

CHILD FEEDING PRACTICES AMONG
LOW INCOME HOUSEHOLDS
IN CALI, COLOMBIA

Thesis for the Degree of M. A.
MICHIGAN STATE UNIVERSITY
DOROTHY HIBBS RILEY
1970



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LOW INCOME HOUSEHOLDS
IN CALI, COLOMBIA

by

Dorothy Hibbs Riley

AN ABSTRACT

Submitted to
Michigan State University
in partial fulfillment of the requirements
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1970

ABSTRACT

CHILD FEEDING PRACTICES IN LOW-INCOME
HOUSEHOLDS IN CALIF, COLOMBIA

By

Dorothy Hibbs Riley

The purpose of this study was to describe and analyze child-feeding practices among 70 low-income households in Cali, Colombia. The specific objectives were: (1) to determine child feeding practices used by the mothers of children less than five years of age; (2) to determine opinions that mothers hold concerning specific child feeding practices; (3) to estimate the extent to which mothers had adapted new feeding practices and to identify their sources of information regarding child care; (4) to offer suggestions for programs to improve child feeding practices and to identify problems for further study.

There were 552 persons in the 70 households with a mean of 7.9 persons per household. Less than one-quarter of these persons were employed. More than one-half of the households had an average income of 36 U.S. cents per capita per day and one-fourth had an average per capita income of 18 U.S. cents per day for all necessities.

Ninety-three percent of the children had been stated on the breast at birth, but weaning begins early with one-half weaned by six months and 80 percent by one year. After weaning the child is usually given the bottle which is combined with the family diet as soon as he is able. This transition takes place over a period of less than a year to three years of age. The typical bottle formula consists of milk, most generally dried, (raw and pasteurized milk are also used but to a lesser extent), cereals or flours for thickening, sugar for sweetening and cinnamon for flavoring. Agua Panela (brown sugar water) is commonly used with or without milk. The mother usually buys milk for the youngest child when she can afford to. Among the low income families older children are not generally given milk. The small child often shares food with the family such as soups, cooked dried beans, rice, potatoes and other starchy tubers.

Almost all of the mothers knew about one or more of the high-protein supplements (Colombiharina, Incaparina, Duryea), but only one-third said they were using one of the products at the time of survey. The mothers indicated that they were aware that protein foods were best for children after weaning and that they would buy more if they could.

The mother's beliefs and opinions concerning specific feeding practices reflected training from her mother. She

believes there is a trend to wean the child earlier because she does not have enough breast milk or that nursing will damage her body and breasts. The mothers also believed that they had been better fed by their mothers than they are now feeding their own children because food used to be more available and less expensive. The mothers strongly indicated that they would use another food that was as nutritious as milk if it cost the same or less and that they would be willing to use a new food product on the market would suggest that there is a potential for change in their food patterns. However, there are also indications that many mothers do not take advantage of the existing high protein child foods that could fit within their economic means and better nourish their young children.

More direct observations of actual child feeding practices within family environments would further identify the conditions which contribute to child malnutrition. This should be accompanied by longitudinal studies to improve our knowledge of the relationships between child nutrition, behavior and mental capacity. The methods now being used to communicate better child care practices to mothers should be carefully evaluated as a basis for more effective program development.

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TABLE OF CONTENTS

	Page
Acknowledgments	ii
List of Tables.	v
Chapter	
I Introduction.	1
The Problem	
Objectives	
Definition of Terms	
Organization of the Thesis	
II Review of Literature.	6
Effects of Malnutrition on Child Development	
Environmental Factors Affecting Child Nutrition	
Nutritional Studies in Colombia	
III Research Procedure.	23
Selection of Samples	
Development of the Interview Schedule	
Selecting and Training of the Interviewer	
Collection of Data	
Data Analysis	

	Page
IV Survey Findings	51
Child Feeding Practices	
Opinions held on Feeding Practices	
Adoption of New Practices	
Mother's Sources of Child Care Information	
V Summary and Conclusions	92
Literature Cited	102
Appendices.	105
Appendix	
A Cross-sectional Analysis Tables	106
B The Interview Schedule	112

LIST OF TABLES

Table		Page
3.1	Socio-Economic Classification of 70 Households Used in Study.	25
4.1	Average Daily Food Purchases by Low-Income Families and Estimated Nutritive Content per Capita, Cali, 1969.	35
4.2	Characteristics of Sample Households. . .	36
4.3	Presence of Father at Meals	39
4.4	Socio-Economic Status Characteristics of Sample Households.	41
4.5	Characteristics of Mothers in Sample Households.	42
4.6	Characteristics of Children Less Than 5 Years of Age.	44
4.7	Persons Involved in Food Management Decisions in 70 Households.	46
4.8	Household Items in 70 Households.	49
5.1	Actual Child Feeding Practices by Age of Child at Time of Survey.	53
5.2	Age of Child When Weaned From Breast. . .	55
5.3	How Child was Weaned From Breast.	57
5.4	Mother's Reasons for Weaning From Breast.	57
5.5	Age of Child When Taken Off Bottle. . . .	58
5.6	How Child Was Taken off Bottle.	58
5.7	Foods Used in Bottles (Teteras) and Gruels (Coladas).	60
5.8	Number of Mothers Using Different Form of Milk and Reasons for Using the Particular Forms.	64

Table		Page
5.9	Use of Supplementary Foods by 70 Mothers.	66
5.10	Number and Percent of all Children Given Particular Foods and Method of Preparation	69
5.11	Foods Given the Child Between Meals . .	70
5.12	Presence of Child at Table With Family at Mealtime	72
5.13	The Rank Order of Serving Meat and Milk Within Surveyed Households	73
5.14	Foods Mothers Give to Sick Children . .	74
5.15	Mothers Opinions About the Possible Tendency to Bottle Feed Rather Than Breast-Feed Children.	76
5.16	Foods Thought Best After Weaning. . . .	78
5.17	Mothers Opinions About Her Child Feeding Practices as Compared to Those of Her Mother.	79
5.18	Foods Thought "Bad" for Child After Weaning	81
5.19	Foods that Mothers Said They Would Buy More of or Add to the Diet if More Money were Available.	82
5.20	Foods that Mothers Thought to be More Nutritious Than Milk.	84
5.21	Mothers Opinions Regarding High-protein Supplementary Foods	86
5.22	Mothers Reactions to the Use of New Food Products	87
5.23	Number of Mothers Using Particular Information Sources on Child Care . . .	89
5.24	Sources of Information on Feeding the Sick Child.	91

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CHAPTER I

INTRODUCTION

The Problem

The seriousness and magnitude of the problems of under-nutrition and malnutrition in the less developed countries demand that attention be directed toward the pre-school age child who is the most vulnerable and whose health may be seriously and irreparably affected (1). Retardation of physical growth and development due to nutritional deficiency is widespread and clearly recognized in the less developed countries, as well as within the urban slums and rural poverty areas of industrialized nations (2). That malnutrition may also influence mental development, learning, and behavior lifts this concern to a wholly new level of importance since it is viewed as a major deterrent to future social and economic development of the countries affected (3).

The results of a 1960 nutritional survey (4) conducted in Colombia indicated the prevalence of nutritional problems of major significance. Infant malnutrition, complicated by the presence of infections after weaning, is widespread and the rate of child growth is retarded.

A recent Rockefeller Foundation report indicates malnutrition among school age children is a major contributing factor to high child mortality rates in most of Latin America (5, p. 10). This report states that about 70 percent of the Latin American children under five are malnourished to some degree and many are on the threshold of serious deficiencies. About five or six percent of the children manifest the acute deficiency symptoms of retarded growth, swollen belly, severe diarrhea, and abnormal hair color and texture--a condition called kwashiorkor.

Sanders (6) writes that the major cause for the high incidence of malnutrition in the pre-school child is an inadequate amount of the right kinds of foods immediately after the weaning period. In general, the most widespread nutritional problem is a multiple nutrient deficiency of proteins, vitamins, minerals and calories. The vast majority of the children in the less developed areas are usually weaned on a diet of gruels made from cereals. While high in calories these gruels are low in protein and other essential nutrients.

The mothers lack of knowledge about child care may be a major cause of malnutrition among children. Although poverty may also be an important causative factor in childhood malnutrition, a considerable portion of this malnutrition might be avoided if local food resources were better

utilized. According to Margaret Mead (7), the mothers should be an important target for nutritional education so that children might be better nourished within the constraints of family income and locally available food supplies. She also argues that it is important to know the customs and beliefs with regard to foods, especially those that prevent the use of foods that are, in fact, available.

Objectives

In order to identify factors that tend to contribute to inadequate diets of young children it is necessary first to determine what child feeding practices exist and what factors in the environment seem to contribute to these practices. The "mother" is a key target for study since she prepares, selects, buys and, in some cases produces the family food. She is the person primarily responsible for the child's care. By studying her opinions about child feeding practices and her knowledge concerning nutrition, observations can be made that could be useful in formulating educational programs for improving child nutrition. New insights into the nature of the problem may also serve as a basis for further studies.

The specific objectives of this study were as follows:

1. To determine child feeding practices used by the mothers of children under five years of age in low income households in Cali, Colombia.

2. To determine opinions that mothers hold concerning specific feeding practices.
3. To estimate the extent to which mothers had adopted new feeding practices and to identify their sources of information regarding child care.
4. To offer suggestions for programs to improve child feeding practices and to identify problems for further study.

Definitions of Terms

Child feeding practices includes methods of feeding such as; breast, bottle or table, kinds of foods fed, methods of preparation, frequency of feeding and who prepares the food and feeds the child.

Opinions are learned predispositions which influence day to day behavior patterns in carrying out roles such as mother. Opinions may be conditioned by myths, taboos and traditional patterns that are common to a cultural group.

Mother is defined in this study as the person assuming primary responsibility for child rearing. Usually this is the natural mother but in some instances it is another member of the household.

Household will be considered to be a group of persons who share a dwelling and who pool their income for major necessities such as food and housing.

Organization of the Thesis

Chapter II contains a review of literature concerned with nutritional problems in less developed countries with special emphasis on child nutrition. The research procedure is explained in Chapter III. The geographic setting and description of sample households are described in Chapter IV. Chapter V summarizes the survey information on child feeding practices; opinions that mothers hold concerning specific practices; the extent to which she has adopted new feeding practices and her sources of information. A general summary and conclusions appear in Chapter VI along with implications of the study.

Appendix A contains a series of tables presenting the results of a detailed cross-sectional analysis of relationships between characteristics of mothers and child feeding practices. Appendix B contains the interview schedule, in Spanish, that was used for field data collection.

CHAPTER II

REVIEW OF LITERATURE

The importance of protein malnutrition among pre-school children was established in Chapter I. This problem situation will be further documented in the review of literature which follows in this chapter. Emphasis will be directed to the effects of malnutrition on the physical and mental development of children and the environmental conditions which contribute to child malnutrition. Research literature produced through multi-disciplinary efforts of social scientists and nutritionists will be reviewed. Where possible, studies of the child nutrition problem in Colombia and the Cali area will be brought into this review to further specify the problem in this particular setting.

Effects of Malnutrition on Child Development

Johnson (3) writes that malnutrition is now believed to be a major cause of growth retardation and impaired capacity to learn. However, progress toward an improved understanding of the relationship between malnutrition and mental growth and maturation frequently is impeded by inadequacies of methods of measuring the intellectual capacity and adaptive behavior of particular groups of children.

Monckeberg (8) working with children in Chile has cited evidence that, compared with other low-income children of comparable age and from the same population, those who suffer marasmus (protein-calorie starvation) do not catch up in IQ by three to six years of age. He states that;

"evidence is cumulative and impressive that severe under-nutrition during the first two to three years of life, when brain growth is most active, results in a permanent reduction of brain size and a restricted intellectual development."

A forthcoming book described in the Rockefeller Foundation Quarterly (9) reports a recently completed study by Cravioto and Birch of a group of 37 Mexican children who were hospitalized with severe malnutrition between the ages of six to thirty months. Each had recovered and at the time of the study was five years old or older. A brother or sister of each child was selected as a control group. It was found that the once-malnourished children scored lower on standard I.Q. tests than did their siblings who had not suffered the severe malnutrition.

In Jelliffe's study (10) of children in the tropics he found that rapid growth is a fundamental characteristic of a healthy, well-fed young child and the growth curves for young children are revealing, as they indicate the type of circumstances which lead to the development of malnutrition. He states that weight gain in the first four to six months is usually very good as the child is receiving

an adequate supply of protein and calories from his mother's milk and has his own stores acquired during pregnancy to rely upon. During the second six months breast feeding is usually continued, but the quantity of milk is no longer sufficient for the growing infant. During this period the growth slows down as compared to the earlier months.

Jelliffe indicates that the second year is a potentially dangerous period. At this stage breast feeding may or may not be continued and the supplemental diet is frequently including rather ill-cooked, indigestible, high-carbohydrate vegetables. The protein content of the diet is usually low, while at the same time the child is likely to be involved in a continuous succession of bacterial, viral, and parasitic infections. It is during this transitional period that the growth curve of the malnourished child becomes seriously abnormal. Weight may continue to increase very slowly, or the curve may remain almost flat during some or all of this period. In some children, the weight may actually decrease and may decline into severe forms of marasmus or kwashiorkor. This is usually most common during the third growth period from one to three years. After three years of age, the child has frequently acquired a certain degree of resistance to various infections and is able to obtain and digest a wider range of the family diet, although he may remain below standard weight and

height for years. Jelliffe concludes that there is little doubt that the short stature and under weight of the population of less developed communities is the result of childhood malnutrition together with continued inadequate nutrition thereafter. Jelliffe's diagnostic observations tend to be confirmed by a number of other researchers, Behar (11), Thomson (12) and Whiting (13).

Environmental Factors Affecting Child Nutrition

During an interprofessional conference on malnutrition and food habits in 1962 (14 - Introduction), Fremont-Smith stated the purpose of the conference that brings out a continuing area of concern:

"There is already enough scientific knowledge to bring about considerable improvement in the nutritional health of children in many parts of the world, if it could be widely applied. This knowledge cannot, however, be used where it is needed unless the people themselves want to use it, know how to do so, and are prepared to accept the changes necessary for its effective use. Unfortunately, there appear to be psychological, sociological, and cultural factors which create barriers against rapid changes in food habits, and which are less well understood than the impersonal aspects of nutrition and malnutrition."

Burgess (14, Part 1) observed that the family acts as a cushion between the individual child and his environment. In order to meet their basic needs families must devise ways of dealing with their environment so as to realize certain satisfactions that are necessities as well as those

that are desirable. Therefore, many areas must be taken into account that influences the family when one attempts to understand patterned ways of behavior such as food habits.

Richardson (15,pp. 346-60) states that:

"The identification of conditions under which nutritional factors influence mental ability will be a major scientific advance. In order to prevent conditions of malnutrition which affect mental development, it will be necessary to study the social factors that influence the amounts and kinds of food given to infants and children."

Richardson also observes that in all communities some children are better fed than others, and variations in customs and practices between families who feed their children well and those who feed them poorly may provide some suggested solutions to the malnutrition problem.

In an F.A.O. Document (16) it is suggested that what people eat sometimes depends on factors other than those of food availability. Rigid customs and taboos, growing out of the experiences of innumerable generations, may prescribe not only how crops will be planted and harvested or which game killed and eaten, but also how and by who the food is consumed. Changes in food habits tend to accompany social, economic and cultural changes. That foods people are willing to eat is determined by a complex system of attitudes, ideas and assumptions that form the local

cultural patterns. These include religious restrictions, taboos, ideas pertaining to the merits or demerits of a food and other attitudes which are as yet little understood.

Simoons (17) has done extensive work in food avoidances around the world. In an historical study concerned with present day food restrictions and usages he found that many eating habits of mankind are chosen in accordance with cultural attitudes and patterns of behavior in what he describes as "group foodways". These patterns tend to be followed generation after generation with attached set beliefs and taboos and without understanding why these patterns are so imposed. He believes that children can play a major role in changing food habits in families by introducing new attitudes learned at school. It is less generally recognized that children tend to be permitted greater deviation from the "group foodways" and are therefore in an ideal position to act as innovators. He also found that mothers and other women seemed to resist changing their "foodways".

The holders of power and authority in the household (e.g., the grandmother or father) or community 'trend-setters' may also be of importance. How the mother was reared and taught concerning family food practices as well as who she may tell her troubles to (friends, relatives,

village doctor, priest) all strongly influence the mother's choice of food for the child (16).

Nutrition Studies in Colombia

A National Dietary Survey (4) was conducted on the Armed Forces of Colombia and the general civilian population in May through August, 1960, by a joint Colombian-United States team of medical doctors, nutritionists, agriculturists and educators. Military units in 14 different areas in Colombia were surveyed. A total of 3,700 members of the Armed Forces were examined through detailed dietary studies and clinical and biochemical examinations. Evaluations of the dietary studies in the armed forces indicated that intakes of calories and protein were adequate and the nutritional status of the soldiers was good. However, there was evidence of caloric deficiency among the civilian population. This was borne out by the observation of a rapid decrease in the number of men in the low body weight group with increasing time in the armed forces (4, p. 19).

This national dietary survey also included a total of 4,818 civilians that were examined by a clinical team and an additional 1,263 subjects were examined by a pediatric team. The caloric intake of these subjects was, in general,

lower than requirements established by the National Research Council and Food and Agriculture Organization and adjusted for mean annual temperature, body build and activity. Daily protein intakes per capita varied from 25 grams in Cali to 42 grams in Cartagena; nearly two-thirds of the protein was of a vegetable origin. These observations were reflected in the below average height-weight age relationships in both children and adults (4, pp. 20-23).

It was also found that the heights and weights of Colombian children during the first six months of age were approximately the same as the heights and weights of children in the United States of the same age (4, pp. 185-192). However, at approximately six months of age, when mother's milk alone becomes insufficient to maintain normal growth, the growth curve of Colombian children began to fall below similar height-weight curves for U.S. children. Although genetic and other factors may play a role in the difference between Colombian and United States children, it appears from a comparison of Colombian children in a private school in Neiva with children in an orphanage in Bogota that these differences are at least in part the result of nutritional factors (4, pp. 191-2).

In 1964 Mitchell (18) conducted a study of food purchase patterns among 48 low-income families in barrio

Siloe located on the outskirts of Cali. He found that the average family size was 7.3 persons with slightly more than 50 percent of the family members being under 21 years of age. Eighty-five percent of the families had bought platanos (cooking bananas), rice, sugar, panela (crude brown sugar), manteca (lard or vegetable shortening) bread and meat during the week of the study. Twenty-five percent of the families were not buying milk in any form including families with children less than five years of age. Nearly all the families bought food on a day to day basis at the plaza markets or at neighborhood stores. Mitchell reports that Incaparina, then a new high protein food supplement for children, was being used by one-third of the families. Information about Incaparina was being communicated by radio, health centers and by the medical personnel. Most of the families had radios, but there were no T.V.'s in the homes visited and few newspapers.

In 1969, a Michigan State University group directed a comprehensive study of market coordination in the Cauca Valley of Colombia with a central focus on the food system serving the city of Cali (19). The purpose of this study was to diagnose marketing problems and formulate recommendations to reduce food costs and improve marketing services. The project (Proyecto Integrado de Mercadeo Urbano-Rural, PIMUR) was carried out by a joint Colombian-Michigan State

University task force. They found that the urban food distribution system in Cali was becoming increasingly unsatisfactory for a city of nearly one million people. Consumers frequently had to travel long distances to buy food especially meat, fruit and vegetables. Sanitary conditions were also serious threats to health of those purchasing milk and meat. Low-income families in the new areas of the city had the poorest access to retail markets and paid relatively higher prices for their food than families in higher income areas. Recommendations were made for action programs to improve the food system and some of those are now being implemented.

In 1963-64 a study was carried out by the University of Valle in the town of Candelaria, an agricultural sugar cane community, located approximately 10 miles from Cali (20). Dr. Joe E. Wray, serving as a pediatric consultant from the United States, and Dr. Alfredo Aguirre, a Colombian pediatrician, assessed the nutritional status of 1,094 pre-school children under six years of age. They obtained information about the children's families (506) and other socio-economic factors contributing to their nutritional status. From the data obtained two things were evident. "Since more than forty percent of children were classified as malnourished, Protein-calorie malnutrition was obviously a problem demanding attention in

Candelaria; secondly, children between the ages of 12 and 36 months clearly constituted the most vulnerable age group" (20, p. 81). The epidemiologic data show that commonly considered causal factors, poverty and ignorance, are at work; they also show that other factors, social and demographic, interact with these in a complex web of causation. The data also points out that it is the mother who 'transmits' these factors, thus determining the nutritional status of the child. She in turn is affected by some of these factors. It was suggested that if mothers in Candelaria were able to limit their family size the nutritional situation of preschool children would improve (20, p. 96).

Florencio (21) investigated the efficiency of food expenditure among certain working-class families in Colombia.

Linear programming was used to solve the problem of finding least-cost diets that would meet the following levels of nutritional allowances: The estimated actual level of nutritional intake, the minimum dietary standard, the most generous Colombian dietary standard and the additional nutrients necessary to raise the nutritional content of the actual diet to the level specified in each of the two dietary standards (21, Abstract).

Data for estimating the actual nutritional intake of the 40 families studied were taken from the original food consumption records obtained by the Interdepartmental Committee on Nutrition and National Defense (ICNND) in its

nutritional survey of Colombia from May to August of 1960 (21, p. 6).

Florencio found that:

Not one of the forty families met 100 percent of the minimum allowance for all nutrients. And yet, given the actual amounts spent for food, if the families had selected the least-cost diets, 32 of them could have obtained adequate nutrition not only at the minimum but also at the higher Colombian level (21, p. 127). The primary difference between the actual diets and the least-cost diets that would have provided the same level of nutritional intake was the change in the percentage cost contribution of milk and meat (Abstract).

Florencio observed that some families were undernourished and/or malnourished not because of limitations in availability of foods nor because their purchasing power was small, but because they do not buy their nutrition efficiently. The problem was not having too little to spend but spending unwisely what one can afford to spend (21, p. 44).

The Institute of Nutrition for Central America and Panama (INCAP) headquartered in Guatemala City has conducted research for more than ten years on increasing protein intake in populations where animal protein is scarce and expensive. This research has resulted in a number of vegetable mixtures called "Incaparina" which are comparable in protein value to animal protein (1, p. 632). In cooperation with the Quaker Oats Company, Incaparina was

market-tested in Colombia in 1960 where a product of this type had considerable commercial potential. The utilization of locally available ingredients has been one of the primary principles on which Incaparina is based. The protein concentrate portion has usually been derived from corn, soya and cotton seed flours. Other ingredients include calcium carbonate and a vitamin mixture (22). Considerable effort has been put into the marketing of this product by various health and nutrition agencies in Colombia. The Quaker Oats Company in Cali, Colombia has recently prepared a new formula, Incaparina Blanca, that is designed to improve the color and taste appeal of the product. Information on the composition is not available to the researcher at this time.

Recently, a new high protein strain of corn (opaque-2) was introduced into Colombia and adapted to the environmental conditions of the Cauca Valley by Dr. Dale Harpstead, then a corn geneticist with the Rockefeller Foundation Agricultural research group.

The protein of opaque-2 corn contains the two amino acids, lysine and tryptophane, which make this particular variety of corn a complete protein plant food (6, p. 13). As the locally adapted varieties of opaque-2 corn became available Dr. Harpstead established a working relationship

with Dr. Alberto Pradilla, a pediatrician with the University of Valle Medical Center in order to conduct feeding tests with severely malnourished children. Dr. Pradilla first tested the corn on two children that were in a severe state of kwashorkor. The home diets of the children were duplicated except that the starches were replaced with opaque-2 corn. Both children recovered in weight and bone growth (6, pp. 4-18). Since that time, Dr. Pradilla has conducted several feeding tests with opaque-2 corn and has achieved remarkable results. Pradilla observes that:

"The capacity of a diet to cure malnutrition is the most severe tests that can be applied to it. . . By using opaque-2 corn at suboptimal levels, we have proven the feasibility of using mixtures that include other plant protein which is both low in cost and effective in dietary improvement. While a diet that relies on protein from opaque-2 corn cannot be considered ideal, it is far superior to anything yet available from cereal grains" (6, p. 18).

Following the development and child feeding tests with opaque-2 corn CPC International, a food processing corporation, that was producing the product Maizena (a corn starch commonly used by Colombians), became interested in the possibility of introducing a high-protein supplementary food for pre-school children. A product, Duryea, was developed, using the opaque-2 corn as a basic ingredient and was test marketed in Cali beginning in August, 1969.

Prior to introducing the product, Duryea, the CPC International conducted studies to determine the market potential for such a product. Weiss (23) writes in the introduction of his report:

It was agreed that our product would be directed to families of the lower socio-economic classes, who are within the monetary economy and its function would be to better nourish their children between the weaning age and the teen-age, at a price they could afford. This product would have to fit into their current eating habits (23, p. 1).

Weiss also obtained considerable survey information on the use of weaning foods by a sample of 1,006 children in four major cities (Cali being one of them). Some of the data will be presented later in Chapter V as a comparison with the results obtained from mothers interviewed in this thesis project.

A locally produced high-protein supplementary food, Colombiharina (24) has a limited market in Cali. The protein composition of this product is rice flour (70%) and soybean flour (30%) with the addition of vitamins and minerals. It is used in much the same way as Incaparina and Duryea.

The National Institute of Nutrition (25) in Colombia, working with funds provided from the United Nations, had developed a program of applied nutrition (PINA) in which

health and child-care information is provided to mothers by way of classes in local health centers. These programs are being further developed in order to make this type of information available to larger numbers of families with the hope of raising the nutritional level of the national population. Programs for sanitation, health and nutrition education for school age children as well as a supplemental feeding program is being introduced in the school system in Colombia through these same United Nations funds.

Currently there is a long term child development research program underway in Cali under the direction of Dr. Harrison McKay and his wife, both social physiologists from Northwestern University and Dr. Leonardo Sinisterra, Pediatrician from the University of Valle Medical Center (26).

This program has been initiated with various studies of the neighborhoods and families in economically deprived areas of Cali with the behavioral and biomedical development of the young human in the early years of life as the primary focus. The information from the adult members of the community or family is being utilized to better understand and predict this development, and intervention programs with the adult population are being assessed through their effect upon the young children (26, pp. 15-16).

The program operates through a research facility in a low-income barrio where base line data has been collected. Various child feeding experiments are being tried and the effects on child development and behavior is observed over time within the context of the family environment. Other testing is being done with mothers of the children to determine better methods of teaching child-care and nutrition.

CHAPTER III

RESEARCH PROCEDURE

The discussion of procedure is divided into five parts: selection of sample; development of the interview schedule; selection and training of interviewer; data collection and data analysis.

Selection of Sample

A sample of 70 households was selected from a larger group of households that had been included in a comprehensive study of household food purchasing patterns. This larger study had been conducted as part of the PIMUR project (Proyecto Integrado de Mercadeo Urbano Rural) which was directed by the Michigan State University Latin America Market Planning Center under contracts with the U.S. Agency for International Development and the Colombian Government (19).

The PIMUR household sample was chosen to be representative of the urban area of Cali was drawn from 160 Barrios within the city limits by the use of listings of users of electric power within the city. In one large barrio on the outskirts of the city an area sampling was used to obtain a representative sample since it lacked public

facilities. An initial questionnaire on food buying patterns and family characteristics was taken with a 629 household sample. In subsequent visits detailed food purchase data was carried out with 239 families of which 182 records were sufficiently completed for detailed analysis (19, p. 30).

From the sub-sample of 182 households that participated in the Market-Basket Survey, 110 households contained children under five years of age. The households used in this study were selected from the two lowest-income socio-economic classifications in a six level classification scheme devised by the city planning office for Cali. There were 86 households that met the criteria set up by the researcher. The criteria used: (1) the household must contain one or more children under five years of age and, (2) the household must be located in a low-income barrio within the two low income socio-economic categories. Out of the 86 potential households 70 were recruited for this study (Table 3.1).

According to the PIMUR study 60 percent of the Cali households and 70 percent of the population were located in the two lower socio-economic groupings. The average monthly income per household was estimated to be about \$90 (U.S. Dollars) in the low-income category and about \$60 in the low-low-income category. Average size of family was about 6.3 persons.

Table 3.1. Socio-economic classification of 70 households used in study

Socio-economic class ^{a/}	Number of households
Low-income	50
Low-low-income	20
Total	70

^{a/}Based upon a six category classification scheme used by the Municipal Planning Office for the city of Cali.

During the month of September, prior to the data collection in October and November, a social worker from the University de Valle Hospital visited the selected families in order to solicit their participation in this study and a possible follow-up study by the University of Valle nutrition group.

Development of the Interview Schedule

A three part questionnaire was developed (See Appendix B). Part I consisted of basic household information, part of which was transferred from the PIMUR study. Questions centered around; number and ages of children under five

years of age; composition of the household and the relationships of older family members to the younger children; the identification of the family member responsible food management decisions within the household. Part II consisted of a series of questions about the care and feeding of each child under five years of age including current food intake and methods used for weaning children. Part III was devised to determine the mother's opinions and beliefs she holds about specific foods and child feeding practices and her sources of information.

The preliminary interview schedule was developed on the Michigan State University campus before taking it to the field in Cali, Colombia in August, 1969. In Cali, the schedule was translated into Spanish and six pretests were conducted. Three of the schedules were pretested by social workers in a low-income barrio and three were pretested by an interviewer hired and trained by the researcher. Comments and suggestions were sought by the researcher for improvement of the interview schedule. Items such as the time required for the interview, understandability of the questions, easy flow of the question sequences and acceptability of certain questions by the respondents were examined. A revision of the schedule was made and three more pretests were conducted in the field

before the researcher returned to Michigan State University in late August, 1969. The schedule was revised again back at the Michigan State University campus. When the researcher returned to Cali in October, 1969 the revised schedule was translated into Spanish and tested again in low-income households whose characteristics were similar to the criteria used for the households in the study. After minor adjustments, the Interview Schedule was finalized and reproduced for use in the field.

It was necessary to engage the services of a translator to assist in the translation of the English version of the schedule into the colloquial Spanish of the area. After the data were collected the information given on the open-ended questions regarding opinions given by mothers was translated from Spanish to English. The translator hired was the Colombian wife of a member of the PIMUR Staff. She was bicultural, having lived both in Colombia and the United States. She held a B.S. degree at California Polytechnic College at San Luis Obispo. She was a skilled translator employed by the University del Valle as a simultaneous translator for cross-cultural conferences and seminars.

Selection and Training of the Interviewer

The interviewer selected was a Colombian homemaker, approximately 26 years of age, married, with a two year old daughter. She had a high school education with specialized training in social work at the University of Valle. She had previous field survey experience in interviewing before being hired by PIMUR to collect data for two sets of questionnaires (1) the general household food consumption survey and (2) the more detailed market-basket study. She was recommended by the researcher by the director of the PIMUR consumer study as one of their best interviewers.

The researcher contracted the interviewer in August, 1969, to collect data for the pretests which gave her an opportunity to become acquainted with the contents and general plan of the study to be conducted during October and November, 1969.

The interviewer had lived in Cali all her life and was knowledgeable in locating addresses within the city, as well as understanding the transportation system and how it could best be utilized for the collection of data.

Collection of Data

Six weeks were allocated for the collection of the data, with the final two weeks to include visits by the

researcher, accompanied by the Interviewer, to selected families in the study for observations and photographs.

The Interviewer was able to average three to four families per day. Close supervision was given by the researcher and periodic checks on the completeness of the interviews were made throughout the survey.

The Interviewer used an introduction that identified her with the University of Valle nutrition group and the PIMUR project. Positive identification of households were made by making checks against the PIMUR market-basket data on the same households. The interviewing required 45 minutes to one and one-half hours per household depending upon the number of children in the household under five years of age.

The Interviewer carried with her samples of three high protein supplementary foods (Colombiharina, Incaparina Blanca, and Duryea) which were given to the mother after the interview.

Observations by the researcher were made during the last two weeks of data collection. She accompanied the Interviewer to the homes, but did not make the visits until the interview had been taken. The Researcher made notes as to the type and size of the dwelling, the surrounding environment, observed the physical appearance of the

children that were present and talked with the mother as she prepared the children for photographs. In this way the Researcher could acquaint herself with the living conditions and standards of living in the households. The Researcher used a Polaroid camera for instant photos in black and white and a 35 mm camera for color slides. The family was given a Polaroid photograph of the family before the Researcher departed.

Data Analysis

The data from the interview schedules were hand tabulated and subsequently transferred to IBM cards for frequency counts on the 3600 CISSR computer at the Michigan State University Computer Center. Cross sectional analyses were later made to examine differences in child feeding practices among mothers classified by levels of age, education and income. Information about the family and their home environment were summarized and related to child feeding practices.

CHAPTER IV

GEOGRAPHIC SETTING AND DESCRIPTION OF HOUSEHOLDS

Geographic Setting

Colombia lies in the northwestern corner of South America and is the only nation in S.A. bordering on the two major bodies of water, the Caribbean Seas and the Pacific Ocean.

About 40 percent of the Colombians are mestizos, or persons of mixed white and Indian descent. About 30 percent are white, mostly Spanish; about 15%, mulattoes; 7% Indian, and 5%, Negro. Most Colombians are members of the Roman Catholic Church (27).

Estimates of the current annual rate of population growth in Colombia range from 3.2 to 3.5 percent. At this rate Colombia will double its population in 20 to 22 years. Even if family planning efforts, now gaining momentum, are reasonably successful, population growth rates cannot decline rapidly because 46.7 percent of the Colombian population is under 15 years of age. These young people will soon contribute significantly to population growth even if they adopt family planning practices (28).

Nearly one-half of Colombia's 19.8 million people are engaged in agriculture. As in many Latin American

countries, rural-to-urban migration continues at a relatively rapid pace, challenging present food systems, income earning capacity of migrants, and, in turn, the effective consumer demand for food (19, pp. 12-15).

This study was carried out in the city of Cali, which is the capital of the state of Valle and is a dominant commercial center in the southwestern area of Colombia. A highway network links Cali with other major Colombian cities.

The Cauca Valley area, in which Cali is located, supplies most of the major food products for the city. The valley has an average elevation of 3500 feet and is bound on both sides by mountains. The climate is warm with a mean annual temperature of 25° C. There are two rainy seasons making it possible to produce two grain crops per year. Sugar cane, corn, soybeans, cotton and beans are the principal cultivated crops in the Valley. In the mountain highlands surrounding the Cauca Valley coffee is the principal cash crop although fruits, vegetables, corn and beans are also produced in small quantities (19, p. 9).

Demographic Characteristics of Cali

The population of Cali in 1969 was estimated at 895,000 with a growth rate of approximately seven percent

annually reflecting both a high rate of natural increase plus a heavy inflow of immigrants from rural areas (19, p. 13). If past trends continue the population of Cali is estimated to reach 1,624,000 by year 1979 and 2,699,000 by 1989 (19, p. 15).

It was estimated that 23 percent of the total population was employed outside the household at the time of the PIMUR survey in early 1969. Indications were that the unemployment rate among the adult labor force might be as high as 20 percent. The income distribution was quite disproportionate with 67 percent of the families earning 2100 pesos (\$116 U.S.) or less per month while the mean family income was 2500 pesos monthly (19, p. 13). About 42 percent of total household expenditures are for food. However, due to the unequal distribution of incomes, the poorest one-fourth of the families are spending more than 80 percent of their total income for food (19, p. 31).

The nutritive content of the food purchased by low-income families was estimated using data from the PIMUR (Table 4.1) market-basket study and the nutritive composition reported in an earlier Colombian nutrition study by Arnold Schaffer (4, pp. 256-260). The daily caloric intake for the same one-fourth of families with the lowest per capita income group was estimated to be around 1400 per capita and the protein intake was about 27 grams per day. These overall averages

are approximately the same as those reported for low income families in Cali in the 1960 study by Schaffer. In both instances the observed nutrition levels reveal deficiencies in terms of both calories and proteins when compared with recommended intakes. Nutritional needs vary substantially by age, sex and physical size of individuals. Hence, protein requirements may vary from about 40 to 90 grams per person per day. The caloric requirements per capita in a warm climate such as that of Cali ranges from around 1000 to 1200 calories for children under five years of age to around 2500 to 2700 calories for male adults, with an overall family average of roughly 1500 calories per person (19, p. 36).

Description of Seventy Households in Study

Information concerning socio-economic status and household characteristics were taken from the PIMUR market-basket questionnaire, while other detailed information was collected on the interview schedule for this study. These characteristics are summarized in Table 4.2.

Household Characteristics of Sample

Half (35) of the seventy households interviewed were nuclear families, that is, man, woman and children with or without a hired maid. The other half (35) were extended households which included a specified number of persons, most of them related, that shared the same dwelling and income.

Table 4.1. Average daily food purchases by low income families and estimated nutritive content per capita, Cali, 1969

Product	Average quantity per capita ^a	Caloric Intake ^b	Grams of Protein ^b
Beef	.079 lb.	59.42	4.79
Milk	45.5 gms.	22.75	1.55
Eggs	.077 eggs	6.02	.47
Rice	.137 lb.	245.56	5.34
Beans	.027 lb.	40.77	2.75
Corn	.043 lb.	70.52	1.63
Potatoes	.217 lb.	72.91	1.65
Platano	.194 lb.	69.84	0.88
Tomatoes	.032 lb.	2.18	.11
Cooking fat	.025 lb.	111.50	-
Sugar	.076 lb.	145.92	-
Pan Sugar	.119 lb.	185.64	.30
Bread	.112 loaves	56.62	1.51
Pastas	3.31 gms.	11.55	.35
Coffee	.013 lb.	6.24	.23
Chocolate	.006 lb.	13.23	.11
TOTAL		1120.67	21.66
Adjusted Total^c		1392.14	26.91

^aAverage quantity purchased per capita by PIMUR market basket families in lower quartile when grouped by per capita income.

^bBased upon nutrient composition values which appear in Appendix Table VI, Colombian Nutrition Survey, May-August 1960, A Report by the Interdepartmental Committee on National Defense, Washington, D.C., 1961.

^cThe items listed above in this table represented about 80.5 percent of the total market basket purchased by these families. The total nutritive intake has been adjusted to include these other food items.

Source: Harold Riley, Kelly Harrison et al., Market Coordination in the Development of the Cauca Valley Region - Colombia, Research Report No. 5, Latin American Studies Center, Michigan State University, East Lansing, Michigan, 1970, p. 37.

Table 4.2. Characteristics of sample households

Characteristics	Number of households or individuals	Percent of total sample
Family structure	70 households	
Nuclear	35	50
Extended	35	50
	70	100
Family size	70 households	
3-5 members	12	17
6-8 members	34	48
9-11 members	18	26
12-17 members	6	9
TOTAL	70	100
Ages of Household Members	552 individuals	
Under 5 yrs.	120	22
5-15 yrs.	190	34
16-35 yrs.	139	25
36-55 yrs.	80	15
56-85 yrs.	23	4

Table 4.2, cont'd.

Characteristics	Number of households or individuals	Percent of total sample
Relationship of household Members to 120 Children Less than 5 yrs. of age in 70 Households	442 individuals	
Fathers	61	15
Mothers	65	15
Siblings	196	45
Grand Parents	36	8
Cousins	5	3
Aunts/Uncles	52	12
Servants and Others	7	2
TOTAL	432	100
Death of Children 5 yrs. in 70 Households Age in Months	40 individuals	
Birth - 3 mo.	12	30
4 - 12 mo.	14	35
13 - 24 mo.	10	25
25 - 36 mo.	2	5
37 - 48 mo.	2	5
49 - 60 mo.	0	0
TOTAL	40	100

The mean household size was 7.9 persons with a range of three to seventeen persons. About one-half of the households contained six to eight persons. Twelve households had five persons or less with six containing twelve persons or more. There were 265 males and 285 females in the sample households.

Thirty-four percent of the individuals in the sample households were in the five to fifteen years age range with 25 percent in the 16 to 35 age range. The mean age of all individuals in the sample was 19 years with ages ranging from less than a month to 85 years.

When the household members were classified as to relationship to the young children it was found that there were 61 fathers and 65 natural mothers which together composed 30 percent of the total sample of 432 persons. The number of siblings totaled 196 or 45 percent of that total. There were 36 grandparents living in the households, 15 cousins and 52 aunts and uncles. Seven servants or unrelated persons were also living in these households. Forty-six percent of household members were reported as helping care for the children under five years of age.

It was found that 40 children under five years of age that had been born alive, had died before reaching four years of age due to illness and other causes identified by the mother. Sixty-five percent of the child deaths were in

the "soon after birth" to the one year range. About 90 percent of the child deaths occurred before two years of age.

Forty-five of the 61 fathers in the sample households were at home every day for dinner while 16 were present only on holidays and Sunday (Table 4.3).

Table 4.3. Presence of Father at meals

Presence of Father	Meals Taken with Family					
	Breakfast		Lunch		Dinner	
	No.	%	No.	%	No.	%
Every day	30	49.2	25	41.0	45	73.8
Only on holidays and Sunday	31	50.8	36	59.0	16	26.2
TOTAL	61	100	61	100	61	100

Socio-Economic Status Characteristics

Forty-three percent of the heads of households of which nearly all were reported to be male has lived in their present location less than five years would indicate a rather high degree of mobility. Of the 57 percent that had lived in the same locale more than five years, one-half were reported to have lived there all their lives.

Fifteen percent of the 552 persons in the sample households were employed full-time and eight percent were

employed part-time. Twenty-nine percent of the individuals were students and the remaining 48 percent were home full-time.

The households were divided in three income groups (Table 4.4). The mean income per household was 1544 Pesos or \$87 U.S. dollars. Among all households the mean income per month per person was 216 pesos. This means that all necessities had to be purchased with an average of seven pesos per day per person or 39 U.S. Cents.

Characteristics of Mothers

The "mother" in the household was the major care-taker of the child and she was the one that was interviewed for her child feeding practices and opinions concerning specific practices and foods. Mothers ages ranged from 18 to 65 years with a mean of 32.5 years (Table 4.5). Forty-one percent were less than 30 years of age.

Formal education of the mothers ranged between 0 to nine years with a mean of 4.2 years. Only four percent reported no formal education. Nine mothers reported some special vocational educational training in addition to their formal education.

Eleven percent of the mothers interviewed were employed full-time outside the home. In addition, four had a small business in the home sewing, making paper bags, minding a

4.4. Socio-economic status characteristics of sample households

Characteristics	Number	Percent of total sample
Length of time head of household has lived in barrio		
N= 70 households		
Less than 5 yrs.	30	43
More than 5 yrs.	40	57
TOTAL	70	100
Occupation of household members		
N= 552 persons		
Employed Full-time	84	15
Employed Part-time	43	8
Students	160	29
At home Full-time	265	48
TOTAL	552	100
Inc/household/month pesos ^a		
N= 70 households		
\$420-\$999	22	31
\$1000-\$1999	28	40
\$2000-\$3999	20	29
TOTAL	70	100
Inc/capita/month pesos		
N= 70 households		
\$50-\$199	38	54
\$200-\$399	23	33
\$400-\$699	9	13
TOTAL	70	100

^aThe exchange rate at the time of the study was 18 pesos equal one U.S. Dollar.

4.5. Characteristics of Mother in sample households

Characteristics	Number	Percent of Total sample
Age of Mother (in years)		
18-25	15	21
26-30	14	20
31-35	15	21
36-40	18	26
41-65	8	12
TOTAL	70	100
Education (Formal) (in yrs.)		
0	3	4
1-2	8	11
3-4	27	39
5-6	22	31
7-9	10	15
TOTAL	70	100
Occupation		
At home Full-time	55	79
Employed Full-time	8	11
Employed Part-time	5	7
Student	2	3
TOTAL	70	100

small store and a beauty shop. The mothers that were employed full-time worked at jobs, such as; janitoress in schools and hospitals, maids in other homes or as factory workers. Only one of the mothers had a part-time job and two were taking special training as beauticians and were absent from home two afternoons a week. Four of the mothers assisted their husbands in their spare time, but 55 of the 70 mothers were at home the major part of the time and were the principal care-takers of the small children in the household.

Sixty-four of the 'mothers' interviewed were the natural mothers of the small children in the households while six were the grandmothers or other individuals. When asked who takes the major role as care-taker of the children 55 of the natural mothers said they fulfilled that role. In the remaining 15 households there were ten grandmothers; two sisters, one aunt and two servants were carried out the major child care role.

Characteristics of Children Less than Five Years

The sex ratio among the 120 children less than five years of age in sample households favored the males (Table 4.6). It is interesting to note the unequal distribution of children by age groupings (Table 4.6).

Table 4.6. Characteristics of children less than 5 years of age

Characteristics	Number	Percent of total sample
Sex		
Male	66	55
Female	54	45
TOTAL	120	100
Age (in months)		
0-12 mo.	16	13
13-24 mo.	21	18
25-36 mo.	28	23
37-48 mo.	26	22
49-60 mo.	29	24
TOTAL	120	100
Number of children less than 5 yrs. in 70 households		
1	35	50
2	23	33
3	9	13
4	3	4
TOTAL	70	100

There were relatively fewer children in the less than 12 months and 13 to 24 months age ranges as compared to the older groupings. This might suggest a decline in birth rates although the sample size is too small to provide conclusive evidence on this point.

There was an average of 1.7 children under five years of age in the sample households with 50 percent of the households having only one child in the age range and only seven percent with three or more under five years (Table 4.6).

Household Food Management

Food management within the household appears to be centered around the mother. She is the person who usually decides, buys, prepares and serves the food with some assistance from other members of the household. Table 4.7 gives some indication how food management is shared within the family structure.

Observations made by the researcher revealed that the food is usually prepared in the kitchen on portable two-burner kerosene or electric stoves or over small charcoal burners. Kerosene was the most common fuel since it is relatively inexpensive as compared to electricity.

Table 4.7. Persons involved in food management decisions in 70 sample households

Person	Who decides	Who buys	Who prepares	Who serves
	No.	No.	No.	No.
Mother	42	38	40	45
Father	9	7	-	-
Mother-Father	3	6	-	-
Grandmother	10	7	6	8
Mother-Grandmother	2	4	13	3
Sister-Grandmother	1	2	-	-
Aunt	1	2	3	3
Servant		1	4	4
Others	2	2	2	2
TOTAL	70	70	70	70

In 60 of the 70 households the food was served on individual plates directly from the kitchen. Food was served "family style", that is placing the food on the table in bowls for each individual to serve himself, in only five households.

Dwellings and Household Possessions

The researcher had the opportunity to visit 14 of the 70 dwellings in the study. An attempt was made to visit different types of households so as to get a representative set of observations.

The size of dwellings were not closely related to the number of persons living therein and the houses were often small and over-crowded. Houses were typically built close together so that outer walls were used in common by houses next to each other.

Many of the houses had walls made of a single layer of brick which was often exposed and floors were often dirt, covered with pieces of cardboard or tile. Enclosed patios were part of the dwelling and walls were made of a layer of brick or split bamboo poles approximately four to six feet high. In some of the newer barrios many of the patios contained an outhouse in the corner as well as a laundry area which generally consisted of a tub or sink, usually homemade, that was mounted on a wooden stand. Here the clothes were washed, people bathed, and kitchen utensils and dishes washed. The water was obtained by either dipping from a barrel or (if a water main was near) from a rubber hose attached to a water outlet at the front of the house near the road. Very few houses were observed to have plumbing.

In one barrio the drinking water was brought in by barrel on horse-drawn carts in which households would have to purchase their water for cooking and drinking. Sometimes a well was dug in the front yard near the laundry area and water from the well was used for laundry and other household chores. At this location waste water could easily be drained into open sewers that ran on both sides of a narrow dirt street. Many of the dwellings appeared to be shared with domestic animals such as dogs, cats, pigs, chickens and ducks. Rodent and insect infestation appeared to be very common.

Most of the observed houses had a minimum of furnishings. Most frequently there was a wooden table, several chairs and benches, beds, clothes closet, (either open or in a portable close closet). In the kitchens cooking facilities and utensils were limited and there were storage shelves on the walls on which to place articles. There were no ovens observed and little evidence of storage areas for food but nearly 30 percent of the household's had refrigerators. Thus, the other 70 percent of the households had to purchase perishables on a day to day basis.

Additional data from the PIMUR study were used from the 70 households in this study to determine household

items they now possessed and items they hoped to possess within a six month period. A stove of some type, electric or kerosene appears to be in most of the homes, as well as irons and radios. Twenty households have a refrigerator with five mothers indicating they hope to have one in six months. A sewing machine appears to be the most highly desired item to add to their household possessions. In some instances the mother may anticipate an opportunity to add to the family income by doing custom dressmaking in the home.

Table 4.8. Household items in 70 households

Item	Number that already possess	Number that hope to possess in 6 months
Stove, electric	27	9
Stove, kerosene	44	4
Refrigerator	20	5
Washing machine	3	6
Iron	63	1
Sewing machine	26	17
Radio, electric	50	3
Radio, battery	23	-
Record player	14	4
T.V. set	12	5

Source: Data from PIMUR household survey, 1969.

Other unpublished data from the PIMUR study available on 52 of the 70 households gave some indication of what

the mothers considered to be their most urgent needs and what they would buy first if they had an increase in salary of 200 pesos per month. Generally, they said they would spend the money, first to buy food, second for education (tuition, books), and third to buy articles for the house. The need for money for education is due to the fact that public schools are not available to all children of school age. Hence, many families find it necessary to pay tuition to send their children to private schools.

CHAPTER V

SURVEY FINDINGS

This study was directed toward four questions regarding child nutrition problems in Cali, Colombia:

1. What are the feeding practices used by mothers in low-income households with children less than five years of age?
2. What are the opinions held by these mothers concerning specific feeding practices?
3. To what extent have mothers adopted new child feeding practices and from where do they receive information regarding child care?
4. What suggestions can be offered for programs to improve child feeding practices and to identify problems for further study?

The survey findings for the first three objectives are contained in this Chapter. The fourth objective will be presented in Chapter VI, Summary and Conclusions.

Child Feeding Practices

The child feeding practices summarized in this chapter

were based upon survey information from 70 mothers¹ caring for a total of 120 children less than five years of age. In most tables concerning feeding practices the basic unit of observation is the child. In later sections on opinions and information sources the basic unit of observation is the mother.

Feeding Practices at Time of Survey

At the time of the survey all of the children under 12 months of age were being fed on the breast or bottle or some combination of these methods of feeding. Only three children out of 120 were being exclusively breast fed while another six were receiving a bottle to supplement the breast (Table 5.1). Seven of the nine children receiving the breast were less than 12 months of age.

Two-thirds of the children were receiving at least part of their food from the bottle while 31 percent were receiving nearly all of their food "at the table". Most of the table-fed children were over three years of age although the transition to table feeding was beginning as early as 13 months of age. Nevertheless, 45 percent of the children in the three to five year age range were still receiving a bottle.

¹The person interviewed was the one having primary responsibility for child rearing. Usually this was the natural mother but in some instances it was another member of the household. See Chapter 1, page 4.

Table 5.1. Actual child feeding practices by age of child at time of survey

Age of Child months	Principal Method of Feeding											
	All Children		Breast-fed		Breast & Bottle		Bottle-Fed		Bottle & Table		All at Table	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
0 - 12	16	13	2	1.9	5	4	9	7	-	-	-	-
13 - 24	22	18	1	0.7	1	0.7	8	7	11	9	1	0.7
25 - 36	27	23	-	-	-	-	6	5	15	13	6	5
37 - 48	26	22	-	-	-	-	-	-	15	13	11	9
49 - 60	29	24	-	-	-	-	-	-	10	8	19	16
TOTAL	120	100	3	2.6	6	4.7	23	19	51	43	37	30.7

Of the 120 children in this study eight had been exclusively breast-fed following birth and 19 had been bottle-fed indicating that 93 children received combined feedings from breast and bottle until weaned from the breast.

Weaning From Breast

It was found that 40 percent of the children that had been completely or partially breast-fed were weaned from the breast by three months of age (Table 5.2). By age six months 52 percent had been weaned and by one year of age 80 percent had been weaned. It is apparent that many children were breast-fed for relatively short periods of time and then shifted to other methods of feeding. This pattern of child feeding is similar to that reported in another study based upon a city-wide survey of mothers in Cali. In this earlier study Weiss (23) found that 45 percent of the children were being weaned before three months of age and 59 percent before six months of age. The reader should note that Weiss' sample included families at all levels of income whereas this thesis study was limited to low-income families.

Mothers with more education and income tend to wean their babies earlier than mothers with less education and income. Thirty-three percent of the mothers with four years or less of education weaned their children by age

Table 5.2. Age of child when weaned from breast

Age of child months	No. of Children ^a	Percent
1	15	16.1
2	9	9.7
3	13	14.0
4	1	1.1
5	4	4.3
6	7	7.5
7-12	26	27.9
13-18	12	12.9
19-24	5	5.4
25-36	1	1.1
TOTAL	93	100.0

^aBased upon 93 children that had been breast fed and weaned prior to survey.

three months while 45 percent of the mothers having 5 or more years of education said they had weaned their children by age 3 months. Similarly, 56 percent of the mothers in families with more incomes of more than 200 pesos per capita per month weaned by age 3 months while only 26 percent of the mothers in lower income families had weaned by age 3 months. There was no difference in weaning age when related to the ages of mothers (See Appendix A, Table 1).

Fifty-four percent of the children were gradually weaned from the breast, while 38 percent were weaned all at once (Table 5.3). The major reasons given for weaning was that the mother did not have enough milk for the child (20%) or that the child rejected the breast (17%) (Table 5.4). Nine mothers said they weaned their children by no longer sleeping with the child and three used a bitter herb on their nipples to discourage nursing.

Bottle Feeding

While 112 of the 120 children had been bottle-fed or partly bottle-fed, only 35 percent were taken off the bottle by the mother (Table 5.5). There seems to be little attempt to take the child from the bottle until he rejected it himself as occurred in 64 percent of the children that had been taking the bottle (Table 5.6).

Table 5.3. How child was weaned from breast

How Child was Weaned	Number of Children ^a	Percent
All at once	35	37.6
Little by little	50	53.8
Did not wean	8	8.6
TOTAL	93	100.0

^aBased upon 93 children who had been breast fed.

Table 5.4. Mother's reasons for weaning from breast

Reasons	Number of children ^a	Percent
Child rejected breast	16	17.2
Not enough milk	19	20.4
Child was ill	4	4.3
Mother works	2	2.1
Mother - pregnant	8	8.6
No response	44	47.4
TOTAL	93	100.0

^aBased on 93 children weaned from the breast

Table 5.5. Age of child when taken off bottle

Age of Child months	Number of Children ^a	Percent
1 - 12	5	14.3
13 - 24	12	34.4
25 - 36	8	22.8
37 - 48	8	22.8
49 - 60	2	5.7
TOTAL	35	100.0

^aBased on 35 children that had been taken off bottle

Table 5.6. How child was taken off bottle

Method of Weaning	Number of Children ^a	Percent
All at once	10	10.0
Little by little	25	22.0
Child did/will reject	71	63.0
No response	6	5.0
TOTAL	112	100.0

^aBased on 112 children that had taken the bottle

The bottle is often given as a supplement along with table feeding to 43 percent of the children receiving their food from both sources with age ranges of 1-5 years (Table 5.1).

Most mothers (63%) feed their children at regular hours, while 37 percent say they feed the child when he is hungry. The number of feedings per day per child range from three to nine with almost 50 percent feeding six times per day.

The mother usually prepares the bottle but in some households there is help from other household members. The mother generally feeds the small child if he needs assistance.

An attempt was made to determine the ingredients that went into the bottle for the 80 children that were receiving the bottle at the time of the survey. The foods used in the preparation of bottles (teteros) and gruels (coladas) are shown in Table 5.7. Teteros, which are basically milk, or milk and water, may be reinforced with a cereal product and sweetened. Coladas are basically the same as teteros but thickened with a cereal - flour or corn starch product (Maizena).

Seventy-four of the 80 children were receiving milk in some combination of ingredients for their principal food intake. Dried milk appears to be the most common form

Table 5.7. Foods used in bottles (Teteros) and gruels (Coladas)

Food	Number of Children ^a	
	Bottles (Tetero)	Gruel (Coladas) used in bottles (Tetero)
Dried milk preparations		
Klim (whole)	21	14
S26 (dietetic)	3	
SMA	2	
Liquid milk		
Raw	9	10
Pastuerized	11	4
Supplementary foods		
Incaparina		5
Colombiharina		4
Duryea		5
Cereal preparation		
Superbaby		2
Maizena		13
Oat-meal		12
Flours		
Barley	1	1
Plantain		5
Milo	2	
Wheat		1
Flavoring		
White sugar	6	14
Panela		5
Cinnamon	1	17
Aqua-panela	21	

^aBased on 80 children that were taking the bottle at time of survey

of milk used in the preparation of bottles (Table 5.7). One-half of the 80 children were receiving reconstituted dried milk with 5 of that number getting a dietetic dry milk. Thirty-four children were getting liquid milk with raw milk being consumed by 19 children and pasteurized milk by 15.

Protein-enriched foods¹ (Incaparina, Colombiharina and Duryea) was less frequently used than is other cereal preparations (oatmeal, corn starch and flour). A typical formula would be a combination of dried milk, water, thickened with maiziena, sweetened with white sugar and flavored with cinnamon. The use of aguapanela, which is a crude brown sugar dissolved in water, is given the child with or without milk.

Nearly all mothers had a high regard for milk as a food for children after weaning from the breast. Only one "mother", a grandmother to the child, did not feel that milk was important after weaning.

Fifty of the mothers reported that they were buying milk regularly, but 12 of this number were buying only for the youngest child in their household. Eighteen mothers indicated that they bought milk when they could afford it and two never bought milk in any form.

¹ Information on high-protein supplementary foods is found in Chapter II, pages 17 to 20.

When asked about the form of milk that they bought, eighteen of the mothers mentioned that they purchased milk in two forms, most generally a combination of dried and liquid milk, with the dried milk being used in tetero for the youngest child.

Dried milk costs almost twice as much as liquid milk and for the city as a whole powdered milk consumption is less than 10 percent of total milk intake and is used primarily for infant feeding (19, p. 158). This form of milk is usually available on the shelves of most neighborhood stores and local markets.

Fluid milk is most generally sold in two forms; raw and pasteurized. More than one-half (56%) of the Cali fluid milk supply is distributed as raw milk, with the other 44 percent being pasteurized. Raw milk sells for about 15 percent less than pasteurized milk and is extremely variable in quality (19, p. 158).

Raw milk is often sold in "expendios" (specialized milk stores) usually located in a house or garage in the low-income barrios where it is brought in by truckers. Only 47 percent of the expendios use refrigeration and the milk is dipped or poured from large containers into small buckets or kitchen utensils to be carried home for family use. This differs somewhat from the middle and upper income

barrios where the raw milk is often delivered to the households by truckers. In the expedios as well as house to house delivery a dipper is used to measure the amount sold to each customer. This is an unsanitary practice and also facilitates cheating on the part of the dispenser. Adulteration of raw milk is estimated to average more than 10% before reaching the consumer (19, p. 165).

Pasteurized milk can be bought at most neighborhood stores by carton or bottle or a part thereof. PIMUR found that one-half of the pasteurized milk is distributed through personal service stores with another 31 percent home delivered (19, p. 163).

Some of the reasons cited by surveyed mothers as to why certain forms of milk are bought were: raw milk is cheaper; pasteurized milk is best for the child and most easily obtained; and powdered milk is best as well as cleaner (Table 5.8).

Education seemed to influence the form in which milk was purchased. The mothers with more than four years of education indicated they used pasteurized milk because it was cleaner, best for the child and the most easily obtained. The mothers with less than four years of education tended to use more raw milk because it was cheaper and they liked the flavor. The use of powdered milk was about equal with both groups considering cleanliness and best for the child as its main qualifications. (Appendix A, Table 2)

Table 5.8. Number of mothers using different forms of milk and reasons for using the particular form

Form of Milk Bought		Number of Mothers Using a %	Reasons for Using							Use but No Comment %		
			Cleaner	Best for child	Cheaper	Most Easily Obtained	Like Flavor					
									No.		%	No.
Raw	21	30			8	11	5	7	5	7	3	4
Pasteurized	36	51	5	7	15	21		8	11	2	3	9
Powdered	29	41	8	11	14	20		1	1		6	9

^aEighteen mothers used more than one form of milk.

High Protein Preparations

High protein supplementary foods were being used by almost 30 percent of the mothers interviewed. Nearly 90 percent knew about such foods and said they had used one or more of the different products of this type (Table 5.9).

There were three main types of high-protein, supplementary foods on the market in Cali at the time of the survey, Colombiharina, Incaparina, and Duryea (See Chapter II, pp. 17-20). Questions were directed to the 70 mothers as to whether they knew about these products and to what extent they used them.

Colombiharina, the locally manufactured product was known by almost 75 percent of the mothers with slightly more than 50 percent having used it. Only seven percent were using it at the time of the survey and thought it was the best high protein food supplement. Colombiharina has a limited market and is not always available in the stores.

Incaparina, a product made by the Quaker Oats Company, has been marketed in Colombia since 1960. Ninety percent of the mothers questioned knew about the product and over 75 percent had used it at some time, but only eleven percent were using it at the time of the survey. Nevertheless, 41 percent thought that Incaparina was the best product. A new product, Incaparina Blanca, was being placed on the market with changes in ingredients to improve color and taste appeal. Results of the market test is not known by the researcher.

Table 5.9. Use of supplementary foods by 70 mothers

Level of Knowledge and Use	Product					
	Colombiharina		Incaparina		Duryea	
	No.	%	No.	%	No.	%
Don't Know About it	16	22.9	2	2.9	27	38.6
Know about it But Have Not Used	16	22.9	8	11.4	12	17.1
Know about it and Have Used	36	51.4	55	78.6	25	35.7
Using Now	5	7.1	8	11.4	8	11.4
Best Product	5	7.1	29	41.4	15	21.4

Duryea, a new product, was being test-marketed in Cali, at the time of survey. It was produced and sold by Maizena a Colombian firm owned and operated by CPC International. The principal ingredient in Duryea is opaque-2 corn with dried milk added. Slightly over 50 percent of the mothers knew about Duryea and 36 percent said they had used it with 11 percent using it at the time of the interview. Twenty-one percent considered it the best product.

Duryea does not require additional milk to be used in the preparation of a colada whereas, Colombiharina and Incaparina give better nutritional value when prepared with milk. All three products are prepared as coladas in bottles by boiling with milk, milk and water or water for 20 minutes with addition of sugar for sweetening.

Colombiharina and Incaparina are sold in bulk form in retail stores at two pesos (approximately 12¢ U.S.) for 500 grams while Incaparina Blanca sells at two pesos, 20 centavos for the same amount. Duryea is a prepackaged product selling at a higher price, two pesos, 80 centavos for 250 grams, however, the Duryea contains dried milk, while the other two products do not.

Other Foods Fed to Children

Much of the food given children under five years of age was part of the family diet. Some foods are specially

prepared such as eggs that are boiled for 75 percent of the children and fruit juices. Meats, beans, legumes and tubers are often cooked in soups and the softer portions are fed to the young children. Eighteen percent of the mothers said that they ground meat for the children. Coladas are often prepared with potatoes, rice and other soft starchy foods (Table 5.10).

According to the mothers 75 percent of the children received both meat and eggs. However, the PIMUR data suggest that low-income families are unable to provide meat and eggs regularly for the family members. It appears that foods such as meat, rice, tubers and legumes are consumed as family food while eggs, fruits, vegetables and high-protein supplementary foods are prepared for children apart from the family food preparation.

Weiss (23) indicated, in a table of foods frequently eaten by children the day before his survey, that rice and meat were the most commonly consumed foods and the children start at weaning time on this type of food.

Eighty-three of the 120 children were receiving something to eat or drink between meals (Table 5.11). It appears that the bottle, often panela water, is the most common offering with fruit juices and coffee mentioned as second choices. Mostly liquids rather than solids appear to be given children between meals.

Table 5.10. Number and percent of all children given particular foods and method of preparation^a

Foods	Soup		Coladas		Puree		Juices		Ground		Boil		Fried	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Meat	50	42	4	3					22	18	9	8	4	3
Eggs	-	-	1	1	-	-	-	-	-	-	90	75	1	
Supplementary Foods	-	-	17	14	-	-	-	-	-	-	-	-	-	-
Fruit	-	-			4	3	63	53	-	-	-	-	-	-
Green and Yellow Vegetables	10	8	3	3	15	13	-	-	1	1	1	1	-	-
Cereals - Breads	12	10	12	10	-	-	-	-	-	-	1	1	-	-
Beans - Legumes-Tubers	50	42	22	18	16	14	-	-	-	-	5	4	-	-

^aPercentages based upon all 120 children.

Table 5.11. Foods given the child between meals

Foods Given	Number of Children ^a	
	1st Choice	2nd Choice
Bottle	35	1
Milk in Glass	7	4
Coladas	4	2
Cereals and Breads	2	12
Fruits Fruit Juices	5	26
Chocolate	3	6
Panela Water	24	5
Coffee	2	15
Whatever Available	1	5
No Other Food	37	

^aBased on information on 120 children in survey.

Feeding the Child at the Table

Eighty-eight out of the 120 children took part of their food at the family table (Table 5.1). Not all of these children ate all three meals at the table. However, it does appear that over 70 percent eat all three meals at the table with other household members (Table 5.12).

Fifty-three of the 70 mothers said that the younger children were served meat before other family members were served while 30 said that the father was served first or at the same time. According to the mothers the children under five are the major consumers of milk while children over five are less likely to receive milk. This is also true for other family members (Table 5.13).

Feeding the Sick Child

The mother was asked what foods or remedies she would give a child sick with fever, stomach pain, and diarrhea. Several mothers mentioned two remedies (Table 5.14). The use of toasted cereal water for fever was the most common remedy. The grain (rice, barley or milo) is toasted, then boiled in water making a broth, this is given to the child to drink. This cereal water is also given as first choice for the child with diarrhea. Herb tea and lemon water are often given for stomach pain and diarrhea. Sueno Casero (a home serum that is boiled water with sugar and salt added) is given as second choice for diarrhea. This remedy

Table 5.12. Presence of children at table with family at mealtime^a

Meal	Children at Table		Children Not at Table	
	No.	Percent	No.	Percent
Breakfast	69	78.4	19	21.6
Lunch	63	71.6	25	28.4
Dinner	72	81.8	16	18.2

^aBased upon information about 88 children receiving at least one meal a day at the table.

Table 5.13. The rank order of serving meat and milk within surveyed households^a

	Serving of Meat					Serving of Milk				
	1st No.	2nd No.	3rd No.	4th No.	No Response	1st No.	2nd No.	3rd No.	4th No.	No Response
Father	30	20	7	3	10	6	10	2	0	52
Mother	15	28	19	5	3	5	6	4	0	55
Children 5 years +	26	26	6	0	12	13	7	1	0	49
Children - 5 years	53	13	4	0	0	64	0	0	0	6
Others in Household	12	15	4	1	38	5	6	1	0	58

^aBased upon responses from mothers in the 70 households.

Table 5.14. Foods mothers gave to sick children^a

Type of Food	Child with Fever		Child with Stomach Pain		Child with Diarrhea	
	1st No.	2nd No.	1st No.	2nd No.	1st No.	2nd No.
Soups						
Coladas	15	4	10	3	1	1
Fruit juices	17	6	-	2	-	1
Toasted cereal water (rice-barley)	26	8	2	-	57	1
Sueno Casero (Water, salt, sugar)	3	1	1	-	-	31
Herb tea	1	4	24	2	5	19
Agua panela	1	2	2	-	1	-
Same food as usual	7	2	25	1	5	1
No response	-	43	6	62	1	16
TOTAL	70	70	70	70	70	70

^aBased upon first and second responses from 70 mothers.

is often recommended by health workers and doctors to prevent the deletion of fluids from the body during a bout with diarrhea.

Opinions Held On Child Feeding Practices

The 70 mothers interviewed were asked to express their views and opinions concerning specific child feeding practices and certain foods. These responses to open ended questions were written down by the interviewer in order to gain some insights as to why certain methods of feeding were being used.

Seventy-seven percent of those interviewed thought that there was a tendency for mothers to shift toward bottle feeding rather than breast feeding. Over 50 percent thought this was because mothers did not have enough milk to feed the child while another 17 percent said that it was probably due to the "bad diet" of the mother. Twenty-three percent felt that breast feeding the child damages the mother's body and breasts, and 14 percent said that mothers sometimes work and cannot breast feed. Only seven percent thought that mothers breast fed as much as ever because it was best for the child. Sixteen percent did not express an opinion, because they did not know or had not thought about it (Table 5.15).

Table 5.15. Mothers opinions about the possible tendency to bottle rather than breast feed children

Response ^a	Number of Mothers	Percent	Mother's Opinions	Number of Mothers	Percent
Yes	54	77.15	Not enough milk	24	34.29
			Due to "bad" diets	12	17.14
			Nursing ruins bodies and breasts	16	22.86
			Mothers work--do not breast feed	10	14.29
			Nursing bad for health and strength	5	7.14
			Mothers are lazy	3	4.29
No	5	7.14	Mothers breast feed more than ever	3	4.29
			Breastfeeding best for child	2	2.86
Don't know	11	15.71			
TOTAL	70	100.00			

^aQuestion--"Do you think there is a tendency in your barrio for mothers to bottle feed rather than breast feed?" What is your opinion about this tendency?"

Meat, eggs and dairy foods were thought to be the "best" foods to feed the child after weaning. Fruits and juices as well as soups were also considered important (Table 5.16).

When making a comparison of age and education of mothers as to foods they thought "best" for the weaned child, there does not appear to be an appreciable amount of difference except for the use of green vegetables. Younger mothers with more than four years of education thought it was more important to use green vegetables than older mothers with four years or less of education (Appendix A, Table 3).

Forty-seven percent of the mothers believed that they had been better fed by their mothers than they were feeding their own children (Table 5.17). They felt that the reasons for this was that food used to be cheaper and more plentiful than at the present time. Thirty-two percent responded that they fed their children better than their mothers fed them because they prepared and cooked the food better while 20 percent felt that their feeding practices were about the same as their mothers.

Almost 63 percent of the mothers did not think there were any foods that were considered "bad" for the child.

Table 5.16. Foods thought "best" after weaning^a

Foods	Number of Mothers	Percent
Coladas	21	30.00
Soups	37	53
Meat-fish	59	84
Dairy products	49	70
Eggs	63	90
Fruits & Juices	49	70.00
Green vegetables	33	47
Cereals & Legumes	33	47
Sweets & Oils	3	4

^aBased upon open ended question, "What foods do you think are "best" for the child after weaning?"

Table 5.17. Mothers opinions about her child feeding practices as compared to those of her mother^a

Mothers' Opinion	Number of Mothers	%	Mother's Opinions					Don't Know
			Food more Available Abundant	More Money	Better Preparation	Food Less Expensive	No Opinion	
Her mother fed better	33	47	6	1	3	13	10	
She feeds better	22	32	1	3	6		8	4
About Equal	14	20	-					
Don't know	1	1	-					

^aThe question asked "Do you think the foods you prepare for your children are different than the foods prepared by your mother when you were a child?"

Six percent felt that if the food was properly prepared and was well cooked it could never be "bad". However, 22 of the mothers thought there were some "bad" foods for children such as dried beans or lentils and thick soups because they were thought to be too heavy for the child's stomach. Agua panela seem to be considered "bad" by 11 mothers for several reasons such as irritation to the stomach, gives diarrhea, gives diabetes, too heavy to be digested, and has no vitamins (Table 5.18).

Adoption of New Practices

Changes in patterned ways of behavior are difficult to measure particularly the extent to which new practices are adopted. An attempt was made to determine if the 70 mothers in this study would accept changes and to what extent they have made these changes.

Mothers were asked if they would buy more of the same food they are now buying to feed their families or additional foods if they had more money with which to purchase. Most mothers said they would buy more beef, milk and eggs and add chicken, fish, butter and cheese to the family diet. Very few said they would purchase more legumes, tubers and cereals. Several said they would add sweets and other miscellaneous items to the family diet. Thus, it appears that animal protein foods are highly preferred by most of the mothers interviewed (Table 5.19).

Table 5.18. Foods thought "bad" for child after weaning

Foods	Number of Mothers ^a Holding Specified Opinions					
	Irritates Stomach	Gives Diarrhea	Gives Diabetes	Too Heavy Not Digested	Has No Vitamins	
Thick soup				3		
Chocolate	2			2		
Agua panela	4	1	2	2	2	
Beans and Lintels				5		
Flour Coladas				1	1	
Tripe, Liver Fat Meat	2			1		
Oranges and Avocado	1	1				
Coffee	2			1	1	

^aBased on the responses of 22 Mothers.

Table 5.19. Foods that mothers said they would buy more of or add to the diet if more money were available^a

Food	Buy more of		Add this food	
	No.	Percent	No.	Percent
Beef	41	58.57	4	5.71
Chicken	3	4.57	47	67.14
Fish	2	2.86	43	61.43
Liver	3	4.29	14	20.00
Milk	37	52.86	10	14.29
Eggs	25	35.71	16	22.86
Butter	16	22.86	45	64.29
Cheese	15	21.43	44	62.86
Fruits and Green Vegetables	16	22.86	17	24.29
Legumes and Cereals	3	4.29	3	4.29
Cookies-Crackers	0	0	10	14.29
Gelatin-sweets and canned goods	0	0	7	10.00

^aQuestions asked were "If more money was available for food what food would you buy more of? What foods would you add?"

Although most of the mothers considered it very important to give the child milk after weaning 51 percent agreed that there might be foods more nutritious than milk. Thirty-six mothers named one or more foods that they thought more nutritious than milk; the most often mentioned being high protein supplementary foods and special dried milk mixtures (27%), meat and fish (13%), and eggs (9%) (Table 5.20.)

Mothers were asked if they would use another food as nutritious as milk if it cost the same as milk. Eighty-three percent said they would and 87 percent said they would if the food was as nutritious as milk but cost less. The high percentage that would buy highly nutritious foods other than milk suggests that there is a market potential for high protein foods for children.

The opinions expressed by the 70 mothers about the three high-protein supplementary foods, Colombiharina, Incaparina, and Duryea were responses to questions directed to them by the interviewer in order to get some insights about how they perceive and use these products for their children. Incaparina is the most widely known and had been used at some time by nearly all the mothers. Twenty-seven mothers thought it was good for the child but 17 said their major objection to this product is that they did not like the flavor. Colombiharina, a local product with a

Table 5.20. Foods that mothers thought to be more nutritious than milk^a

Foods	Number of mothers ^a	Percent
Fruits & juices	2	2.9
Vegetables - Legumes - Soybeans	6	8.6
Special dr. milk formulas Supplementary foods	20	27.1
Dairy products	4	5.7
Eggs	6	8.6
Meat-fish	9	12.9
Solid salty foods	1	1.4
Coffee	1	1.4

^aSome of the respondents listed more than one food that they considered more nutritious than milk.

limited market, has been used by one-half of the mothers. Twenty-two thought it was good and eight did not like the flavor. Duryea had just been introduced on the market on a test basis at the time of data collection. Nevertheless, over one-third of the mothers had used it and 21 considered it a good product. Comments such as; "no milk needs to be added" or "heard about it and plan to use it" were noted (Table 5.21).

A cross-sectional analyses indicated that older mothers with less income and education were the most frequent purchasers of the more established high protein foods, Incaparina and Colombiharina. On the other hand the younger, better educated and higher income mothers were more likely to be buying the new product, Duryea (Appendix A, Table 5).

An attempt was made to gain some indication of the willingness of mothers to try new food products. When asked if they would try a new product, 50 percent said they would try it right away, 24 percent said they would wait until they heard good comments about the product and 21 percent said they didn't have much interest in new products (Table 5.22). Younger mothers with more than four years of education and low incomes indicated that they were more inclined to try new products although there appears to be an economic restraint on their ability to buy (Appendix A, Table 6).

Table 5.21. Mothers' opinions regarding high protein supplementary foods

Product	Number of mothers holding various opinions						
	Good	Children like flavor for	Nutritious	Do not like	Not good food	No milk needed	Heard-good plan-use
							Too expensive opinion
Colombiharina	22	2	5	8	2	-	- 31
Incaparina	27	2	11	17	5	-	- 8 86
Duryea	21	3	3	1	1	2	3 1 35

Table 5.22. Mothers reaction to the use of
new products

Comments	Number of Mothers	Percent
Try right away	35	50.00
Use after hearing good comments	17	24.28
Don't have much interest in new products	15	21.43
Don't know	2	2.86
No response	1	1.43
TOTAL	70	100.00

Mother's Sources of Child Care Information

In order to determine the child care information sources available to the mother, questions were asked about how often she used the local health center; where she took her children for medical care; who she asked for more information; did she listen to a radio, and did she have access to a newspaper.

Health centers did exist in most low income barrios. These centers were staffed by social workers with medical doctors from the local area donating part of their time to attending patients. Classes in child care, nutrition and sanitation are offered in some of the health centers. About 50 percent of the mothers say they had taken their children to the health center in their barrio, and 33 percent had attended classes on child care at either the health center or at the hospital in the preventive medicine clinic. Seventy-eight percent of the mothers had radios that were operating in their homes while 27 percent said they read a newspaper daily. Eighty-nine percent of the mothers indicated they could read, but no measure was taken on their ability (Table 5.23).

In order to gather further information on sources through which the mother learns to care for the child,

Table 5.23. Number of mothers using particular information sources on child care

Information Source	Number of Mothers^a
Health center in barrior	85.7
Take children there	51.4
Attend classes in child care	
Health Center in barrio	21.4
Social Security Health Center	8.6
Preventive medicine Clinic at Hospital	2.9
Received help from social worker	14.3
Radios that work in home	78.5
Take newspaper	
Daily	27.1
Occasionally	52.8

^aBased on responses from 70 Mothers.

she was asked where she received her knowledge on how to feed a sick child as well as whom she consulted if she needed more information. It appears that her information source is most often her mother and the home environment. She is most likely to take her seriously sick child to the hospital or clinic (47%) and to the doctor (19%) if she needs more help (Table 5.24).

All but one of the mothers indicated that they would like to have more information on child care and feeding practices.

Table 5.24. Sources of information on feeding the sick child

Sources of Information	Fever		Stomach Pain		Diarrhea		Who to ask if no knowledge	
	No.	%	No.	%	No.	%	No.	%
Classes at Med. Clinic	8	11.43	6	8.57	10	14.29	0	7.14
Home and Family	37	52.86	37	52.86	24	34.29	5	1.43
Relatives	4	5.71	4	5.71	3	4.29	1	47.14
Clinic or Hospital	4	5.71	3	4.29	11	15.71	33	18.57
Doctor	9	12.86	9	12.86	17	24.29	13	14.29
Friend or Neighbor	5	7.14	5	7.14	4	5.71	10	
Experience	2	2.86	1	1.43				
Social Worker							3	4.29
Pharmacist							4	5.71
No response	1	1.43	5	7.14	1	1.43	1	1.43
TOTAL	70	100.00	70	100.00	70	100.00	70	100.00

CHAPTER VI

SUMMARY AND CONCLUSIONS

Nutritional studies have indicated that inadequate nutrition, especially protein deficiency, inhibits the potential physical and mental development of young children. It is important that factors contributing to inadequate child nutrition be identified within households where children are nurtured in order to suggest changes in child feeding practices.

The major purpose of this study was to describe and analyze child feeding practices among low-income families in Cali, Colombia. Information for this study was based upon interviews taken from 70 mothers caring for a total of 120 children less than five years of age.

The objectives of the study were: (1) to determine child feeding practices used by the mothers of children under five years of age; (2) to determine opinions that mothers hold concerning specific feeding practices; (3) to estimate the extent to which mothers had adopted new feeding practices and to identify their sources of information regarding child care, and (4) to offer suggestions for programs to improve child feeding practices and to identify problems for further study.

There were 552 persons in the 70 households studied, with a mean of 7.9 persons per household. The number of persons per household ranged from three to 17 members. Thirty-five households were considered nuclear families (man, woman and children) while 35 households were extended families where most of the members were related and were sharing the same dwelling and pooling their income. More than one-half of the heads of the 70 households had lived in their present locals for more than five years.

Less than one-quarter of the total persons in these households were employed full or part-time. Seventy-one percent of households had total incomes of less than 2000 pesos per month (\$110 U.S. dollars). Fifty-four percent of the households were receiving less than 200 pesos (\$11 U.S. dollars) per capita per month or 36 U.S. cents per day per capita for all necessities and one-fourth of the households have an average per capita income of 18 U.S. cents per day.

In the 70 households, 40 children had died before reaching five years of age. Ninety percent of these children had died before two years of age. Thus, the most vulnerable age range, as indicated by this data, is from birth to age two years.

The "mother" interviewed was the person within the household that was the major care-taker of the young children. Her mean age was 32 years and the mean number of years of formal education was four. Only 11 percent of the mothers were employed outside their homes. She is the one that makes the major decisions concerning the foods used by the household. She usually purchases, prepares, and serves the foods used by all members of the family.

Sixty-six boys and 54 girls made up the total of 120 children less than five years of age in the households. The mean age was 2.6 years and the mean number of children per household was 1.7.

Child Feeding Practices

It was found that breast feeding was of short duration even though 84 percent of the 120 children in the study were started on the breast at birth. Forty percent were weaned by 3 months and over one-half were weaned before they were six months old. By one year of age 80 percent of the children that breast-fed were weaned. Weaning from the breast is most generally a gradual process with the main reason given by the mother is that she does not have enough breast milk. This would suggest that the mothers diets may

be insufficient for her body to supply the demands made upon her by the nursing child and the data would indicate that this may be true. Almost eighty percent of the mothers thought that there was a tendency toward bottle feeding rather than breast feeding. They believed that early weaning was becoming more of a practice and the main reason given was that mothers did not have enough breast milk or that it would damage the body particularly the breasts. It is necessary therefore, to give the child a bottle supplement and/or food from the family table. At the time of the survey only three children were receiving all their food as breast-milk with six receiving the breast and bottle combined.

There appeared to be no difference in age of the child at weaning when related to the mothers age. There was a difference which indicated that mothers with more education and income weaned their children earlier. This may suggest that mothers with less income per capita would continue to nurse their children as long as physically possible because of the cost of supplying supplemental food for the child after he is weaned. Breast feeding might be encouraged if information supporting this could be made a part of child care information.

At the time of data collection 80 children were receiving the bottle as their total or partial food intake. For 23 of these children it was their total food source while six were receiving the bottle combined with breast milk and 51 combined the bottle with food from the table. Milk is highly regarded by the mothers as a food to use in the bottle for the child. Whole dried milk appeared to be the form of milk most often used. Raw and pasteurized milk were also used but to a lesser extent. The use of dried milk is probably partly due to its convenience, keeping quality and cleanliness, but at the present time in Cali, dried milk costs almost twice as much as an equivalent amount of fluid milk. Ingredients other than milk that are generally used in bottles are cereals and flours for thickening, sugar for sweetening and cinnamon for flavouring. Aqua-Panela (brown sugar water) is commonly used with or without milk as a bottle food. Panela is always available, inexpensive and considered a traditional dinner drink for the whole family.

Children are generally permitted to take the bottle as long as they want it. The mother usually prepares the bottle and feeds the younger child that needs assistance. Other household members are often involved in this activity but to a lesser degree. The practice of permitting the child to take the bottle as long as he wants it gives him

supplemental food apart from family diet, but the quality of food supplied in bottles is often deficient. The food from the table is often combined with the bottle for the daily food intake of the child that has been weaned from the breast. Nearly every mother either buys milk for the younger child or does so when she can afford to. There are a few foods that the mother said she prepared specially for small children such as boiled eggs and fruit juices. The soft starchy portions of the family soup are frequently fed to children as well as liquids from cooked, dried beans. Rice, beans and potatoes are used as coladas (gruels) for the child because of their consistancy. This is the typical diet that is high in carbohydrates and low in protein that is so essential for the continued normal development of the child in his most formative years.

Ninety percent of the mothers knew about one or more of the high protein supplements (Colombriharina, Incaparina, and Duryea), but only 30 percent were using one of these products at the time of data collection. Over the past 10 years a great deal of information regarding Incaparina has been made available to the low-income families, using many methods of communication.

Incaparina was found to be the best known of the high-protein supplementary foods. It had been used at some time by as many as 80 percent of the mothers questioned, but

only 11 percent were using it at the time of survey. There appeared to be little or no difference as to age, education or income of the mothers that had used Incaparina. The mothers that were using it at the time of survey were the older, better educated, but with less income.

Colombriharina was known by 50 percent of the mothers while seven percent were using it at the time of the survey. However, it was the younger mother with more education and less income that was using it when interviewed.

Duryea, a new product, was known by almost 40 percent of the mothers with 11 percent actually using it. The users were young mothers with more education and income which was the target group for the initial introduction of the product.

The more costly foods such as meat, butter, eggs and cheese were highly desired by the mothers as foods best for children after weaning. There did not appear to be much difference in the educational levels of the mothers as to which foods were considered best. However, younger mothers seemed to have higher regard for the use of green vegetables as compared with older mothers. If mothers had more money for food they said they would buy more meat, milk and eggs and they would add chicken, fish, butter and cheese to the diet. There is little difference in the foods that would be increased or added by mothers with different ages or levels of education. The desire for more

expensive, high protein foods is evidenced, while foods such as cereals and legumes would be less affected by additional income. There is no doubt that the mothers strongly desire the animal protein foods which are the most expensive. They evidenced some knowledge of foods known to be high in protein, but the major barrier here is probably an economic one. Does the mother prefer these foods because they have certain prestigious value to her since she sees the upper classes buying them and she cannot? Does she really know that protein is important for the normal growth of her child? If so, then their use of plant proteins should be greater since the costs of these foods are within the possibility of their incomes. Weiss (23) wrote that mothers in his study did not consider proteins as the most important nutrient, while over 50 percent of the respondents attached a high level of importance to vitamins.

Eighty percent of the mothers indicated they would use another food if it was as nutritious as milk and cost was the same or less. The fact that almost 80 percent of the mothers said they would use another product as nutritious as milk with comparable prices would suggest that there is probably a good market potential for high-protein supplementary foods.

One-half of the mothers said they would use a new food product, right away. One-fourth would wait until they had

"good comments about it" and the rest were not interested in trying new products. The higher educated, younger mother with less income would appear to be the one most likely to try a new product subject to her income constraint.

Mothers may not place a high value on feeding their children a nutritious diet. Traditional practices, ignorance and economic restraints continue to be major barriers to changing food patterns. What the mother learns from her home environment she transmits to her children. Thus, it would seem logical that changes could be brought about with the young school-age child who is the most teachable and innovative. This training should start early in the school and continue through higher grades in order to bring about better practices in areas such as; sanitation, health, child care and nutrition in their future households.

Studies need to be continued on child behavior, physical and mental development as related to environmental factors within the households and communities. Close observation of interrelationships of households members could reveal information that is impossible to collect on the Interview Schedule. In what way does the structure of the household contribute to child feeding practices? How is the available food proportioned and distributed among individual family members and does the small child get his

"fair share?" How can the mothers be helped to buy the most nutrition possible for the money they have to spend on food and would they accept the suggestion that Florencio (21) brought forth in her Thesis concerning a reportioning the food that is commonly bought in order to increase the protein in the diet?

Since most of the low-income barrios have Health Centers in which one-half of the mothers interviewed said they took their children for medical care, it would appear that this is an area that could be greatly enlarged for a wider range of programs for child-care information. Thirty-three percent of the mothers said that they had attended some type of class in child-care and feeding at Health Centers where sanitation, home improvements or nutrition was taught by social workers. PINA (a National Nutrition Agency) with FAO (Food and Agriculture Organization) funding is enlarging this program through classes for mothers with food supplements as an incentive for attendance. This could present an opportunity for related studies with mothers involved in these programs to evaluate adoption of new practices and improved child care methods.

Three-quarters of the households have radios that were usable while one-quarter had access to a daily newspaper. It is possible that programs on home improvements, sanitation, and child-care could be transmitted over radio. Current prices of available foods in the market and suggestions for their preparation could also be helpful to mothers.

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APPENDICES

Table A-1. Age of child weaned from breast related to socio-economic characteristics of mother^a

Characteristics of mother	No. of children	Percent ^b weaned at different ages (months)						TOTAL
		1-3	4-6	7-12	13-18	19-24	25-36	
Age in years								
18-32	49	38.8	14.3	26.5	14.3	4.1	2.0	100.0
33+	44	38.7	13.6	31.8	11.4	4.5	-	100.0
Education in yrs.								
0-4	51	33.3	11.8	33.3	11.8	7.8	2.0	100.0
5-9	42	45.2	16.7	21.4	14.3	2.4	-	100.0
Inc/cap.								
50-199	54	26.0	16.7	35.2	14.7	7.4	-	100.0
200+	39	56.4	10.2	18.0	10.2	2.6	2.6	100.0

^aBased upon information concerning 93 children that had been breast fed.

^bThe percentages are based upon number of children in each mother characteristic category.

Table A-2. Opinions given by mothers why forms of milk (raw-pasteurized-powdered) are used as related to education^a

Opinion	Years of Education					
	0-4 years (N=38)			5-9 years (N=32)		
	Forms of milk			Forms of milk		
	Raw	Past.	Powd.	Raw	Past.	Powd.
Cleaner	-	2.6	10.5	-	12.5	9.4
Best for Child	-	15.8	18.4	-	28.1	21.9
Cheaper	13.2		-	9.4	-	-
Most easily obtained	7.9	10.5	2.6	6.2	12.5	-
Like flavor	10.5	2.6	-	3.1	3.1	-
Use, No Comment	5.3	10.5	10.5	3.1	6.2	6.2

^aQuestion asked was "why do you use this particular form of milk?"

Table A-3. Foods thought best for child after weaning related to age and education of mother^a

	Age of Mother		Education of Mother	
	18-32 yrs (N=36)	33+ yrs. (N=34)	0-4 yrs. (N=38)	5-9 yrs. (N=32)
Soups	50.0	53.0	52.6	53.1
Colladas	25.0	32.3	36.8	21.9
Meat				
Fish	88.9	76.5	89.5	78.1
Dairy				
Products	66.7	73.5	71.0	68.7
Eggs	83.3	94.1	92.1	87.5
Fruit	72.2	67.6	63.1	78.1
Gr. Veggies.	55.5	38.2	34.2	62.5
Cereals				
Legumes	47.2	44.1	44.7	50.0
Sweets				
Oils	5.5	2.9	-	9.4

^aQuestion--"What foods do you believe are best for the child after weaning?"

Table A-4. Foods that would be increased or added if more money was available for food as related to characteristics of mothers^a

Foods	Age of Mother				Education of Mother				Inc/capita (in pesos)			
	18-32 yrs.		33+		0-4 yrs.		5-9 yrs.		50-199		200+	
	Inc.	Add	Inc.	Add	Inc.	Add	Inc.	Add	Inc.	Add	Inc.	Add
Beef	63.9	2.8	50.0	8.8	63.1	5.3	53.1	6.2	65.8	7.9	50.0	3.1
Chicken	2.8	66.7	5.9	67.6	2.6	65.8	6.2	68.8	2.6	71.0	6.2	62.5
Fish	5.5	69.4	-	52.9	-	65.8	6.2	56.2	5.3	68.4	-	53.1
Liver	5.5	19.4	2.9	20.5	5.3	15.8	3.1	25.0	-	26.3	9.3	12.5
Milk	55.5	11.1	50.0	14.7	52.7	21.0	53.1	6.2	52.7	23.7	53.1	3.1
Eggs	30.5	13.9	41.2	29.4	26.3	34.2	46.9	9.3	31.6	34.2	41.0	9.3
Butter	33.3	52.8	11.8	73.5	13.1	76.2	34.4	50.0	13.1	78.9	34.4	47.0
Cheese	33.3	52.8	8.8	70.6	13.1	73.7	31.2	50.0	13.1	73.7	31.2	50.0
Fruits												
Vegetables	22.2	22.2	23.5	26.5	13.1	28.9	34.4	18.7	15.8	29.0	31.2	18.7
Legumes												
Cereals	2.8	-	5.9	8.8	2.6	5.3	6.2	3.1	5.3	7.9	3.1	-
Cookies												
Crackers	-	13.9	-	11.8	-	15.8	-	12.5	-	15.8	-	12.5
Misc. sweets, gelatine, etc.	-	13.9	-	5.9	-	5.3	-	15.6	-	5.3	-	15.6

^aQuestions--"If there was more money available for food what foods would you buy more of and what foods would you add?"

Table A-5. Opinion and use of three supplementary foods --
Colombiharina, Incaparina, Dureya as related to
characteristics of mothers

<u>COLOMBIHARINA</u>					
Characteristics of mothers	Have Used	Knowledge But Not Used	Using Now	No Knowledge	Thinks Best
	%	%	%	%	%
<u>Age</u>					
18-32 yrs. (N=36)	38.9	22.2	5.5	33.3	5.5
33 yrs. + (N=34)	61.8	23.5	-	11.8	8.8
<u>Education</u>					
0-4 yrs. (N=38)	55.3	28.9	-	15.8	7.9
5-9 yrs. (N=32)	46.9	15.6	6.2	31.2	6.2
<u>Inc/cap.</u>					
Less than 200 pesos (N=38)	50.0	23.7	5.2	21.0	7.9
More than 200 pesos (N=32)	53.1	21.9	-	25.0	6.2

<u>INCAPARINA</u>					
<u>Age</u>					
18-32 yrs. (N=36)	80.5	11.1	2.8	5.5	30.5
33 yrs. + (N=34)	73.5	11.8	11.8	-	50.0

Table A-5, cont'd.

COLOMBIHARINA					
Characteristics of mothers	Have used	Knowledge But Not Used	Using Now	No Knowledge	Thinks Best
	%	%	%	%	%
<u>Education</u>					
0-4 yrs. (N=38)	78.9	13.1	5.3	2.6	39.5
5-9 yrs. (N=32)	78.1	25.0	15.6	6.2	43.7
<u>Inc/cap.</u>					
Less than 200 pesos (N=38)	78.9	7.9	10.5	2.6	52.6
More than 200 pesos (N=32)	78.1	15.6	3.1	3.1	28.1
DURYEA					
<u>Age</u>					
18-32 yrs (N=36)	38.9	19.4	11.1	30.5	27.8
33 yrs. + (N=34)	32.3	14.7	5.9	44.1	14.7
<u>Education</u>					
0-4 yrs. (N=38)	26.3	18.4	5.3	50.0	13.1
5-9 yrs. (N=32)	46.9	15.6	12.5	25.0	31.2
<u>Inc/cap.</u>					
Less than 200 pesos (N=38)	31.6	15.8	7.9	44.7	13.1
More than 200 pesos (N=32)	40.6	18.7	9.4	31.2	31.2

Table A-6. Use of new food products on the market by 70 mothers^a

Characteristics of mother	Try right away	Use after Good Comment	No Interest	Don't Know
	%	%	%	%
<u>Age</u>				
18-32 yrs. (N=36)	55.5	22.2	22.2	-
32 yrs. + (N=34)	41.2	26.5	20.6	5.9
<u>Education</u>				
0-4 yrs. (N=38)	47.4	21.0	26.3	5.3
5-9 yrs. (N=32)	53.1	28.1	15.6	-
<u>Inc/capita (in pesos)</u>				
50-200 (N=38)	57.9	21.0	15.8	5.3
200 + (N=32)	40.6	28.1	28.1	-

^aQuestion asked was "When a new food product comes on the market do you use it right away?"

CUESTIONARIO

Estudio de Prácticas de Alimentación para Niños Menores

Por :Departamento de Pediatría, Universidad del Valle
Departamento de Ciencias Familiares, Michigan State University

A. IDENTIFICACION FAMILIAR (Información del Estudio PIMUR)

Número de la Entrevista PIMUR _____

Barrio _____

Dirección _____

Nivel de Ingreso Mensual Familiar _____

Número de niños menores de 5 años _____

Número de niños entre los 5 y 15 años _____

Número de personas mayores de 15 años _____

Jefe de la familia — Hombre _____ Mujer _____

Edad del ama de casa _____

Años de educación (del ama de casa) _____

B. INFORMACION FAMILIAR

1. Cómo se llaman y cuáles son las edades de sus hijos vivos menores de 5 años?

Nombre	Edad Meses	Fecha de Nacimiento	Sexo
(1)			
(2)			
(3)			
(4)			
(5)			

2. Murió alguno de sus niños como bebés o menores de 5 años?

_____ No

_____ Si Cuántos y a cuáles edades? _____

3. Quién más vive en su casa además de los niños ya mencionados?

a. Me podría decir cuál es su relación con los niños menores?
(padre, madre, hermano, tía, etc.)

b.Cuál es la edad aproximada y el sexo de cada uno?

c. Ayuda él o ella a cuidar a los niños?

d.Cuál es la actividad de cada persona -- (1) permanece en casa,
(2) estudia, (3) tiene un empleo regular, (4) tiene empleo
irregular?

a. Relación	b. Edad	b. Sexo	c. Ayuda con los niños menores		d. Actividad
			Si	No	
(1)					
(2)					
(3)					
(4)					
(5)					
(6)					
(7)					
(8)					

a. Relación	b. Edad	b. Sexo	c. Ayuda con los niños menores		d. Actividad
			Si	No	
(9)					
(10)					
(11)					
(12)					
(13)					
(14)					

(Si la madre — o ama de casa — tiene trabajo fuera de la casa pregunte —)

4. Qué días y a qué horas del día está usted fuera de la casa en su trabajo?

Días (Círculo)	Horas (aproximadamente)
L	
M	
M	
J	
V	
S	
D	

C. PRACTICAS DE ALIMENTACION FAMILIAR

(En las respuestas indique relaciones de acuerdo con el Cuadro B.2a)

1. Generalmente quién decide en la familia qué alimentos se compran?

2. Generalmente quién compra las comidas para el hogar?

3. Generalmente quién prepara las comidas para la familia?

4. (Si hay padre) Generalmente, qué comida toma el padre con el resto de la familia?

Desayuno _____
Almuerzo _____
Comida _____
No aplica _____

- 5a. Cuáles de los hijos menores de 5 años comen en la mesa con la familia y qué comidas?

Nombre o Número del Cuadro B.1	D	A	C	Ninguno

Comentario : _____

- 5b. Es común que los niños menores coman en otra casa?

_____ No
_____ Si Explique dónde y por qué? _____

6. De qué manera sirve las comidas en la mesa —

_____ Pasamos la comida alrededor de la mesa
_____ alguna persona sirve las comidas. Quién sirve? _____

7. En qué orden sirve usted la comida a los diferentes miembros de la familia? A quién sirve de 1º - 2º - 3º etc.?

Persona	7. Orden	8. Orden Leche
Padre		
Madre		
Niños		
Mayores de 5 años		
Menores de 5 años		
Otros (Quién?)		

3. Varió este orden para la leche?

_____ No usa leche

_____ No

_____ Si Cuál es el orden para la leche?

(Contestar en el Cuadro anterior para cuestión 7.)

D. ALIMENTACION DE LOS NIÑOS MENORES DE 5 AÑOS

Puede decirme algunos asuntos sobre sus prácticas de alimentación para los niños que tienen menos de 5 años. Primero, para el niño más pequeño — se llama (_____)
se refiere al Cuadro B.1

1. Actualmente le está dando pecho, tetero o ambos como alimentación principal?

Pecho _____ Si _____ No

Tetero _____ Si _____ No

Ambos _____ Si _____ No

(Si el niño recibe su alimentación principal del pecho o tetero haga las preguntas D-2 - 11.)

(Si el niño recibe el tetero como alimentación adicional, pase a la pregunta D-12.)

2. (Si da el tetero pregunte —)

Cuál es el contenido y cuáles son las proporciones que usted usa en el tetero?

3. Le da el tetero (o pecho) en horario regular o cuando el niño tiene hambre?

_____ Horario regular

_____ Cuando tiene hambre

Otro : _____

4. Generalmente cuántas veces al día come el niño?

_____ Veces

5. Quién prepara el tetero para el niño ? (Relación basada en el Cuadro B 2)

6. Quién da el tetero al niño? (Relación basada en el Cuadro B.2)

7. Desde su nacimiento, cuántos meses le ha dado pecho al niño?

_____ No se aplica
_____ Meses

8. Cuántos meses le ha dado tetero al niño?

_____ No se aplica
_____ Meses

9. A qué edad (en meses) espera usted quitarle el pecho y/o el tetero al niño?

_____ No se aplica
_____ El pecho (meses)
_____ El tetero (meses)

10. Cómo le dejará de dar el pecho o el tetero al niño? (Chequear todas las que responda)

_____ De una sola vez
_____ Poco a poco
_____ Usar una sustancia amarga
_____ Mandarlo a un familiar
_____ Otro método (explique) _____

_____ No sabe

11. Hasta ahora, qué otros alimentos le ha dado al niño además de pecho o tetero? En qué forma le da las como sopas, coladas u otros?

<u>Alimentos</u>	<u>La Forma</u>
_____	_____
_____	_____
_____	_____
_____	_____

_____ PIMUR Número

_____ Nombre del Niño

(Si el niño no recibe el pecho o el tetero como alimentación principal haga las siguientes preguntas.)

12. Le da usted al niño la misma comida que prepara para el resto de la familia?

_____ Si Comentarios: _____
_____ No _____

13. Le da al niño un tetero alguna vez durante el día?

_____ No
_____ Si Qué contiene el tetero? _____

14. Qué alimentos come el niño entre comidas?

<u>Alimentos</u>	<u>Comentarios</u>
_____	_____
_____	_____
_____	_____

15. Durante la semana pasada recibió el niño leche - huevos - o carne?

Si	No

Leche

Huevos

Carne

16. Cuáles comidas prepara de manera especial para el niño?Cuál es el método de preparación _____ Ninguno

Alimento	Método de Preparación			
	En puré	Masticado	Picado	Otro (especi- -fique)

17. Cuando este niño estaba recién nacido le dió usted pecho, tetero o ambos?

_____ El Pecho

Comentarios: _____

_____ El tetero

_____ Ambos

18. Durante cuántos meses le dió el pecho?

_____ No se aplica

_____ Meses

19. Durante cuántos meses le dió tetero?

_____ No se aplica

_____ Meses

20. Dió el tetero o el pecho en un horario regular o cuando el niño tenía hambre?

_____ Horario regular

_____ Cuando tenía hambre

Otro : _____

21. Cuáles otros alimentos dió al niño además del pecho o el tetero?

Alimentos

Comentarios

22. Cómo le dejó de dar el pecho o el tetero al niño? (Chequear todas las que responda.)

_____ De una sola vez

_____ Poco a poco

_____ Usó una sustancia amarga

_____ Lo mandó a casa de un familiar

_____ Otro método (explique) _____

E. CREENCIAS Y ACTITUDES

1. Cree usted que los alimentos que prepara para sus niños son diferentes a los que su madre preparó para usted cuando era una niña?

_____ No

_____ Si Explique cuáles son las diferencias principales?

2. Cree usted que en éste barrio hay una mayor tendencia de las madres a dar tetero que pecho a sus bebés?

_____ No sé

_____ No

_____ Si Qué piensa usted sea la razón para esta tendencia?

3. Después de quitar el pecho o el tetero al niño cree usted que es muy importante darle leche?

_____ No sé

_____ No

_____ Si

4. Compra leche para sus Niños?

_____ No

_____ Si Qué forma de leche compra usted?

_____ Leche cruda

_____ Leche pasteurizada

_____ Leche en polvo

_____ Leche condensada

Por qué compra la leche en esta forma?

5. Sabe usted de algún alimento que sea tan nutritivo como la leche?

_____ No

_____ Si Cuál es? _____

6. a. Si usted supiera de un alimento tan nutritivo como la leche,
lo usaría en lugar de la leche, si costara lo mismo?

_____ No sé

_____ No

_____ Si

b. Si este alimento costara menos que la leche, lo usaría usted?

_____ No sé

_____ .o

_____ Si

7. a. Conoce usted los siguientes productos?

(a) Si	Producto	(b) Ha usado	(c) Cuál es mejor	(d) Su opinión
_____	Colombiarina	_____	_____	_____
_____	Incaparina	_____	_____	_____
_____	Duryea	_____	_____	_____
_____	Maizena	_____	_____	_____
_____	Superbaby	_____	_____	_____

b. Cuáles ha usado de ellos?

c. Cuál producto es mejor? (Si ella ha usado dos o más.)

d. Qué opinión tiene del producto usado?

8. a. En su opinión cuáles alimentos son los mejores para niños pequeños cuando se les quita el pecho o el tetero?

Alimentos

- b. Cuáles alimentos cree usted que son malos para niños pequeños cuando se les quita el pecho o el tetero ? Por qué?

Alimentos

Por qué?

9. Si usted tuviera más dinero qué otros alimentos quisiera comprar para sus niños?

10. a. Qué alimentación especial tiene usted para un niño que tiene fiebre — dolor de estómago — diarrea ?

a. Alimento

b. Cómo lo aprendió?

Fiebre

Dolor de
estómago

Diarrea

F. FUENTES DE INFORMACION

1. Si usted no supiera que darle de comer a un niño enfermo, qué haría?

_____ Preguntarle a una vecina

_____ Preguntarle a un familiar (cuál?) _____

_____ Llevar al niño al Centro Médico o a un Hospital

_____ Preguntar a una monja

_____ Preguntarle a una Trabajadora Social

_____ Nada especial

_____ Otro (especifique) _____

2. Hay un Centro de Salud en su barrio?

_____ No

_____ Si

Lleva usted sus hijos allí?

_____ Si

_____ No

3. Ha asistido usted alguna vez a una clase sobre prácticas de salud y alimentación de niños?

_____ No

_____ Si Dónde ? _____

4. Ha recibido ayuda de una trabajadora social sobre problemas familiares?

_____ No

_____ Si

5. Tiene usted un radio que funciona en su casa ahora?

_____ No

_____ Si

6. Recibe usted un periódico en su casa?

_____ No

_____ Algunas veces

Puede leer el periódico?

7. Le gustaría tener más información sobre alimentación infantil?

_____ No

_____ Si

Comentarios generales sobre la familia y su casa : _____

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