% or full-cream milk. Some mothers from Groups A and B use goat's milk, formula milk or soya milk, but as one mother from group A pointed out, social pressures can force one to go back to using cow's milk. Mothers from all the groups tend to give milk with tea, Milo, hot chocolate or cereal, but not plain. A glass or two a day was mentioned as appropriate, but not more as it causes sinusitis and mucous and full cream milk can bring on weight problems. Only one mother said that she gives full fat milk because she was told that children need the fat. One mother from Group A read that children are not calves and therefore felt that they should not drink milk. Another, also from Group A, felt that because she has read so much research linking milk to breast and prostate cancer, dietary guidelines should not push the consumption of dairy products.

All the groups knew the guideline is aimed toward increasing a child's calcium intake for strong bones and teeth, but that the word "milk" is very limiting. They felt that calcium can be taken in via other dairy products that their children eat, such as cheese and yoghurt, and among Group A children, feta, cottage cheese, broccoli, or even a calcium syrup or effervescent tablet. In only 3 groups was allergy to milk mentioned and the mothers said that they would feel lost if they read the guideline and there was no alternative given to "milk". One mother feels that there should be a warning with this guideline regarding allergies and their associated symptoms.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

Options for alternate wording for the guideline include using:

Group A:

- “dairy products” instead of “milk” and define what “dairy” is
- Children need dairy products, as a source of calcium, every day
- Children need calcium every day, which can be found in.....(give examples)

Group B:

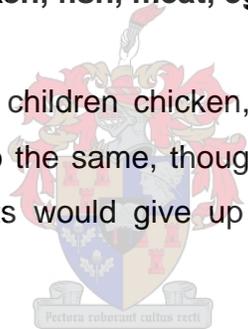
- specifying a minimum amount of calcium required which is equivalent to, for example, 50g cheese
- “dairy or a substitute” instead of “milk”

Group C:

- “dairy products” instead of “milk”

4.3.2.6 Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day

Group A participants give their children chicken, fish or meat every day, mostly with supper. Group B participants do the same, though some mothers said that fish is very expensive. Group C participants would give up to 3 times a week, and fish if it is available to them.



All mothers give their children eggs, ranging from 1 a month up to 3 or 6 per week. Mothers from Groups A and B try to limit the amount because of the cholesterol found in eggs, whereas Group C mothers made no mention of cholesterol. Some Group A mothers mentioned that one has to be careful about which type of eggs one buys because the quality of the eggs depends on the diet of the chickens. This same group also said that people need to be taught that frying an egg in oil is expensive and unhealthy.

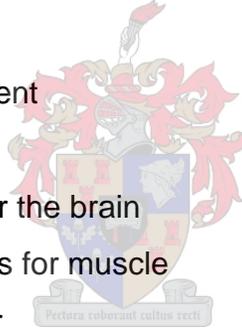
Group A mothers feed their children beans, but most choose not to use soya as it is “man-made” and “40% van kinders wat allergies is vir melk is in elk geval ook allergies

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

vir soya". Only one mother in this group gives her children soya because she is a vegetarian and cooks with soya. Group B mothers also feed their children beans, and some use soya sauce, but mentioned that the children do not like it. Group C participants do not use soya at all. When asked whether children ate peanut butter, there was an overwhelming positive response among all groups that the children love it and have it on sandwiches to playgroup/crèche/pre-primary school almost every day. Only one Group A mother said that she does not give it to her child because it contains carcinogens.

All mothers, except one, believed that it is important for a child to eat protein. The mother who disagreed was from Group A and the reason she gave was that her child doesn't like meat and is still healthy and growing, but that she gets protein from vegetables and cheese. Group A and B responses were similar for why protein is important, including:

- It is needed for development
- It repairs the body
- Fish (omega 3) is good for the brain
- It forms the building blocks for muscle
- It keeps one full for longer



One Group A mother said that it is good to consume protein because the body cannot store it and that its breakdown process gives brain cells the ability to decide whether one is hungry or not. Some Group B mothers mentioned protein as a source of iron whilst others did not know why protein is important even though they knew it was. Group C responses included:

- We know that it's good
- It's healthy and good for energy

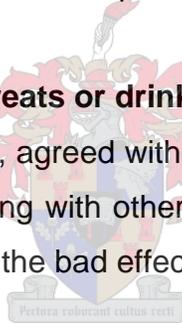
Most mothers thought the guideline is good because it uses the word “can” instead of “must” and protein sources are listed in the guideline instead of just saying “children can have protein every day”. They believe that this helps to create awareness that protein is not only found in meat and chicken.

Alternative wording includes:

- Placing forward slashes between the words e.g. chicken / meat / fish
- Placing “fish” at the beginning because the omega 3 fatty acids are good
- Removing “soya” from the list
- Children can eat *protein, such as* chicken, fish, meat, eggs, beans, soya or peanut butter every day
- For some Group A mothers, the word “can” makes it sound optional to include protein. They felt that it should be replaced with “must”

4.3.2.7 If children have sweet treats or drinks, offer small amounts with meals

Only three mothers, from Group A, agreed with the guideline because they believed that children have to absorb sugar along with other food to prevent blood sugar levels from changing drastically and to lessen the bad effects that sugar has on teeth.



The overwhelming response to this guideline, however, was a negative one with mothers from all groups saying that the word “with” makes it confusing and that it should rather say “after”, otherwise it sounds like the sweet treats and drinks should form a part of the meal.

Group A responses included:

- Sweets and fizzy drinks are rewards that are given after a healthy meal
- If they are given before a meal, a child will not eat the meal
- There is a danger linking it to meals because it may become a form of bribery or become expected

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

Group B responses were along the lines of:

- It is not given regularly, it's the exception
- It is junk food

Group C responses were:

- If you give it before meals it spoils their appetite

Most of the mothers do give their children some sweet treats or drinks, and if not, mention that their children get sweets in by default, either at parties, by buying it for themselves, or through relatives who spoil the children. Amounts given vary across the groups from only at the weekend to one treat per day. Group A mothers felt that although sweets make their children “*hyper*”, they should be given some treats, otherwise sweets will become the “*forbidden fruit*” and children will overeat themselves at parties. They also mentioned that children should be told that sweets do nothing good for the body and that gas from fizzy drinks leaks calcium out of bones. One mother said that she will give her children fizzy drinks when they go out to prevent any issues, and also at parties so that her children do not feel left out. Groups B and C tended to agree that children will overindulge if not given sweets at home, but said that moderation is important, and that a fruit or yoghurt can be offered as something sweet.



Reasons for keeping it to a minimum varied: Group A said that sweets must not become a standard and must not replace a meal; Group B mothers said that sweets have a low nutritional level, are bad for teeth, they make children fat and make them “*jumpy*”; Group C mothers said that sweets will cause the teeth to rot.

Options for alternate wording include:

- Use “after meals” instead of “with meals”
- Stop the sentence after “small amounts” and make no mention of timing regarding meals

- If children have sweet treats or drinks, offer small amounts *occasionally*, after *nutritious* meals
- Guideline as is, plus “occasionally, but not as a substitute”
- If children have sweet treat or drinks, it is *preferable/recommended* that it be small amounts after meals
- Leave the guideline out completely as it makes it sound necessary to give sweets and drinks
- Expand on the term “drinks”
- Children can have soft sweets instead of hard sweets which cause dental caries

It was mentioned by some mothers in Group A that their children’s preschool does not allow children to take sweets to playgroup/crèche/pre-primary school and they thought this to be a very good rule. They also said that fizzy drink companies should not be allowed to make donations to playgroup/crèche/pre-primary schools in return that their drinks are sold on the property. Another point they made was that children must not learn to associate fizzy drinks or concentrates with the quenching of thirst. They must be taught from young age that water will quench their thirst.

4.3.2.8 Offer children clean, safe water regularly

The concept of safe, clean water was hugely varied within groups. For Group A mothers, tap or filtered water was believed to be clean and safe, with bottled water mostly used for convenience when traveling. One mother boils her water because that is what she had to do while living in Zambia and it has now become a habit. Group B respondents added to this by saying that it implies that the water is running and not stagnant. One mother said that they only drink bottled water because they are on a diet. Another said that the tap water is clean, but their pipes are dirty, while another said that the tap water is good because the chlorine it contains can kill germs. Group C mothers also mentioned tap water and bottled water. The term “regularly” was understood by all to mean throughout the day or as much as the children will have.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

The amount of water believed to be required and the amount actually given is as follows:

Group A:

- They need 500ml of water or up to 2 liters of liquid a day
- They give water to playgroup/crèche/pre-primary school and water with meals

Group B:

- They need 1 to 2 liters a day / wouldn't put an amount on it
- Will give when the child is thirsty and it varies from day to day

Group C:

- They drink water when they ask for it

At this point in the focus groups, mothers mentioned that their children also like to drink juice. In all the groups, mothers said that they give their children water first and then juice or cooldrink. If the children want juice, the mothers dilute it with water and the children get used to it so that they no longer want it if it is pure juice. It was mentioned however that as the children grow older, they want less water and more juice or cooldrink. An interesting point emerged from the discussions in some groups: mothers who drink a lot of water found that their children also drink a lot of water, and those who do not drink water have children who drink almost no water at all.

Pectus roburant cultus recti

The following opinions were the same among Groups A and B for why water is important:

- It is hydrating, whereas tea, coffee and fizzy drinks are dehydrating
- It is a part of the body and therefore needed for metabolism
- It flushes out toxins and has no additives
- It has no dehydrating properties, and does not cause blood sugar levels to crash

Other Group B opinions include:

- It is better than juice because it contains no sugar
- It cleans out the kidneys, keeps urine clear and keeps skin looking pretty
- It gets children into the habit of drinking water early on

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

- It is inexpensive

Group C opinions were:

- It cleans the body
- It is good for the kidneys

Mothers were happy with the guideline because they feel that water is an important and healthy component of the diet. They also expressed that teachers should encourage children to drink water. However, some suggestions were made for alternate phrasing of the guideline:

- Explain what clean and safe water is, or say that if the water is not from a home-based tap, it must be boiled
- Replace “regularly” with “frequently”
- Mention that water should be left at an accessible level so that children can pour it for themselves
- Perhaps give a minimum amount that is required per day

4.3.2.9 Take children to the clinic every 3 months

Mothers from Group A take their children to a paediatrician or give them medicines that they have at home, but do not take their children to the clinic. They only take their children when they are very sick, or when immunizations are required. They felt that the clinics would not be able to accommodate the workload if children are there every 3 months, especially if nothing is wrong with them. They did mention that it depends on one’s circumstances.

Group B mothers also don’t take their children unless they are sick or require “shots”, but mentioned that the choice to go depends on one’s environment and educational levels. Some mothers felt that they live in a clean environment, that they can afford medicines and that they are educated about meals and therefore do not need to take their children to the clinic for check-ups. However, other mothers from Group B said that

Group A: all upper SES, highly educated groups. Group B: all middle, highly and less educated groups.
Groups C: all lower SES, least educated groups

they take their children to the clinics often for check-ups and TB tests. Others still said that going to the clinic is a waste of time because the clinics are only open on certain days, the mothers cannot afford to take time off work, and the queues are too long.

Group C mothers also only take their children when they are sick or when they need to have their injections. They also felt that the clinics will not have time for them if they go too often.

Although all the groups said that they take their children when they need to be immunized, none of the mothers were certain about the ages at which the immunizations need to be done.

Alternate wording of the guideline was offered:

- Take children to the clinic when they are sick and for their immunizations
- Take children to the clinic when required
- Take children to the clinic every 6 months until the age of 4 and then once a year thereafter
- Take your children to the clinic for check-ups and, in the same visit, ask for information about development

One mother said that clinics should not just be for vaccinations, but for developmental checks as well and that mothers must be informed that such programs are in place. The guideline may make mothers feel anxious if they cannot comply with it, but it should not be changed because it is an ideal for which to strive.

4.3.2.10 Encourage children to be active every day

In all groups, the concept of being active was understood as a range of physical movement, such as active playing, running, jumping, swinging, climbing and riding a bicycle. To Group A and B mothers it also implies that a child must not be in front of the television. To all groups, mental, as well as physical, activity is important, because mental stimulation is interlinked with physical development. One mother even said that

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

physical activity precedes mental activity, because without physical stamina, mental activities cannot be done. All mothers believed that it is important for a child to be active for the following reasons:

Group A:

- It keeps them healthy and prevents them from becoming lazy
- It prevents weight issues
- It gives them a chance to work off frustrations
- It develops muscle coordination, balance, brain processes and confidence

Group B:

- It allows them to make friends and keeps them busy
- It develops the brain and muscle coordination
- It allows them to expend energy and keeps them fit
- It helps them to grow properly so that they can keep their bodies up
- If they are not active, then one knows that they are sick

Group C:

- It builds muscles
- It gets them interested in different things
- It allows them to improve themselves



Some mothers said that their children are very active, while others said that they have to create opportunities for their children to be active. This was especially seen in Group A responses, because the children live behind walls and do not have gardens to play in, making them more likely to watch television. These mothers think that physical activity should be enforced in playgroup/crèche/pre-primary schools. They felt that it is an important guideline to have hand-in-hand with food because if a child is not active, he or she will watch TV and become lazy, which brings with it other problems such as overweight. The Group A mothers felt that parents play an important role in creating opportunities for their children to be active.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

Options for alternate wording of the guidelines are:

- Encourage children to be active every day “with a range of fine motor to gross motor activities”
- Encourage children to be “physically” active every day
- Encourage children to be physically active and mentally stimulated every day
- Explain why physical exercise is good
- Allow children to take part in outdoor activities

4.3.3 USAGE OF PFBDG

All of the respondents said that the family members have the same food; only if the parents wish to make something spicy, will they cook a separate meal for the children. Not all mothers reported that their families eat meals together, the main reasons being parents working till late and children getting hungry before the parents do.

The most apparent discrepancies between the groups were seen when looking at responses regarding the appropriateness of the proposed PFBDG, the amount of information given in the PFBDG, and the ease of use of such PFBDG.

Group A expressed that the guidelines would not be useful to them, but rather for the more disadvantaged and lower socio-economic populations. As one mother said: “*a dietary guideline is possibly needed for people who have not been educated to a point of really knowing what’s important in your diet*”. Because the Group A mothers believe themselves to be more knowledgeable about nutrition, they trust that they already know what is necessary for their children to grow up healthy; a food-based dietary guideline would only serve to remind them of what they already know. Some of these mothers did however say that the guidelines are good because they are suggestive and not prescriptive and that it is good to get a reminder about foods and how to use them. They reported that one must acknowledge culture when setting up guidelines as “*food is*

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

engrained in it". They expressed concern that all cultures and socio-economic groups might not use a guideline because they have never used one, and that is why re-education must be aligned with cultural practices.

Group B mothers reported that the guidelines are appropriate and would be of some use in the planning of meals, but that information could be more specific regarding portion size and how to put the guidelines into practice. They did however say that as useful as guidelines may be, a child cannot be forced to eat something, and so the guidelines' use depends on the child's preferences and age.

Group C mothers said that the guidelines are appropriate "*so ver ons weel*" and that they provide useful information. They also said the guidelines would ensure that they feed their children in the right way and that a child may become sick if one doesn't use a guideline.

4.4 ADDITIONAL COMMENTS GIVEN AT THE END OF FOCUS GROUPS

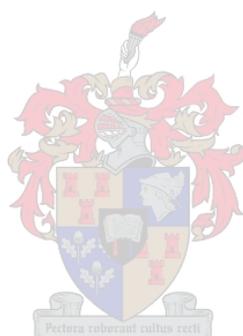
Group A and B mothers said that guidelines should be made visually available: A plate split into carbohydrate, protein and vegetable portions accompanied with explanations of why each component is good for health. They suggested that iconography could be used to get a point across: using a skull-and-bones image next to fizzy drinks. They also felt that a mention should be made about vitamin and mineral supplementation so that awareness of their benefits can be increased.

Group A mothers mentioned that the guidelines are too vague for most of the population. They suggested that at the top of the guideline sheet, the main components of a child's diet should be outlined. Affordable and available examples must be given for each component along with an explanation of why the nutrient is necessary for health.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

This may allow mothers to refer back to the examples when they read about the main components in the guidelines. A basic menu could also be given as an example.

Mothers from all groups said that FBDG need to be made available not only in clinics and hospitals, but also at schools during life orientation for all school learners.



CHAPTER 5: DISCUSSION

5.1 RECRUITMENT OF MOTHERS

It proved to be difficult to recruit mothers from the upper SES areas and as a result, their focus groups sometimes only consisted of 4 people. Reasons given by these mothers for not attending were a lack of time due to their careers, staying home because their children were sick, or feeling that they know enough about nutrition already.

Finding playgroup/crèche/pre-primary schools that were willing to participate in the lower SES areas was also challenging. These facilities replied that they would not be able to help recruit mothers, either because they lacked the facilities, or because they knew that the mothers would not be able to take a day off from work to take part in the focus group sessions. This was expected when the study was designed, and so the use of clinics was also considered to get hold of mothers. As mentioned in paragraph 3.2.1, timely approval was not given by the Department of Health to make use of clinics for the research, and therefore saturation point could not be reached in the lower SES group.

5.2 SOCIO-DEMOGRAPHICS

The majority of upper SES mothers were White. Among the middle SES mothers, the majority were Coloured and in the lower SES group, all mothers were Coloured. The age of the participants ranged from 20 to 65 years, the older participants forming part of the middle and lower SES groups. These older participants were the grandmothers of the children, but assumed the role of caretaker. Overall, the mothers in the study had more daughters than sons.

While upper SES participants had mostly completed tertiary education, middle SES participants had either completed tertiary education or stopped school before Matric, and the majority of lower SES participants had not completed matric. In Table 5.1, one can see that, according to the 2001 Census, the majority of females surveyed in the City

of Cape Town had had some secondary education. The NFCS reported that in the Western Cape, only 3% of mothers were uneducated, the lowest percentage of all provinces.¹⁴

Table 5.1: Female level of education in the City of Cape Town

Table: Census 2001 by district council, gender and derived level of education.			
CITY OF CAPE TOWN	Female	No schooling	39494
		Some primary	106971
		Complete primary	72351
		Some secondary	384901
		Grade 12/Sted 10	249206
		Higher	117168
Footnote: Universe for all persons 20 years and older Figures greater than 0 and less than 4 are randomised to preserve confidentiality Users of these data should refer to the extract from the Report of the Census Sub-Committee			

Source: South African Statistics Council on Census 2001, <http://www.statssa.gov.za> Accessed 3 August 2005

One can see that employment status is related to maternal level of education; the highly educated groups tended to be employed whereas the less educated groups tended to be unemployed. Malnutrition is often found hand-in-hand with a lack of education and resources.⁶¹

5.2.1 QUALITY OF THE DISCUSSIONS

It was noted during the analyses that the more highly educated upper and middle SES mothers had longer discussions and often used scientific nutritional terminology in their responses. Less educated middle and lower SES mothers had shorter discussions with very limited use of scientific terminology. This same phenomenon was reported by Coveney in his exploration of differences in lay knowledge across social class in Australia: Among the parents with high incomes, houses, and high levels of tertiary education and qualifications, responses were longer, more in-depth, more likely to be based on food quality and more informed by nutritional science than responses given by parents with low incomes, subsidized houses and low levels of tertiary education.⁶²

5.3 DISCUSSION OF LANGUAGE GROUP DATA

It was noted that the nature of responses in the English groups paralleled the nature of responses from the Afrikaans groups within each SES group. What was picked up during the focus groups, however, was that some Afrikaans mothers would convert to using English terminology when describing a scientific concept. For example:

- “Low GI, jy moet die low GI stysels gee” when talking about types of carbohydrate
- “energy meestal” when saying why starch is important
- “sodat hulle exercise kan kry” when saying why it is necessary to be active
- Defining “aanmoedig” with its translation “encourage”
- “daar’s soveel controversy oor melk” when discussing whether children should be given milk every day

This may imply that the mothers are exposed to English nutritional information and therefore make use of the English terms in conversation. This may have implications for the final PFBDG. If they are to benefit the entire population, supportive documentation and new nutritional information should be made available in all official languages.

5.4 DISCUSSION OF SES AND MATERNAL LEVEL OF EDUCATION DATA

During content analysis of the results, it was found that maternal level of education could not be separated from SES. Analysis of maternal level of education data yielded similar results to analysis of SES data. As SES decreased, so did the maternal level of education. According to the NFCS, a child’s nutritional status is directly related to the educational level of the caregiver.¹⁴

In the discussion, as in Chapter 4, the following classifications will be used and shown as footnotes throughout the chapter:

- Group A: all upper SES, highly educated groups
- Group B: all middle SES, highly and less educated groups
- Group C: all lower SES, least educated groups

5.4.1 EXPOSURE TO FBDG

Most of the mothers in the study sample do not make use of a guideline and had not heard of FBDG or PFBDG. Although Group A and B mothers look to other sources of dietary information such as books and magazines, they all believed that a guideline would be useful. All forms of media may therefore prove to be useful to increase the exposure of FBDG and PFBDG.

5.4.2 CONSUMER COMPREHENSION OF THE PROPOSED PFBDG

Coveney's qualitative study done in Australia explored the socio-economic differences in parental lay knowledge of food and health. He states that public health nutrition messages presume that parents receiving these messages have some grasp of the scientific concepts relayed within each message. This, according to Coveney, may not be the case in each different socio-economic group.⁶² His findings are similar to the findings of this study. Each guideline is discussed separately.

5.4.2.1 Encourage children to enjoy a variety of foods

The general consensus regarding the concept of this guideline was that different foods have to be presented to children in an interesting and ongoing manner. Mothers believed that this is important because it ensures that a child takes in all the necessary vitamins and minerals through a balanced diet. Group A mothers said that supplements can be used, while Group B mothers said that a balanced diet removes the need for supplements. None of the mothers expressed a desire to have the guideline altered.

This is a positive attitude as research has shown that parents strongly influence their children's eating behaviours through choosing which foods are available, how they are eaten and how much is consumed.^{41,63} Acceptance of a new food is aided through

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

exposure to what the parents consume.⁴¹ Food likes and dislikes are also influenced by the atmosphere around mealtimes.^{29,38}

Studies in Australia and the United Kingdom have revealed that socio-economic status has an influence on various factors related to food, and that the purchasing and consumption of food is distinct within each social class.⁶² The NFCS reported that poverty is a huge risk factor contributing to child malnutrition because one's level of income will determine the quantity and the quality of food that is bought for consumption. Without the necessary economic means, food cannot be bought.¹⁴ It was found, however, that in the Western Cape less than 50% of mothers were unemployed, 67% decided what food to buy, and 69% were responsible for food preparation.¹⁴ Mothers in this study all reported that they are able to give their children a variety of foods.

5.4.2.2 Feed children 5 small meals a day

The understanding of the word "small" was generally interpreted to be the size of a fruit portion or a sandwich, while "meal" was understood to be of a more substantial volume with the connotation of sitting down at the table to eat. Mothers reported that children "graze" throughout the day, generally in the form of 3 meals and two snacks. The availability of snacks differed between the three groups, with snacks always being available for Group A children and available for Group C children when mothers could afford to buy enough food.

Reasons for why it is important to eat throughout the day were different among the groups, with Group A saying that it helps to keep blood sugar levels constant and provides regularity, Group B reporting that it prevents cravings and aids concentration, and Group C saying that it prevents children from getting hungry. All mothers agreed that it gives children sustained energy. Bremner and colleagues reported that snacks provide a significant amount of a child's nutrient intake and so aids in meeting their nutrient needs.⁴⁰ Towards the end of the second year of life, growth slows slightly, and is

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

paralleled by a decrease in appetite.^{38,58} Children may even refuse favourite foods, and also desire to feed themselves. Parents should be advised that this behaviour is normal.³⁸

The mothers mentioned that the word “meals” may be ambiguous and that the guideline should rather read “Feed children 5 small portions a day” or “Feed children 3 meals and two nutritious snacks a day”.

5.4.2.3 Make starchy foods the basis of a child’s main meals

All mothers understood what the term “starchy foods” meant. The more educated mothers, however, disagreed with the wording of the guideline, saying that the term is old-fashioned and that “carbohydrates”, namely high, medium and low GI carbohydrates, should be used instead.

All mothers knew that starch is an energy source, but felt that instead of having it as the largest part of a meal, it should be in balance with other food groups. Group A mothers felt that children get too much starch and that is why the Atkins diet is so popular, and Group B mothers felt that too much starch brings on weight issues and diabetes. Group C mothers did not give a reason for why starch should not form the basis of a main meal. This may be because starch is a cheap commodity; “*die main ingredients as ons kos maak is aartappels en rys*”. As is the case here, Coveney noted in his qualitative study that parents from the high income group were concerned about specific illnesses or medical conditions related to food whereas responses from parents from the low income group were not.⁶²

Group A and B mothers suggested alternate wording such as “include starch in a child’s main meals” and “give children low GI, unrefined carbohydrates”. They mentioned that “starchy foods” has to be elaborated on and that the GI system should be explained on a basic level.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

5.4.2.4 Children need plenty of vegetables and fruits every day

All mothers said that this guideline is an important one because it emphasizes the importance of eating vegetables and fruits, which are a source of vitamins, minerals, fiber and natural sugars. It is beneficial that mothers responded to this guideline in such a positive way because these components are essential for good nutrition, disease prevention and weight management.⁶⁴

The term “plenty” elicited a range of responses in the line of: up to 5 servings a day, as much as a child will eat, or more than one a day. Mothers were unsure about how many servings a child should get throughout the day, and some mentioned that they would like to have a minimum amount of fresh portions required by the children mentioned at the end of the guideline.

Fruit seems to be easier to give to children because of its sweet taste, whereas vegetables have to be disguised with other foods. Mothers believed that as long as children get either fruit or vegetables during the day, there is no need for them to get both.

Group C mothers mentioned that they buy vegetables and fruits when they can afford it because vegetables and fruits are expensive. This lack of vegetable and fruit intake due to their high cost has led to the proposal of interventions to increase intake.⁶⁴ As grocery stores and supermarkets contribute to nutrition, they are areas in which environmental, policy and pricing interventions can influence the availability, access, pricing information and promotion of fruits and vegetables. Point-of-purchase information, reduced prices, increased availability and advertising have produced positive effects regarding increased fruit and vegetable consumption.^{64,65}

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

5.4.2.5 Children need to drink milk every day

The responses to this guideline were the most varied, with a great deal of uncertainty among the mothers regarding the advantages and disadvantages of milk intake. One mother's comment sums up the general opinion regarding milk intake: "*I have an uneasy relationship with milk because I don't know whether it's good or bad for you*".

The majority of milk used is cow's milk, and it is mostly given with other foods and drinks, such as cereals, Milo, tea and hot chocolate. The concerns of Group A and B mothers regarding too much milk consumption were mucous production, sinusitis and weight problems. This is in concurrence with Goulding *et al.*'s findings that some infants avoid cow's milk because of its mucogenic and allergenic properties, its role in gastrointestinal problems, or its taste.⁴²

Two Group A mothers reported that a milk guideline should not be emphasized. The one said this because she read a theory that children are not calves and should not drink milk, whilst the other said that research has linked breast and prostate cancer to the consumption of milk.

All mothers knew that the guideline is aimed at increasing calcium intake for strong bones and teeth. As reported by Goulding *et al.*, young children who avoid consuming milk incur more fractures than children who do consume milk.⁴² Mothers, however, felt that calcium could be taken in via other dairy products such as cheese and yoghurt, which most of the participants' children consume daily. Group A mothers also mentioned broccoli, vitamin syrups and effervescent tablets as sources of calcium.

When discussing milk allergies, which only occurred during 3 discussions, mothers said that an alternative to milk should be mentioned in the guideline, as well as the symptoms associated with a milk allergy. The majority of mothers said that "dairy products" should replace the word "milk". Group A and B mothers reported that the term "calcium" should

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

be placed in the guideline so that awareness can be created about the source of calcium.

5.4.2.6 Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day

Group A participants give their children chicken, fish or meat every day, mostly with supper. Group B participants do the same, though some mothers said that fish is very expensive. Group C participants would give meat or chicken up to 3 times a week, and fish if it is available to them. All mothers give their children eggs, ranging from 1 a month up to 3-6 per week. Mothers from Groups A and B knew about the cholesterol content of eggs and therefore limit its intake while Group C mothers made no mention of cholesterol.

Group A mothers give their children beans, but not soya. Only one mother in this group gives her children soya because, as a vegetarian, she cooks with it. Group B mothers also feed their children beans, and some use soya sauce, but mentioned that the children do not like it. Group C participants do not use soya at all. This is in contrast with the results from Endres and colleagues' study which found that soy-enhanced menus were readily accepted by preschool children.⁶⁶ All groups reported that their children consume peanut butter almost every day, mostly on their sandwiches at playgroup/crèche/pre-primary school. One Group A mother said that she does not give it to her child because it contains carcinogens.

Mothers agreed that protein is an important component of the diet. Group A and B responded that it repairs the body, forms the building blocks for muscle, that omega 3 fatty acids from fish are good for the brain and that protein keeps one full for longer. One mother in this group believed that because of its complicated metabolism, protein influences one's hunger. Group B mothers mentioned protein as a source of iron. Group C responded that protein is healthy and good for energy. Araya *et al.* reported in their

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

study that among 5-6 year-old Chilean pre-schoolers, a high protein meal lead to a decreased subsequent food and energy intake possibly because the protein in the meal enhanced short-term satiety.⁶⁷

Most mothers thought the guideline to be a sound one because it uses the word “can” instead of “must” and protein sources are listed in the guideline. Minor alterations to the wording of the guideline are reported in Chapter 4.

5.4.2.7 If children have sweet treats or drinks, offer small amounts with meals

Only three mothers, from Group A, said that the guideline is appropriate because children have to absorb sugar along with other food to prevent blood sugar levels from changing drastically and to lessen the bad effects that sugar has on teeth.

The response to this guideline was mostly negative. Mothers felt that the word “with” implies that sweet treats and drinks should form a part of every meal, and that the word “after” would be better. With the word “after” they would interpret it to mean that sweet treats and drinks should follow a meal. Mothers from Group A said that if sweet treats and drinks are given with every meal, they become a form of bribery. Group B mothers only give sweet treats and drinks as an exception while Group C mothers responded that giving sweet treats and drinks with a meal spoils a child’s appetite.

Most of the mothers do give their children some sweet treats or drinks, and if not, mention that their children get sweets in by default, either at parties, by buying it for themselves, or through relatives who spoil the children. This concurs with research which has shown that low-income mothers find that they have less control over their child’s dietary intake because of other lenient family members, such as grandparents, who more readily give children what they ask for.⁶³

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

Group A and B mothers mentioned that sweets make children “*hyper*”. All mothers agreed that children should not be deprived of sweets and fizzy drinks because it would cause them to overeat at parties. Research exploring parental control has shown that by restricting access to a certain food, a preschool child’s attention will simply be drawn to the particular food and as a result will often increase its intake.^{39,63} Mothers did feel that moderation is important, and that a fruit or yoghurt can be offered as something sweet.

Reasons given for keeping sweet treats and drinks to a minimum varied: Group A said that sweets must not become a standard and must not replace a meal; Group B mothers said that sweets have a low nutritional level, are bad for teeth, they make children fat and make them “*jumpy*”; Group C mothers said that sweets will cause the teeth to rot.

Alternate wording comprised the inclusion of the words “occasionally” and “after a nutritious meal”. Some mothers even felt that the guideline should be left out as it emphasizes the consumption of sweet treats and drinks

Group A mothers mentioned that sweets should not be allowed at playgroup/crèche/pre-primary school and that carbonated drinks companies should not be allowed to make donations to playgroup/crèche/pre-primary schools in return that their drinks are sold on the property. They believe that children must learn that water will quench thirst. This attitude of the mothers is positive, as research has indicated that when milk is replaced with carbonated drinks, body weight increases and the skeleton becomes weaker, leading to increased fractures.⁴²

5.4.2.8 Offer children clean, safe water regularly

The concept of safe, clean water varied within groups. Group A mothers give their children tap, filtered or bottled water. One mother boils her water out of habit. Group B said that water must be running and not stagnant. Group C mothers also mentioned tap water and bottled water.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

The term “regularly” was understood by all to mean throughout the day. Group A and B mothers believed that 1-2 litres of water are required, while Group C mothers didn’t give an amount. The majority of mothers give their children water to playgroup/crèche/pre-primary school, at meals, or when they are thirsty. Two litres of water a day, in the form of water or other fluids such as tea, is the required amount needed for good hydration.⁵⁵

During the discussion of this guideline it also came to light that children like to drink juice, but get given water before juice. Mothers tend to dilute the juice, but mentioned that as the children grow older, they want less water and more juice or cooldrink. Mothers who drink a lot of water found that their children also drink a lot of water and those who don’t drink water have children who drink almost no water at all. This seems to indicate that parental influence is a strong factor in the choices that children make.

Mothers agreed that water is important as it is hydrating, it flushes out toxins and has no additives, no dehydrating properties, and does not cause blood sugar levels to crash. Group B mothers said that water is inexpensive and Group C mothers said that it cleans the body. Mothers were happy with the guideline because they feel that water is an important and healthy component of the diet. It was stressed by Group A mothers that “clean, safe water” should be explained in the guideline.

5.4.2.9 Take children to the clinic every 3 months

Mothers agreed with the concept of the guideline, namely that children should see a health professional while they are young. They did not, however, think that children need to be taken every 3 months. They do not believe that clinics will be able to accommodate the workload. Rather, children should go to the clinic when they are sick or need to be immunized. The mothers were not certain about the ages at which immunizations have to be given.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

Mothers from Group A take their children to a paediatrician or give medicines at home. Some mothers felt that they live in a clean environment and that they are educated about meals and therefore do not need to take their children for check-ups. However, some Group B mothers said that they often take their children for check-ups and TB tests. Others said that going to the clinic is a waste of time because they are only open on certain days, the mothers cannot take time off work, and queues are too long. These hindrances were also reported by Van der Merwe when she tested the proposed PFBDG for 6-12 month old babies among consumers.⁴

In the United States, Davis and colleagues conducted focus groups to find out what parents would like to know regarding immunizations. They found that parents want both verbal and written information on the vaccination and its possible side effects and they wanted to be given the date for the next required immunisation.^{68,69} The ages at which immunisations are required in South Africa are listed in Table 5.2.

Table 5.2: Ages at which vaccines are due in South Africa

Age	Vaccine
At birth	BCG (vaccine against TB) Polio vaccine
6 weeks old	Polio vaccine DTP* vacc + Hib# vacc Hepatitis B vaccine
10 weeks old	Polio vaccine DTP* vacc + Hib# vacc Hepatitis B vaccine
14 weeks old	Polio vaccine DTP* vacc + Hib# vacc Hepatitis B vaccine
9 months old	Measles vaccine
18 months old	Polio vaccine DTP* vaccine Measles vaccine
5 years old	Polio vaccine DT** vaccine

DTP* = vaccine against diphtheria, pertussis (whooping cough) and tetanus. DT** = vaccine against diphtheria and tetanus (lock jaw) only. Hib# = vaccine against *Haemophilus influenzae* type b

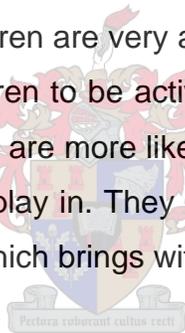
Source: www.capegateway.gov.za/eng/directories/services Accessed 30 August 2005

Mothers suggested that the guideline should change from “every 3 months” to “every 6 months”, or that children should be taken when necessary. Mothers also want to be informed that they can ask about developmental information when they visit the clinic. All mothers seemed to know that the guideline is an ideal for which to strive, but know that one’s circumstances influence the choice of taking one’s child to the clinic.

5.4.2.10 Encourage children to be active every day

In all groups, “active” was understood to involve physical movement. To Group A and B mothers it also implied that a child must not be in front of the television. To all groups, mental, as well as physical, activity is important because it keeps children healthy, prevents weight issues, and develops muscle coordination, balance, brain processes and confidence.

Some mothers said that their children are very active, while others said that they have to create opportunities for their children to be active. Group A mothers have to encourage their children to play because they are more likely to watch television due to the fact that they don’t have large gardens to play in. They felt that if a child is not active, he or she will watch TV and become lazy, which brings with it other problems such as overweight.



Group A and B mothers would like to see pre-schools allocate time for activity. Pate and colleagues report that physical activity is influenced by the characteristics of the preschool, and therefore preschools should provide facilities for play.⁷⁰ In the United States of America, the National Association for Sport and Physical Education has recently released guidelines on physical activity for preschools.⁷⁰

Mothers mentioned that fine and gross motor skills have to be mentioned in the guideline and that mental, as well as physical, activity should be emphasized.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Group C: all lower SES, least educated groups

5.4.3 USAGE OF PFBDG

Mothers reported that their children eat the same meal as the rest of the family, and in the case of a spicy dish, the children's will be made without the spice. This concurs with what was reported by the NFCS, namely, those children who are 1 year old should be able to follow the same diet as the family with only a few changes.¹⁴ Meals are often not eaten at the same time, with children generally eating earlier than adults.

Group A mothers said that these guidelines only serve to remind them about what they already know regarding healthy diets for their children, and therefore are possibly more suited for the less educated and more underprivileged groups of the population. They mentioned that these underprivileged groups may have to be re-educated about nutrition and health, because the guidelines may not be aligned with their current cultural practices. Belief systems and cultural aspects do affect food patterns. This was explored by Jain *et al.* among a group of low-income mothers in Ohio. They found that low-income mothers were not worried about their children being overweight, because a large size could be seen as desirable in their culture. They also found that mothers were suspicious of growth charts because they believed that body size cannot be changed.⁶³ In North Africa, female fatness has also been found to be a sign of fertility and prosperity.²⁶ According to the NFCS, there is a direct correlation between educational level and nutritional status. A low educational level is correlated with undernutrition, and a high level of education is related, in some cases, with overnutrition.¹⁴ The nutrition knowledge of the Group A mothers was sometimes misguided or incorrect and thus, even though these mothers believe that the PFBDG are of no real use to their children, they may well benefit from using them.

Group B mothers reported that the guidelines are useful, but could be more specific regarding recommended quantities and ideas on how to put the guidelines into practice. They also said that the guidelines would have to be adapted to suit each of their children

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

as they all have their own food preferences. This seems to suggest that instead of using these guidelines to change their children's eating patterns, these mothers might change the guidelines to suit their children's dietary habits.

Group C mothers believed the guidelines to be appropriate and useful and that they would help to ensure that mothers feed their children a healthy diet. They seemed to understand the concepts of the guidelines, but were often uncertain about their rationale.

5.5 DISCUSSION OF ADDITIONAL COMMENTS

Group A and B mothers said that the guidelines have to be made visually available through pictures or iconography. They also said that the guidelines are too vague and that they need to be specific regarding portion sizes. They were adamant that people have to be educated about the components of the diet and that there should be a description of each of these components (protein, carbohydrate, fat, fiber) at the beginning of the guidelines so that mothers can refer to the descriptions if they don't understand something in the guideline. These mothers also want a guideline regarding vitamin and mineral supplementation.

All mothers said that the guidelines should be made available not only in health institutions, but also in playgroups/crèches/pre-primary schools, primary schools and secondary schools so that children can be exposed to them.

Group A: all upper SES, highly educated groups. Group B: all middle SES, highly and less educated groups. Groups C: all lower SES, least educated groups

CHAPTER 6: CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The majority of the participants reported that they do not make use of a guideline when preparing meals and had not heard of FBDG or PFBDG. Other sources of nutritional information such as books and magazines were mentioned, and so these sources may prove to be useful tools for the distribution of the finalized PFBDG once approved.

The mothers in the study had a good grasp of the concepts of and the need for PFBDG. The more educated upper and middle SES participants had a better understanding of the nutritional value of foods and so seldom required an explanation for the rationale underlying each guideline. As less educated middle and lower SES mothers only had a basic understanding of nutritional science, they tended to respond positively to the guidelines without always understanding their scientific rationale, yet knowing that the guidelines are good for health.

Mothers only suggested very slight alterations to the wording or phrasing of the guidelines, implying that the guidelines themselves are not too complicated, but that the interpretation of their wording sometimes differs. The only guidelines with which there was substantial dissatisfaction throughout almost all groups were the guidelines regarding starch, milk, and sweet treats and drinks. Some mothers expressed a wish for the use of icons or pictures and a guideline regarding vitamin and mineral supplementation.

In general, mothers thought that the PFBDG could prove to be useful, especially if it they could be used as an aid in educating mothers about what foods to feed their children in order for them to get a balanced diet with all the required nutrients.

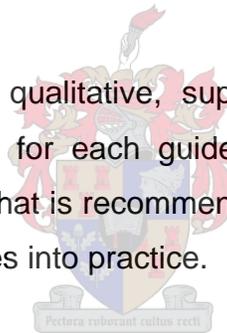
The guidelines, provided they are modified and presented with additional information, may play a significant role in educating mothers about a healthy diet for their children.

This study has shown that consumer testing plays a vital role in the development of country-specific guidelines, and that a single set of comprehensive guidelines for children aged 1-7 years old may prove to be useful and appropriate.

6.2 GENERAL RECOMMENDATIONS

As well-educated mothers from the more affluent communities tended to know the information in the guidelines already, the population which would benefit the most from these guidelines would be mothers who are poorly educated and come from a low SES community. Therefore lower SES communities should be the main target population for interventions aimed at increasing the awareness of PFBDG and good nutrition. This supports the Paediatric Working Group's decision that the PFBDG guidelines should be focused on low-income groups.⁷

As the proposed PFBDG are qualitative, supportive documentation could perhaps contain quantitative information for each guideline regarding portion sizes, such as suggesting a minimum amount that is recommended for optimal nutrient intake. This will help mothers to put the guidelines into practice.



The supportive documentation for each guideline should contain relevant explanations, pictures, or affordable examples. Van der Merwe noted in her consumer testing of the PFBDG for children aged 6-12 months, that when the guidelines were discussed during focus groups and when the rationale behind them was explained, they were better understood.⁴

The fact that Afrikaans mothers sometimes made use of English terminology may imply that there is increased availability of English nutritional information, and so greater exposure to English terminology. This may call for future strategies to make new information available not only in English, but in all official languages spoken in South Africa.

6.3 RECOMMENDATIONS FOR EACH GUIDELINE

6.3.1 ENCOURAGE CHILDREN TO ENJOY A VARIETY OF FOODS

This guideline was well understood by all mothers and no adjustments are necessary. It should be accompanied by information regarding the manner in which new foods can be introduced as well as details on how a child's nutrient requirements change with age.

6.3.2 FEED CHILDREN 5 SMALL MEALS A DAY

Mothers understood why children need to eat throughout the day; however, the word "meal" caused some confusion. It is recommended that the guideline change to "Feed children 3 small meals and 2 healthy snacks a day". Supportive documentation should give an explanation of the words "meal" and "snack", a basic explanation of how food influences blood glucose levels, and information on how a child's eating patterns change with age.

6.3.3 MAKE STARCHY FOODS THE BASIS OF A CHILD'S MAIN MEALS

The term "starchy foods" should be replaced with "carbohydrates". Supportive documentation should include a basic explanation of the GI system with emphasis on affordable, low and medium GI foods as well as the importance of fibre. This will hopefully educate mothers to make healthy choices when purchasing starchy foods. Mothers need to be made aware of the adverse health consequences of being overweight, such as insulin resistance and diabetes, and they have to be informed about the role that an increased energy intake plays in this respect. Care must be exercised to align this additional information with cultural beliefs and practices as fatness is still seen as desirable in some cultures.

6.3.4 CHILDREN NEED PLENTY OF VEGETABLES AND FRUITS EVERY DAY

The guideline was well understood, yet a minimum number of vegetable and fruit portions should be specified in the supportive documentation, along with practical examples of how to prepare and present the vegetables and fruits to children. It should also be mentioned that fruit, instead of sweets, makes a healthy snack.

6.3.5 CHILDREN NEED TO DRINK MILK EVERY DAY

The guideline should perhaps use “dairy products” to replace the word “milk”. In this case, supportive documentation is very necessary. It must list dairy products that can be used as a source of calcium, it must include reasons for the importance of an adequate calcium intake from a young age, and it should give a warning about possible early symptoms associated with an allergy to milk.

6.3.6 CHILDREN CAN EAT CHICKEN, FISH, MEAT, EGGS, BEANS, SOYA OR PEANUT BUTTER EVERY DAY

Along with this guideline, information should be given regarding saturated fats and cholesterol. Points should be made available on how to prepare protein meals in such a way that the saturated fat and cholesterol content can be decreased. Other guidelines could be stated like this one, listing actual examples of the dietary component within the guideline. The word “protein” should be placed in the guideline and the word “fish” should be placed before “chicken” to emphasise the importance of fish consumption.

6.3.7 IF CHILDREN HAVE SWEET TREATS OR DRINKS, OFFER SMALL AMOUNTS WITH MEALS

In the form of supportive documentation, information underlying the rationale for this guideline should be given so that mothers can understand that the sweet treats or drinks have less of a negative effect when consumed with meals than they would have if consumed between meals. Mothers should be informed about good dental hygiene for their children. The guideline may be better understood if stated as follows: “If children have sweet treats or drinks, offer small amounts directly after meals”.

6.3.8 OFFER CHILDREN CLEAN, SAFE WATER REGULARLY

The concept of clean, safe water has to be specified more precisely in the supportive documentation. The process of boiling and storing water in a hygienic manner must also be clarified. Mothers should be made aware of the benefits of drinking water regularly and of the practice of diluting juice with water. It is recommended that recommends that the word “regularly” be replaced by “frequently”.

6.3.9 TAKE CHILDREN TO THE CLINIC EVERY 3 MONTHS

Mothers need to be informed about the services available to them and their children at clinics and they should be encouraged to ask about information regarding development and nutrition. The necessity of immunisation and the ages at which children must be immunised have to be made better known. There should also be an explanation in the supportive documentation on how the living environment will influence the frequency of clinic visits.

6.3.10 ENCOURAGE CHILDREN TO BE ACTIVE EVERY DAY

The importance of physical and mental activity has to be stressed, with information supplied on how activity aids the development of a child. Examples of activities should be given. Mothers should be informed that long hours of television watching are not beneficial for children.

6.4 RECOMMENDATIONS FOR FUTURE RESEARCH AND IMPLEMENTATION

Once the guidelines are modified and approved, an awareness campaign should be instigated to alert the public of their importance and availability. Guidelines will no doubt be made available at clinics. Yet, as seen from this research, not all mothers attend clinics regularly. As a result, it is recommended that other forms of media, or community and school interventions, are used to make the PFBDG more widely available so as to ensure maximal impact.

The investigator agrees with the recommendations made in the NFCS that socio-economic upliftment as well as nutritional and health education can go a long way in improving the nutritional status of a child.¹⁴

This study's findings apply mostly to the affluent and middle SES communities. Further studies should be planned, especially among mothers from lower SES areas, to ensure a more sound perception of their comprehension of the PFBDG. Perhaps ongoing

testing can be done on a periodic basis to assess how attitudes and needs change regarding food, and how these changes affect the use of the PFBDG.

As the study was only conducted in English and Afrikaans as mentioned in paragraph 3.2.2, future studies in the Western Cape should be done in one or more of the other official languages of South Africa.

6.5 LIMITATIONS OF THE STUDY

Due to factors already mentioned (see paragraph 3.2.1), saturation point could not be reached within the lower SES group. Due to this limitation, the sample was not representative of all the English- and Afrikaans-speaking mothers in the City of Cape Town. Also, as mentioned in the general recommendations, the lower SES population would benefit the most from these PFBDG. As a result future studies, using this study as a framework, should be done within lower socio-economic areas to fully assess their comprehension of the guidelines.

During two sessions the videotape stopped recording, and therefore the investigator had to write down what the mothers were saying. Fortunately this did provide sufficient data from which to draw themes during content analysis.

Mothers generally mentioned that they were pressed for time and therefore the sessions had to be conducted in a shorter period than the allocated timeframe. This may have caused the mothers to give shorter answers instead of responding as they would have had the time been unrestricted. However, this was the case in most of the groups, thereby eliminating any advantage of one group over another regarding time to respond.

CHAPTER 7: REFERENCES

- 1 Chopra M. Risk factors for undernutrition of young children in a rural area of South Africa. *Public Health Nutrition* 2003; 6(7): 645 - 652
- 2 WHO. *Preparation and use of food-based dietary guidelines. Report of a joint FAO/WHO consultation. Technical Report Series 880.* Geneva. 1998.
- 3 Nutrition Society of South Africa. Nutrition Task Teams for South Africa: *A New Opportunity and Challenge.* *SA J Food Sci & Nutr* 1996; 8(4): 160
- 4 Van der Merwe J. *A qualitative assessment of the preliminary Food-based Dietary Guidelines for infants 6-12 months of age in the Greater Oudtshoorn area.* Thesis. Belville: Stellenbosch University. 2004.
- 5 Vorster H, Love P, Browne C. Development of food-based dietary guidelines for South Africa – The process. *SA J Clin Nutr* 2001; 14(3): supplement: S3-S6.
- 6 Minutes of the 1st PFBDG Working Group meeting. Cape Town 2000
- 7 Minutes of the 2nd PFBDG Working Group meeting. Cape Town 2001
- 8 Minutes of the 3rd PFBDG Working Group meeting. Cape Town 2001
- 9 Minutes of the 4th PFBDG Working Group meeting. Cape Town 2001
- 10 Minutes of the 11th PFBDG Working Group meeting. Cape Town 2001
- 11 World Health Organisation. *WHO definition of Health.*
<http://www.who.int/about/definition/en/> 1948. (last accessed 2 March 2005)

- 12 Nutrition Information Centre of the University of Stellenbosch (NICUS). *The “silent Emergency”: Childhood Undernutrition*. <http://www.sun.ac.za/nicus>. (last accessed 20 August 2005)
- 13 WHO. *The world health report 2002 – Reducing Risks, Promoting Healthy Life*. <http://www.who.int/whr/2002> 2002. (last accessed: 20 August 2005)
- 14 Labadarios D, Steyn N, Maunder E *et al* . The national food consumption survey (NFCS) – Children aged 1-9 years, South Africa 1999. [Online] Available: <http://www.saspen.com/2001/natfoodsurvey.htm> 1999. Accessed: 14 January 2005.
- 15 South African Vitamin A Consultative Group. *Anthropometric, vitamin A, iron and immunization status in children aged 6-71 months in South Africa, 1994*. *SAMJ* 1996; 86(4): 354-357
- 16 Ebbeling CB, Pawlak DB, Ludwig DS. Childhood obesity: public-health crisis, common sense cure. *The Lancet* 2002; 360: 473-482
- 17 Burdette HL, Whitaker RC, Daniels SR. Parental Report of Outdoor Playtime as a Measure of Physical Activity in Preschool-aged Children. *Arch Pediatr Adolesc Med* 2004; 158: 353-357
- 18 Walker ARP. The Nutritional Challenges in the New South Africa. *Nutrition Research Reviews* 1996; 9: 33-65
- 19 Bwibo NO, Neumann CG. The Need for Animal Source Foods by Kenyan Children. *J Nutr* 2003; 133: 3936S-3940S

- 20 Avencena IT, Cleghorn G. The nature and extent of malnutrition in children. In: Preedy V, Grimble G, Watson R, eds. *Nutrition in the Infant: Problems and Practical Procedures*. London: Greenwich Medical Media Ltd, 2001: 1-10
- 21 Nutrition Information Centre of the University of Stellenbosch (NICUS). *DRIs Dietary Reference intakes*. <http://www.sun.ac.za/nicus>. (last accessed 20 August 2005)
- 22 Corrales KM, Utter SL. Failure to thrive. In: Queen Samour P, King Helm K, Lang CE, eds. *Handbook of Pediatric Nutrition, 2nd ed.* Maryland: Aspen Publishers Inc., 1999: 395-412
- 23 WHO. *WHO Global Database on Child Growth and Malnutrition*. <http://www.who.int/nutgrowthdb/en/> (last accessed: 7 February 2006)
- 24 Vitamin Information Centre. Booklet: *Vitamins in every day life*.
- 25 Stipanuk MH. *Biochemical and Physiological Aspects of Human Nutrition*. Philadelphia: WB Saunders Company, 2000
- 26 Mokhtar N, Elati J, Chabir R *et al.* Symposium: Obesity in developing countries: biological and ecological factors. *J Nutr* 2001; 131: 887S-892S
- 27 Wright M, Parker L, Lamont D, Craft AW. Implications of childhood obesity for adult health: findings from thousand families cohort study. *BMJ* 2001; 323: 1280-1284. [Online] Available: <http://www.bmj.com> 2001. Accessed: 29 August 2005.
- 28 Styne D. Childhood and Adolescent Obesity. Prevalence and Significance. *Pediatr Clin North Am* 2001; 48(4): 823-854

- 29 Strauss R. Childhood Obesity. *Pediatr Clin North Am* 2002; 49(1): 175-201
- 30 Reilly JJ, Armstrong J, Dorosty AR. Early life risk factors for obesity in childhood: cohort study. *BMJ* 2005; 330: 1357-1363. [Online] Available: <http://www.bmj.com> 2005. Accessed: 29 August 2005
- 31 Wit JM. Implicaties van de Barker-hypothese voor de medicus practicus. *Ned Tijdschr Geneeskd* 2000; 144(52): 2491-2494
- 32 Lumbers ER, Yu Z, Gibson KJ. Fetal Origins of Adult Disease. The Selfish Brain and the Barker Hypothesis. *Clinical and Experimental Pharmacology and Physiology* 2001; 28:942-947
- 33 Love P. *Developing and assessing the appropriateness of the preliminary Food-based Dietary Guidelines for South Africans*. PhD Thesis. Pietermaritzburg: University of Natal. 2002.
- 34 Kennedy E, Davis CA. Dietary Guidelines 2000 – The opportunity and challenges for reaching the consumer. *J Am Diet Assoc* 2000; 100(12): 1462-1465
- 35 Association for Dietetics in South Africa (ADSA). Booklet: *Nutrition Guidelines for Good Health*.
- 36 Millward DJ, Jackson AA. Protein/energy ratios of current diets in developed and developing countries compared with a safe protein/energy ratio: implications for recommended protein and amino acid intakes. *Public Health Nutrition* 2003; 7(3): 387-405
- 37 Achterberg C, McDonnell E, Bagby R. How to put the Food Guide Pyramid into practice. *J Am Diet Assoc* 1994; 94:1030-1035

- 38 Lucas B. Normal nutrition from infancy through adolescence. In: Queen Samour P, King Helm K, Lang CE, eds. *Handbook of Pediatric Nutrition, 2nd ed.* Maryland: Aspen Publishers Inc., 1999: 99-120
- 39 Birch LL. Childhood Overweight: Family Environmental Factors. *Nestlé Nutrition Workshop Series: Pediatric Series* 2002; 49: 161-173
- 40 Bremner B, Langenhoven ML, Swanepoel ASP Steyn M. The snacking habits of white preschool children. *S Afr Med J* 1990; 78: 472-475
- 41 Wardle J, Carnell S, Cooke L. Parental Control Over Feeding and Children's Fruit and Vegetable Intake: How Are They Related? *J Am Diet Assoc* 2005; 105: 227-232
- 42 Goulding A, Rockell JEP, Black RE, Grant AM, Jones IE, Williams SM. Children Who Avoid Drinking Cow's Milk Are at Increased Risk for Prepubertal Bone Fractures. *J Am Diet Assoc* 2004; 104: 250-253
- 43 Hoppe C, Udam TR, Lauritzen L, Mølgaard C, Juul A, Michaelsen KF. Animal protein intake, serum insulin-like growth factor I, and growth in healthy 2.5-year-old Danish children. *Am J Clin Nutr* 2004; 80: 447-452
- 44 Bindslev-Jenson C. Food Allergy: Clinical Review. *Br Med J* 1998; 316: 1299-1302
- 45 Hubbard Willson S. Medical Nutrition Therapy for Food Allergy and Food Intolerance. In: Mahan LK, Escott-Stump S, eds. *Krause-s Food, Nutrition and Diet Therapy, 10th ed.* USA: WB Saunders Company, 2000: 912-934

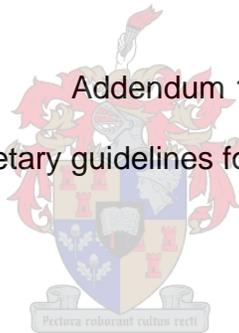
- 46 Food Allergies and Intolerance. In: Thomas B, ed. in conjunction with the British Dietetic Association: *Manual of Dietetic Practice*. Oxford: Blackwell Science Publishing, 2001: 598-612
- 47 Ziegler RS. Dietary aspects of food allergy prevention in infants and children. *J Pediatr Gastroenterol Nutr* 2000; 30: S77-86
- 48 Zarkadas M, Scott FW, Salminen J, Pong AH. Common Allergenic Foods and Their Labelling in Canada – A Review. *Can J Allergy Clin Immunol* 1999; 4: 118-141
- 49 United Kingdom of Great Britain and Northern Ireland. *Committee on toxicity of chemicals in food, consumer products and the environment: adverse reactions to food and food ingredients report 2000*. London: Department of Health. 2000
- 50 Sive AA, Buys D. Nutritional disorders. In: Harrison V, ed. *Handbook of Pediatrics, 5th ed*. Cape Town, Oxford University Press, 1999: 209-228
- 51 Nainar SMH, Mohummed S. Diet Counseling During the Infant Oral Health Visit. *Pediatr Dent* 2004; 26: 459-462
- 52 Ikeda JP, Mitchell RA. Dietary Approaches to the Treatment of the Overweight Pediatric Patient. *Pediatr Clin North Am* 2001; 48(4): 955-968
- 53 Sigelman CK, Rider EA. *Life-Span Human Development*. 4th ed. USA: Thomson, Wadsworth, 2003: Chp 5, 9, 14, 16
- 54 Ortolani C, Bruijnzeel-Koomen C, Bengtsson U, et al. Controversial aspects of adverse reactions to food. Position Paper. *Allergy* 1999; 54: 27-45
- 55 Bourne LT, Seager JR. Water- the neglected nutrient. *SAJCN* 2001; 14(3): S64-S70

- 56 Department of Health – Provincial Government of the Western Cape. *Baby & Child: Integrated Management of Childhood Illnesses*.
<http://capegateway.gov.za> 2005. (last accessed: 27 August 2005)
- 57 Ekeland E, Heian F, Hagen KB, Abbott J, Nordheim L. Exercise to improve self-esteem in children and young people. *The Cochrane Database of Systematic Reviews* 2004; 1: Art. No.:CD003683.pub2
- 58 Behrman RE, Kliegman RM, Jenson HB *Nelson Textbook of Pediatrics*. 17th ed. Philadelphia: Saunders, 2004: 31-58
- 59 WHO. *WHO World Health Assembly adopts global strategy on diet, physical activity and health*. <http://www.sahealthinfo.org/nutrition> 2005. (last accessed: 19 June 2005)
- 60 Katzenellenbogen JM, Joubert G, Abdool Karim SS. *Epidemiology: A Manual for South Africa*. Cape Town: Oxford University Press Southern Africa, 2002: 176-181
- 61 Delgado HL, Valverde VE, Martorrel R, Klein RE. Relationship of maternal and infant nutrition to infant growth. *Early Human Development* 1982; 6: 273-286
- 62 Coveney J. A qualitative study exploring socio-economic differences in parental lay knowledge of food and health: implications for public health nutrition. *Public Health Nutrition* 2004; 8(3): 290-297
- 63 Jain A, Sherman SN, Chamberlin LA, Carter Y, Powers SW, Whitaker RC. Why Don't Low-Income Mothers Worry About Their Preschoolers Being Overweight? *Pediatrics* 2001; 107(5): 1138-1145

- 64 Glanz K, Yaroch AL. Strategies for increasing fruit and vegetable intake in grocery stores and communities: policy, pricing, and environmental change. *Preventive Medicine* 2004; 39: S75-S80
- 65 French SA, Wechsler H. School-based research and initiatives: fruit and vegetable environment, policy, and pricing workshop. *Preventive Medicine* 2004; 39(S2): 101-107
- 66 Endres J, Barter S, Theodora P, Welch P. Soy-enhanced lunch acceptance by preschoolers. *J Am Diet Assoc* 2003; 103(3): 346346-351
- 67 Araya H, Hills J, Alviña M, Vera G. Short-term satiety in preschool children: a comparison between high protein meal and a high complex carbohydrate meal. *International Journal of Food Sciences and Nutrition* 2000; 51: 119-124
- 68 Davis TC, Fredrickson DD, Kennen EM, *et al.* Childhood Vaccine Risk/Benefit Communication among Public Health Clinics: A Time Motion Study. *PHN* 2004; 21(3): 228-236
- 69 Davis TC, Fredrickson DD, Arnold CL, *et al.* Childhood Vaccine Risk/Benefit Communication in Private Practice Office Settings: A National Study. *Pediatrics* 2001; 107: e17.
- 70 Pate RR, Pfeiffer KA, Trost SG, Ziegler P, Dowda M. Physical Activity Among Children Attending Preschools. *Pediatrics* 2004; 114: 1258-1263
- 71 Department of Health. *South African National Guidelines on Nutrition for People Living with TB, HIV/AIDS and other Chronic Debilitating Conditions: Food Choices for People Living with HIV/AIDS*. <http://www.sun.ac.za/nicus>. (last accessed 6 September 2005)

Addendum 1

FBDG for adults and dietary guidelines for people living with HIV/AIDS



Food-Based Dietary Guidelines: >7 years and adults³³

1. Enjoy a variety of food
2. Be active
3. Make starchy foods the basis of most meals
4. Eat plenty of fruits and vegetables every day
5. Eat legumes regularly
6. Foods from animals can be eaten every day
7. Use fat sparingly
8. Use salt sparingly
9. Drink lots of clean, safe water
10. If you drink alcohol, drink sensibly
11. Eat healthier snacks

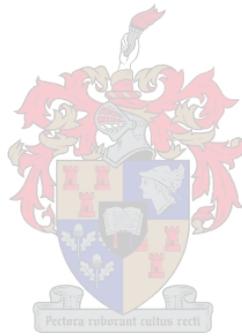
Dietary Guidelines with regard to food choices for people living with HIV/AIDS⁷¹

1. Start early
2. Choose your own food
3. Eat a variety of foods
4. Make starchy foods the basis of each meal
5. Eat lots of fruits and vegetables
6. Meat and dairy foods may be eaten daily
7. Eat dried beans, peas, lentils, peanuts or soya regularly
8. Include sugars, fats and oils
9. Use salt sparingly
10. Be as active as you can
11. Drink lots of clean, safe water
12. Do not take alcoholic drinks



Addendum 2

Letter to Department of Health





Lesley Scott
P.O.Box 1497
Stellenbosch
7599

Mrs Hilary Goeiman
Deputy Director: Nutrition
Provincial Administration Western Cape

Permission to do post-graduate research

I am currently conducting research for the degree Master of Nutrition at Stellenbosch University. The title of my research is: Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 years in the City of Cape Town, South Africa.

To do this, I will be making use of focus groups consisting of small groups of English and Afrikaans speaking mothers with children between the ages of 1 and 7 years and I will be sampling mothers from playgroups, pre-primary schools, crèches and clinics in the City of Cape Town area. All participation will be voluntary and mothers will be asked to complete a consent form before taking part in the discussion. The discussion should not take more than 2 hours and refreshments will be provided. The session will be videotaped to assist data capturing, but confidentiality of participants will be ensured.

The following clinics have been randomly selected for inclusion in the sample:
Langa: Langa Clinic
Mitchells Plain: Lentegour Clinic, Phumlani Clinic



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

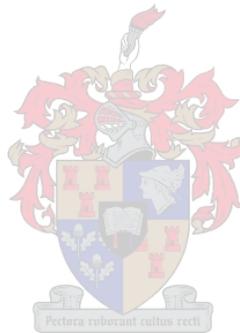


It would be greatly appreciated if the clinic personnel would be prepared to advertise the session to all mothers who have children aged 1-7 years and provide them with the necessary information as provided by the investigator. A venue at the clinic on a day suitable to all involved would be required for the 2-hour session. No further involvement of the clinic personnel would be required.

The committee for Human Research at Stellenbosch University has provided ethics approval (Project number: N05/03/046) for this project. The ethics approval and protocol are attached. I hereby request permission to sample mothers from the above-mentioned clinics.

Yours sincerely

Lesley Scott
083 627 4442



Mrs D Marais
Study leader
Dept Human Nutrition
Stellenbosch University

Dr L Bourne
Co-study leader
Health and Development Research
MRC



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

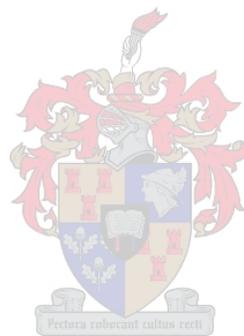
Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

Addendum 3

Letter to the Department of Education





Lesley Scott
P.O.Box 1497
Stellenbosch
7599

To whom it may concern

Permission to do post-graduate research

I am currently conducting research for the degree Master of Nutrition at Stellenbosch University. The title of my research is: Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 years in the City of Cape Town, South Africa.

To do this, I will be making use of focus groups consisting of small groups of English and Afrikaans speaking mothers with children between the ages of 1 and 7 years and I will be sampling mothers from playgroups, pre-primary schools, crèches and clinics in the City of Cape Town area. All participation will be voluntary and mothers will be asked to complete a consent form before taking part in the discussion. The discussion should not take more than 2 hours and refreshments will be provided. The session will be videotaped to assist data capturing, but confidentiality of participants will be ensured.

The following playgroups, crèches and pre-primary schools have been randomly selected for inclusion in the sample:

(Not known at the time when permission was asked and approval given)



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

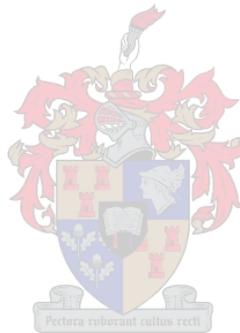


It would be greatly appreciated if the playgroup, crèche and pre-primary school personnel would be prepared to advertise the session to all mothers who have children aged 1-7 years and provide them with the necessary information as provided by the investigator. A venue at the playgroup, crèche and pre-primary school on a day suitable to all involved would be required for the 2-hour session. No further involvement of the personnel would be required.

The committee for Human Research at Stellenbosch University has provided ethics approval (Project number: N05/03/046) for this project. The ethics approval and protocol are attached. I hereby request permission to sample mothers from the above-mentioned playgroups, crèches and pre-primary schools.

Yours sincerely

Lesley Scott
083 627 4442



Mrs D Marais
Study leader
Dept Human Nutrition
Stellenbosch University

Dr L Bourne
Co-study leader
Health and Development Research
MRC



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

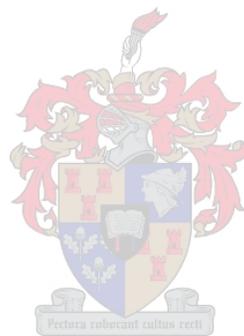
Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

Addendum 4

Letter to playgroups, crèches, pre-primary schools, and clinics

Brief aan speelgroepe, nasorgsentrum, voorskole, en klinieke





To whom it may concern

Your playgroup / crèche / preprimary school / clinic has been selected as one of the institutions to take part in a research study conducted by Lesley Scott, a Master of Nutrition student at Stellenbosch University. The title of the research is: Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 years in the City of Cape Town, South Africa. It will make use of focus groups consisting of small groups of English and Afrikaans speaking mothers with children aged 1-7 years. All participation will be voluntary and mothers will be asked to complete a consent form before taking part in the discussion. The discussion should not take more than 2 hours and refreshments will be provided. The session will be videotaped to assist data capturing, but confidentiality of participants will be ensured.

Attached you will find a letter of permission from the Department of Education or Health stating that Ms Scott has permission to do this research. Your involvement would include the recruitment of mothers as well as possibly providing a venue for the discussion. Please complete the section below and fax it to the following number so that Ms Scott can make an appointment to discuss further arrangements and provide you with the recruitment letters for the mothers: 021 887 0224.

Regards



Lesley Scott
Master of Nutrition
Stellenbosch University
13651781@sun.ac.za
083 627 4442



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus



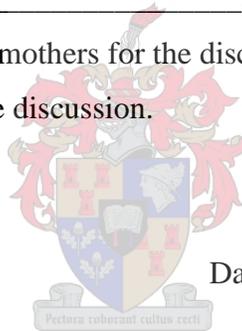
Mrs D Marais
Study leader
Dept Human Nutrition
Stellenbosch University

Dr L Bourne
Co-study leader
Health and Development Research
MRC

I, _____ (name of person), hereby declare that
_____ (name of institution) would be prepared to
assist Ms Lesley Scott in recruiting mothers for the discussion groups and will / will not be able
to assist in providing a venue for the discussion.

Signature

Date



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus



Aan wie dit mag aangaan,

Hierdie speelgroep / nasorgsentrum / voorskool / kliniek is gekies as een van die instellings om deel te neem in 'n navorsingsprojek onder leiding van Lesley Scott, 'n Meester in Voeding student aan die Universiteit van Stellenbosch. Die title van die navorsing is: Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 years in the City of Cape Town, South Africa. Die sal gebruik maak van fokus groepe van klein groepe Engels- en Afrikaans moeders van kinders tussen 1 en 7 jaar. Alle deelname sal vrywillig wees en moeders sal gevra word om 'n ingeligte toestemmingsvorm in te vul voordat hul aan die bespreking deelneem. Die bespreking hoort nit langer as 2 uur te duur nie en verversings sal voorsien word. Die sessie sal ook opgeneem word op video, maar konfidensialiteit van alle deelnemers sal verseker word.

Aangeheg vind u 'n brief van die Departement van Onderrig of die Departement van Gesondheid wat toestemming verleen aan mej Scott om hierdie navorsing te doen. U betrokkenheid by die studie sou die werwing van moeders van kinders tussen 1 en 7 jaar by jul inrigting wees asook die beskikbaarstelling van 'n area vir die bespreking. Voltooi asseblief die onderstaande deel en faks dit terug na 021 778 0224 sodat Me Lesley Scott 'n afspraak kan maak om enige verdere reelings te tref asook om die werwingsbriewe te voorsien.

Groete



Lesley Scott
Master of Nutrition
Stellenbosch University
13651781@sun.ac.za
083 627 4442



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus



Mrs D Marais
Study leader
Dept Human Nutrition
Stellenbosch University

Dr L Bourne
Co-study leader
Health and Development Research
MRC

Ek, _____ (persoon se naam), gee hierby toestemming dat
_____ (naam van inrigting) bereid sou wees om vir Me
Lesley Scott te help met die werwing van moeders vir die besprekingsgroepe en sal / sal nie 'n
spesifieke area kan afgee vir hierdie bespreking.

Handtekening



Datum



Fakulteit Gesondheidswetenskappe • Faculty of Health Sciences



Verbind tot Optimale Gesondheid • Committed to Optimal Health

Department of Human Nutrition • Departement Menslike Voeding

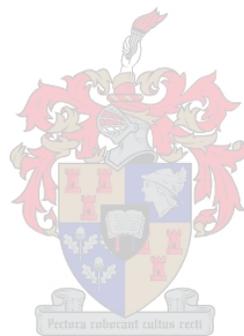
Posbus/PO Box 19063 • Tygerberg 7505 • Suid-Afrika/South Africa

Tel.: +27 21 938 9259 • Faks/Fax: +27 21 933 2991

Webblad / Web page: www.sun.ac.za/nutrition; www.sun.ac.za/nicus

Addendum 5

Letter to mothers at playgroups, crèches, pre-primary schools and clinics
Brief aan moeders by speelgroepe, nasorgsentrums, voorskole en klinieke



WANT TO KNOW MORE ABOUT FEEDING YOUR CHILD?

The Department of Human Nutrition invites you to take part in a research study regarding dietary guidelines for children between the ages of 1 and 7 and to obtain valuable information about how to feed your child

How can you be a part of this?

Attend an informal group discussion with other mothers where you will have the chance to tell us what you think of the dietary guidelines for children aged 1-7 years.

Where?

When?



Good nutrition is an essential part of your child's healthy development. These focus group discussions will give you an opportunity to learn more about nutrition and will us to assess whether or not mothers find these guidelines useful.

What you need to know

- The session will last about 2 hours
- The session will be videotaped
- Confidentiality will be ensured

For more information and to ensure a place in the discussion, please contact.....

WIL JY MEER WEET OOR DIE VOEDING VAN JOU KIND?

Die Departement Menslike Voeding van die Universiteit van Stellenbosch nooi u uit om deel te neem aan 'n navorsingsprojek oor voedingsriglyne vir kinders tussen 1 en 7 jaar en om waardevolle inligting oor die voeding van u kind te kry

Hoe kan u deelneem?

Woon 'n informele groepbespreking by saam met ander moeders waar u 'n kans sal kry om vir ons te sê wat u van die voedingsriglyne vir kinders tussen 1 en 7 jaar dink

Waar?

Wanneer?



Goeie voeding is 'n belangrike deel van u kind se ontwikkeling. Hierdie fokusgroep besprekings sal vir u 'n kans gee om meer oor voeding te leer en sal vir ons van hulp wees om te bepaal of moeders hierdie riglyne van hulp vind.

Wat u moet weet

- Die sessie sal ongeveer 2 ure duur
- Die sessie sal op video opgeneem word
- Konfidensialiteit sal verseker word

Vir verdere inligting en om 'n plek in die bespreking te verseker, kontak asseblief.....

Addendum 6

Participant information leaflet and Consent form

Deelnemer informatie pamflet en Toestemmings vorm



PARTICIPANT INFORMATION LEAFLET AND CONSENT FORM

TITLE OF THE RESEARCH PROJECT:

Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 in the City of Cape Town, South Africa

REFERENCE NUMBER: N05/03/046

PRINCIPAL INVESTIGATOR: Lesley Scott

ADDRESS: Department of Human Nutrition
Stellenbosch University

CONTACT NUMBER: 083 627 4442

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



THIS STUDY HAS BEEN APPROVED BY THE COMMITTEE FOR HUMAN RESEARCH AT STELLENBOSCH UNIVERSITY AND WILL BE CONDUCTED ACCORDING TO THE ETHICAL GUIDELINES AND PRINCIPLES OF THE INTERNATIONAL DECLARATION OF HELSINKI, SOUTH AFRICAN GUIDELINES FOR GOOD CLINICAL PRACTICE AND THE MEDICAL RESEARCH COUNCIL (MRC) ETHICAL GUIDELINES FOR RESEARCH.

What is this research study all about?

This study will be conducted at playgroups, crèches, pre-primary schools and clinics. Approximately 110-140 participants in total will participate. This project aims to test whether mothers understand the food-based dietary guidelines for children aged 1-7 years. The research will help to finalise the preliminary set of food based dietary guidelines. Mothers will be asked to participate in focus groups consisting of 6-8 people. They will be recruited from randomly chosen institutions as mentioned above. During the focus groups, the preliminary Paediatric Food Based Dietary Guidelines will be discussed.

Why have you been invited to participate?

You have been invited to participate because you have a child between the ages of 1 and 7

years old. Your opinions on the food based dietary guidelines will help to determine whether they are understood or whether they need to be modified.

What will your responsibilities be?

You will need to attend a 2 hour focus group discussion in which you can say what you understand by the guidelines

Will you benefit from taking part in this research?

You may obtain valuable information regarding the feeding of your child. The results will be used to finalise the food based dietary guidelines for children aged 1-7 years, which will then be made available to the public to use.

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

There are no known risks involved.

Who will have access to your medical records?

No medical records are required for the study. All collected information will be strictly confidential. A videotape recording will be made but confidentiality is ensured. If the data is used in a publication or thesis, your identity will remain anonymous. The researcher and anyone wishing to view the completed report will have access to it.

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

You will not be paid to take part in the study and you do not need to pay to take part. Refreshments will be provided during the discussions.

Is there any thing else that you should know or do?

You can contact Lesley Scott at Tel: 0836274442 if you have any further queries or encounter any problems. You can contact the Committee for Human Research at 021-938 9207 if you have any concerns or complaints that have not been adequately addressed by your study investigator.

You will receive a copy of this information and consent form for your own records.

By Signing below, I..... agree to take part in a research study entitled:-
Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among
mothers, for healthy children aged 1-7 years in the City of Cape Town, South Africa

I DECLARE THAT:

- I have read or had read to me this information and consent form and it is written in a language with which I am fluent and comfortable.
- I have had a chance to ask questions and all my questions have been adequately answered.
- I understand that taking part in this study is **voluntary** and I have not been pressurised to take part.
- I may choose to leave the study at any time and will not be penalised or prejudiced in any way.
- I may be asked to leave the study before it has finished, if the study doctor or researcher feels it is in my best interests, or if I do not follow the study plan, as agreed to.

Signed at (*place*).....on (*date*) 2004



.....
Signature of Participant

.....
Signature of Witness.

Declaration By Investigator

I (name)declare that:-

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

Signed at (*place*).....on (*date*) 2004

.....
Signature of Investigator

.....
Signature of Witness.

DEELNEMER INLIGTINGSTUK EN TOESTEMMINGSVORM

TITEL VAN DIE NAVORSINGSTUDIE:

Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 in the City of Cape Town, South Africa

VERWYSINGSNOMMER: N05/03/046

HOOF NAVORSER: Lesley Scott

ADRES: Department Menslike Voeding, Posbus 19063, Tygerberg, 7505

KONTAKNOMMER: 0836274442

U word uitgenooi om aan 'n navorsingstudie deel te neem. Neem asseblief u tyd om die volgende inligting, wat die navorsingstudie aan u sal verduidelik, deur te lees. Vra asseblief vir die navorsingspersoneel enige vrae aangaande enige deel van die studie wat u nie verstaan nie. Dit is baie belangrik dat u heeltemal tevrede is dat u volledig verstaan wat die navorsingstudie beoog om te bereik en hoe u betrokke gaan wees. U deelname is **heeltemal vrywillig** en u is vry om te besluit om nie deel te neem nie. Indien u nee sê, sal dit u geensins negatief beïnvloed nie. U is ook vry om te enige tyd van die studie te onttrek, al het u aanvanklik toegestem om deel te neem.

HIERDIE STUDIE IS GOEDGEKEUR DEUR DIE **KOMITEE VAN MENSNAVORSING BY UNIVERSITEIT VAN STELLENBOSCH** EN DIT SAL UITGEVOER WORD VOLGENS DIE ETIESE RIGLYNE EN BEGINSELS VAN DIE INTERNASIONALE VERKLARING VAN HELSINKI, SUID-AFRIKAANSE RIGLYNE VIR GOEIE KLINIESE PRAKTYK EN DIE MEDIESE NAVORSINGSRAAD (MNR) ETIESE RIGLYNE VIR NAVORSING.

Waaroor gaan die navorsing studie?

Hierdie studie sal by speelgroepies, creches en voorskole en klinieke uitgevoer word. Omtrent 110-140 deelnemers sal in totaal deelneem. Hierdie projek sal bepaal of moeders die voedselgebaseerde dieetriglyne vir kinders 1-7 jaar verstaan. Die navorsing sal help om die voorlopige stel voedselgebaseerde dieetriglyne te finaliseer. Moeders sal genooi word om aan fokusgroep besprekings van 6-8 mense deel te neem. Die moeders sal vanaf ewekansigverkose inrigtings gewerf word. Gedurende die fokusgroepe sal die pediatriese voedselgebaseerde dieetriglyne bespreek word.

Hoekom word u genooi om deel te neem?

U is genooi om deel te neem aangesien u 'n kind tussen die ouderdomme van 1 tot 7 jaar het. U opinies ten opsigte van die voedselgebaseerde dieetriglyne sal help om te bepaal of hulle verstaanbaar is of of hulle verander moet word.

Wat sal u verantwoordelikhede wees?

U sal 'n 2-uur fokusgroep bespreking moet bywoon waar u kan sê wat u verstaan tov die riglyne.

Sal u voordeel trek deur deelname aan die studie?

U sou belangrike inligting tov die voeding van u kind kon kry. Die resultate sal gebruik word om die pediatriese voedselgebaseerde dieetriglyne te finaliseer wat dan aan die publiek verskaf sal word.

Is daar enige risiko's verbonde omdat u aan die studie deelneem?

Daar is geen risiko's betrokke vir u om aan die studie deel te neem nie.

Wie sal toegang tot u mediese rekords hê?

Geen mediese rekords is vir hierdie studie nodig nie. Alle inligting wat versamel word sal uiters konfidensieël gehou word. 'n Video opname sal gemaak word maar konfidensialiteit sal verseker word. Indien die data in die publikasie van die tesis gebruik word sal u identiteit anoniem bly. Die volledige verslag sal aan die navorser en enige persoon wat dit wil sien beskikbaar wees.

Sal u betaal word om aan die studie deel te neem en is daar enige kostes aan verbonde?

Nee, u kry geen betaling vir deelname aan die studie nie. Daar is geen kostes daaraan vir u verbonde nie. Verversings sal gedurende die besprekings verskaf word.

Is daar enige iets anders wat u moet weet of doen?

U kan Lesley Scott by 0836274442 kontak indien u verdere vrae of probleme ondervind. U kan die Departement Menslike Voeding by 021-938 9207 kontak indien u enige bekommernisse of klagtes het wat nie deur die navorsingspersoneel aangespreek is nie.

U sal 'n kopie van hierdie inligting en toestemmingsvorm ontvang vir u eie rekords.

Deur hieronder te teken, stem ektoe om deel te neem aan die navorsingstudie "Consumer testing of the preliminary Paediatric Food Based Dietary Guidelines, among mothers, for healthy children aged 1-7 in the City of Cape Town, South Africa" deel te neem.

EK VERKLAAR DAT:

- Ek hierdie inligting en toestemmingsvorm gelees het/aan my gelees is en dat dit in 'n taal is wat ek praat en verstaan en gemaklik mee is.
- Ek 'n kans gehad het om vrae te vra en dat al my vrae behoorlik beantwoord is.

- Ek verstaan dat deelname aan die studie **vrywillig** is en dat ek nie gedwing is om deel te neem nie
- Ek die studie te enige tyd kan verlaat en dat ek nie gepenaliseer of beoordeel sal word op enige manier nie.
- Ek gevra mag word om die studie te enige tyd te verlaat voordat dit voltooi is, indien die navorser voel dat dit in my beste belang is, of indien ek nie die studieplan volg, soos ooreengekom nie.

Geteken te (*plek*).....op (*datum*) 2005

.....
Handtekening

.....
Handtekening van getuie



Verklaring deur Ondersoeker/Navorsers

Ek (naam)verklaar dat:-

- Ek die inligting in die dokument aanverduidelik het
- Ek hom/haar aangemoedig het om vrae te vra en genoegsame tyd geneem het om dit te verduidelik
- Ek tevrede is dat hy/sy alle aspekte van die navorsing, soos bo bespreek, genoegsaam verstaan het.
- Ek nie 'n tolk gebruik het nie.

Geteken te (*plek*).....op (*datum*) 2005

.....
Handtekening van Ondersoeker/Navorsers

.....
Handtekening van getuie

Addendum 7

Socio-demographic questionnaire

Sosio-demografiese vraelys



Focus Group socio-demographic questionnaire

Time: Start: _____

Date: _____

DETAILS OF PARTICIPANT

Participant number: _____ Suburb: _____ Age: _____ years

Mark the appropriate block with an X:

Culture:

White	
Black	
Coloured	
Other	

Language:

English	
Afrikaans	

Level of education:

None	
Grade 1 – Grade 7 (Grade 1 – Std 5)	
Grade 8 – Grade 11 (Std 6 – Std 9)	
Matric completed	
Tertiary education	

Employment:

Employed at the moment	
Unemployed	

DETAILS OF PARTICIPANTS' CHILDREN

Age of child: _____ Gender of child: _____ Birth weight: _____

Number of children:

1	
2	
3+	

Fokus Groep sosio-demografiese vraelys

Tyd: Begin: _____

Datum: _____

PERSOONLIKE BESONDERHEDE

Deelnemer nommer: _____ Voorstad: _____ Ouderdom: _____jaar

Merk die toepaslike blok met 'n X:

Kultuur:

Wit	
Swart	
Kleurling	
Ander	

Taal:

Engels	
Afrikaans	

Opvoedingsvlak:

Geen	
Graad 1 – Graad 7 (Graad 1 – Std 5)	
Graad 8 – Graad 11 (Std 6- Std 9)	
Matriek	
Tersiëre opvoeding	

Werk:

Werk op die oomblik	
Werkloos	

PERSOONLIKE BESONDERHEDE VAN KINDERS

Ouderdom van kind: _____ Geslag van kind: _____ Geboorte gewig: _____

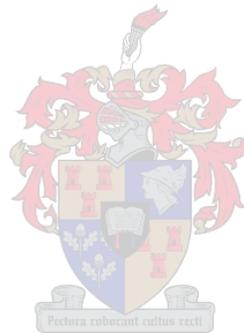
Aantal kinders:

1	
2	
3+	

Addendum 8

Focus group session guide

Fokus groep sessie riglyn



Focus Group session guide

Opening of the session

Estimated time: 5mins

Group moderator

- introduces herself, welcomes participants and thanks them for coming
- Explains the general purpose of the group discussion:

Today/this evening we are going to discuss food messages. I will be asking you questions about food guidelines for children and you will have a chance to share your opinions. There are no right or wrong answers and discussion involving positive as well as negative comments is welcome.

Rules and procedure

Estimated time: 5mins

- Everything discussed here will remain confidential
- Please speak clearly and one at a time
- The video camera is going to tape this session so that I can play it back to myself in order to remember what everyone has said. The tape will be stored securely as soon as I have transcribed it. Is this acceptable to everyone here?
- We have a lot to get through, so discussion for each question can't be too long, but please stop me if you feel you want to add something before I move on to the next question.
- Refreshments will be served halfway through the discussion

Participant introduction

Estimated time: 10mins

Start with participant one and work through group

- give name
- say what you do
- say how many children you have



Discussion of FBDG

Estimated time: 1hr

We are now going to discuss the proposed PFBDG for children.

3.1 Assess exposure to FBDG

Do you use some sort of a guide when planning meals?

Have you heard of the FBDG?

Do you think it is NB to use them?

I am now going to read one guideline at a time and then ask a few questions about it. It is important that I get your ideas without telling you what I think. If you want to ask any questions, I will discuss them afterwards.

3.2 Encourage children to enjoy a variety of foods

- what do you understand by this message?
 - What does the word “encourage” mean to you?

- What does the word “enjoy” mean to you?
- What does the word “variety” mean to you?
- Do your children enjoy a variety of foods?
 - If no, why not?
- Do you think it is important for children to enjoy a variety of foods?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.3 Feed children 5 small meals a day

- what do you understand by this message?
 - What does the word “small” mean to you?
 - What does the word “meals” mean to you?
- How many meals a day do your children eat?
- Do you think it is important for children to eat small meals throughout the day?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.4 Make starchy foods the basis of a child’s main meals

- what do you understand by this message?
 - What do the words “starchy foods” mean to you?
 - What does the word “basis” mean to you?
 - What does the word “main” mean to you?
- Do your children consume starchy foods with their main meals?
 - If no, why not?
- Do you think it is important to have starchy foods as the basis of the main meals?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.5 Children need plenty of vegetables and fruits every day

- what do you understand by this message?
 - What does the word “plenty” mean to you?
 - What do the words “vegetables and fruits” mean to you?
- Do your children eat vegetables and fruits?
 - If yes, how often?
 - If no, why not?
- Do you think it is important for children to eat vegetables and fruits?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.6 Children need to drink milk every day

- what do you understand by this message?
 - What does the word “milk” mean to you?
- Do your children drink milk every day?
 - If yes, how much?
 - How much do you think is appropriate?
 - If no, why not?
 - Do they consume other dairy products?
- Do you think it is important for children to drink milk?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

Refreshments will be served

3.7 Children can eat chicken, fish, meat, eggs, beans, soya or peanut butter every day

- what do you understand by this message?
 - What do the words “chicken, fish and meat” mean to you?
 - What does the word “eggs” mean to you?
 - What does the word “soya” mean to you?
 - What does the word “peanut butter” mean to you?
- Do your children eat one of these every day?
 - If no, why not?
- Do you think it is important for children to eat one of these every day?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.8 If children have sweet treats or drinks, offer small amounts with meals

- what do you understand by this message?
 - What do the words “sweet treats and drinks” mean to you?
 - What do the words “small amounts with meals” mean to you?
- Do your children have sweet treats and drinks?
 - If yes, do they have them with meals?
 - If no, why not?
- Do you think children should have sweet treats and drinks?
 - If yes, why?
 - If no, why?
 - Why should they have them with meals?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.9 Offer children clean, safe water regularly

- what do you understand by this message?

- What do the words “clean and safe” mean to you?
- What does the word “regularly” mean to you?
- Do your children drink water?
 - If yes, is it safe and how much water do they drink?
 - If no, why not?
- Do you think it is important for children to drink clean, safe water?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.10 Take children to the clinic every 3 months

- what do you understand by this message?
 - What does the word “clinic” mean to you?
- Do you take your children to the clinic?
 - If yes, how often?
 - If no, why not?
- Do you think it is important for children to go to the clinic every 3 months?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.11 Encourage children to be active every day

- What do you understand by this message?
 - What does the word “active” mean to you?
- Are your children active?
 - If yes, how so?
 - If no, why not?
- Do you think it is important for children to be active?
 - If yes, why?
 - If no, why?
- Would you change the words/phrasing of this message if you could?
 - If yes, how?

3.12 Assess ease of use of FBDG

- Do these guidelines seem appropriate to use?
- Do they provide valuable information?
- Can you use these guidelines to plan meals for your children?
- Would they make it easier to plan meals?
- Do your children eat the same meals as the rest of your family members?

Closure of discussion

The discussion has now covered all the guidelines. Is there anything anyone wishes to add or clarify? Thank you so much for your time. Your effort is much appreciated.

Fokus Groep sessie riglyn

Opening van die sessie

Beraamde tyd: 5mins

Groep moderator

- Stel haarself voor, verwelkom deelnemers en bedank hulle vir hulle tyd
- verduidelik die algemene doel van die groep bespreking:

Vandag/Vannaand gaan ons oor voedings boodskappe gesels. Ek gaan vrae vra oor voedings riglyne vir kinders en julle sal 'n kans kry om julle mening te gee. Daar is geen regte of verkeerde antwoorde nie en positiewe of negatiewe menings is welkom .

Reëls en prosedure

Beraamde tyd: 5mins

- Al die besprekinge is uiters konfidensieël
- Praat asseblief duidelik en een op 'n slag
- 'n Video opname word van hierdie bespreking vir my eie persoonlike navorsing gemaak. Dit sal gestoor word sodra my navorsing afgehandel is. Is dit vir julle aanvaarbaar?
- Daar is baie om deur te kom, so bespreking van elke vraag sal nie te lank kan wees nie, maar moenie skaam wees om iets by te voeg voor die volgende vraag nie.
- Daar sal versnaperinge halfpad deur die sessie bedien word

Deelnemer bekendstelling

Beraamde tyd: 10mins

Begin by deelnemer nommer een en vra dan vir elke deelnemer

- gee naam
- sê watter werk jy doen
- sê hoeveel kinders jy het



Bespreking van die voorlopige Voedselgebaseerde Dieëtriglyne

Beraamde tyd: 1hr

Ons gaan nou die voorlopige Voedselgebaseerde Dieëtriglyne vir kinders van 1-7jaar bespreek

3.1 Bepaal bloodstelling aan VGDR

Gebruik julle een of ander riglyn om etes voor te berei?

Het julle al van die VGDR gehoor?

Dink julle dit is belangrik om riglyne te gebruik?

Ek gaan nou een riglyn op 'n slag lees en dan vrae daarvoor vra. Dis belangrik dat ek julle menings kry sonder dat ek vir julle se wat ek dink. Vrae sal aan die einde bespreek word.

3.2 Moedig kinders aan om 'n verskeidenheid van kossoorte te geniet

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “aanmoedig” vir julle?
 - Wat beteken die woord “verskeidenheid” vir julle?

- Wat beteken die woord “geniet” vir julle?
- Dink julle julle kinders kry ‘n verskeidenheid kossoorte?
 - Indien nie, hoekom nie?
- Dink julle dit is belangrik vir kinders om ‘n verskeidenheid kossoorte te geniet?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.3 Gee vir kinders 5 klein maaltye ‘n dag

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “klein” vir julle?
 - Wat beteken die woord “maaltye” vir julle?
- Hoeveel maaltye eet julle kinders ‘n dag?
- Dink julle dit is belangrik vir kinders om klein maaltye deur die dag te eet?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie??
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.4 Maak stysels die basis van ‘n kind se hoofgeregte

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “stysels” vir julle?
 - Wat beteken die woord “basis” vir julle?
 - Wat beteken die woord “hoofgeregte” vir julle?
- Eet julle kinders stysels saam met hulle hoofgeregte?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik om stysels die basis van ‘n hoofgereg te maak?
 - Indien ja, hoekom?
 - Nee? Hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.5 Kinders kort baie groente en vrugte elke dag

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “baie” vir julle?
 - Wat beteken die woorde “groente en vrugte” vir julle?
- Eet julle kinders groente en vrugte?
 - Indien ja, hoe gereeld?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik vir kinders om groente en vrugte te eet?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?

- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.6 Kinders moet elke dag melk drink

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “melk” vir julle?
- Drink julle kinders elke dag melk?
 - Indien ja, hoeveel?
 - Hoeveel dink julle is genoeg?
 - Indien nee, hoekom nie?
 - Drink/eet hulle ander suiwel produkte?
- Dink julle dit is belangrik vir kinders om melk te drink?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

Versnaperinge sal bedien word

3.7 Kinders kan hoender, vis, vleis, eiers, boontjies, soya of grondboontjebotter elke dag eet

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woorde “hoender, vis en vleis” vir julle?
 - Wat beteken die woord “eiers” vir julle?
 - Wat beteken die woord “soya” vir julle?
 - Wat beteken die woord “grondboontjebotter” vir julle?
- Eet julle kinders een van hierdie elke dag?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik vir kinders om elke dag een van hierdie te eet?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.8 Indien kinders soet lekkernye of drankies kry, gee klein hoeveelhede saam met maaltye

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woorde “soet lekkernye of drankies” vir julle?
 - Wat beteken die woorde “klein hoeveelhede saam met maaltye” vir julle?
- Kry julle kinders soet lekkernye en drankies?
 - Indien ja is dit dan saam met maaltye?
 - Indien nee, hoekom nie?
- Dink julle kinders moet soet lekkernye en drankies kry?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?

- Hoekom saam met maaltye?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.9 Gee gereeld vir kinders skoon, veilige water

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “gereeld” vir julle?
 - Wat beteken die woorde “skoon en veilig” vir julle?
- Drink julle kinders water?
 - Indien ja, is dit veilig en hoeveel drink hulle?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik vir kinders om skoon, veilige water te drink?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.10 Neem kinders elke 3 maande kliniek toe

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “kliniek” vir julle?
- Neem julle jul kinders na die kliniek toe?
 - Indien ja, hoe gereeld?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik vir kinders om elke 3 maande kliniek toe te gaan?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.11 Moedig kinders aan om elke dag aktief te wees

- wat verstaan julle met hierdie boodskap?
 - Wat beteken die woord “aktief” vir julle?
- Is julle kinders aktief?
 - Indien ja, wat doen hulle?
 - Indien nee, hoekom nie?
- Dink julle dit is belangrik vir kinders om aktief te wees?
 - Indien ja, hoekom?
 - Indien nee, hoekom nie?
- Sou julle enigsins die woorde/bewording van die boodskap wou verander indien julle kon?
 - Indien ja, hoe?

3.12 Bepaal hoe maklik die gebruik van VGDR is

- Is hierdie riglyne van toepassing?

- Gee hulle die noodsaaklike inligting?
- Kan julle hierdie riglyne gebruik om maaltye vir julle kinders te beplan?
- Sal die riglyne dir makliker maak om maaltye te beplan?
- Eet julle kinders die selfde maaltye as die res van die gesin?

Einde van die bespreking

Ons het nou al die riglyne bespreek. Is daar enigiets wat iemand wil byvoeg. Dankie vir al julle tyd. Dit word baie waardeer.

