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SUNIAGA DE VARGAS, ROSARIO MARIA

FOOD AND NUTRITION BELIEFS AND PRACTICES
ASSOCIATED WITH THE LIFE CYCLE OF SPANISH-
SPEAKING WOMEN

THE UNIVERSITY OF ARIZONA

M.S. 1984

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FOOD AND NUTRITION BELIEFS AND PRACTICES
ASSOCIATED WITH THE LIFE CYCLE OF
SPANISH-SPEAKING WOMEN

by

Rosario Suniaga de Vargas

A thesis Submitted to the Faculty of the
NUTRITION AND FOOD SCIENCE DEPARTMENT
In Partial Fulfillment of the Requirements
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MASTER OF SCIENCE
In the Graduate College
THE UNIVERSITY OF ARIZONA

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DEDICATIONS

This thesis is dedicated to my parents Mr. José Suniaga, and Mrs. Eloisa Quijada de Suniaga, and to my brother Jesús Suniaga for their moral support, and to my husband Anibal Vargas and my daughter Rosani who patiently accepted the inconvenience through my years of study.

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ABSTRACT

Forty Spanish speaking women attending a WIC clinic in Tucson, Arizona were interviewed about food and nutrition beliefs and practices during the menstruation, pregnancy, childbirth, and lactation periods and about their attitudes concerning cravings and pica practices. The sample was composed of two different age groups, younger women and older women. Findings showed that a majority of respondents held one or more dietary beliefs and practices pertaining to the various periods of the life cycle. Most of these beliefs and practices appeared to be cultural patterns, and the respondents appeared to be influenced by an older female relative. Age and education were associated with these beliefs and practices. Some of these practices could lead to a diminished nutritional status. Specialized nutrition education programs need to be developed for this ethnic group to correct dietary misconceptions and change eating patterns during these crucial periods.

CHAPTER 1

INTRODUCTION

Spanish speaking women form a minority group in Arizona having a cultural background different from that of Anglo-Americans. Studies published in recent years have described in detail various culture related beliefs that pertain to health as perceived by Spanish-Americans and Mexican-Americans in the United States and Puerto Rico (Bartholomew and Poston, 1970; Cardenas and Gibbs, 1970; Harwood, 1971; Kay, 1977; Molony, 1975; O'Grady, 1973; Snow and Johnson, 1977 and 1978; and Whetzel, 1973).

Research has shown that cultural food beliefs and practices are more common in rural areas than towns and cities and that an older female relative appears to be the most influential person in the food choices of younger women. Age and education have not been shown to correlate well with food beliefs and practices. Most of the cultural beliefs are handed down from one generation to the next. They are traditional and unquestioned. Some unsound beliefs are due to superstitions and fears (Bartholomew and Poston, 1970).

Many cultures have beliefs and customs regarding menstruation, pregnancy, childbirth, and lactation which directly influence maternal and child practices. It appears that customs and beliefs concerning

food can affect the nutritional status of women at these crucial periods in their life cycle (Bartholomew and Poston, 1970; Ferguson and Keaton, 1950; Harwood, 1971; Kay, 1977; O'Grady, 1973; Snow and Johnson, 1977; Whetzel, 1973). Some of these food practices can have a significant adverse effect especially during pregnancy and lactation.

The Research Question

This study was designed to answer the following research questions:

1. Would there be a significant difference in the food and nutrition beliefs and practices followed by those women living with an older female relative and those women living without an older female relative.
2. Would there be a difference in food beliefs and practices followed by young Spanish-speaking women and those followed by older Spanish-speaking women.
3. Would there be any association between educational levels of women and food beliefs and practices.

Assumptions

It was assumed that the volunteers who participated in this study would report their food and nutrition beliefs and practices accurately.

The participants were American citizens so that an acculturation effect could be assumed.

Limitations

Some limitations of this study that need to be considered when interpreting the results are:

1. The sample used consisted of all volunteers and was not chosen by random sampling.
2. The sample was limited to WIC clinic low income Spanish-speaking women. Therefore, this study cannot be generalized to all Spanish-speaking women in the United States.
3. The number of older Spanish-speaking women interviewed was small.

Definitions of Terms

The following terms are used in this study as follows:

1. Acculturate: Group or persons who adopt traits of another culture.
2. Acid Food: Food that has an acid or sour taste.
3. Aversion: Revulsion against food and drink not previously disliked.
4. Avoidance: Non-use or non-consumption of a food.
5. Childbirth: The process of labor or the act or process of giving birth to a child.
6. Cocido: A stew composed of meat and vegetables.
7. Craving: The compulsive or even obsessional desire for unusual, absurd or inappropriate food.
8. Culture: The way a people live.

9. Food taboo: Restriction in eating certain foods.
10. Food beliefs: Avoidance or preference for certain foods for specific reasons.
11. Frijoles: Any type of bean.
12. Hot or cold: Innate qualities thought to be present in a food that do not refer to thermal state or to taste.
13. Jarritos: Small unfired clay jars.
14. Lactation: The period during which an infant is suckled on the mother's breast.
15. Menstruation: Discharge of blood, secretions, and tissue associated with necrotic changes of the uterine mucous that occurs monthly in non-pregnant women.
16. Pica: The ingestion of unsuitable substance having little or no nutritional value.
17. Pregnancy: The condition of having a developing embryo or fetus in the body after union of an ovum and sperm.
18. Postpartum: Forty days immediately after the birth of the child.
19. Spanish-speaking Americans: People of Mexico. Puerto Rico, Cuba, Central or South America or other Spanish culture or origin, regardless of race.
20. Tripas de leche: Young, whitish tripe (i.e., beef intestines).
20. WIC: Women, Infants, and Children Program, a federally funded program that provides nutrition education and certain food items to eligible persons.

CHAPTER 2

REVIEW OF RELATED LITERATURE

This literature review covers research that has been done on food and nutrition beliefs and practices related to menstruation, pregnancy, childbirth, and lactation.

Menstruation

There are several studies that provide information on food beliefs and practices associated with menstruation. Harwood (1971) studied the "Hot-cold" beliefs held by Puerto Rican-American women in New York City. These women avoided eating "cold" food or taking "cold" medicines during any illness or body state also classified as "cold". Menstruation is viewed as a "cold" state, because the body is losing blood which is considered to be a hot substance. Harwood mentions that physicians who have prescribed a diuretic encourage patients to eat oranges, bananas, raisins or other dried fruit to maintain potassium balance. These foods are classified as "cold" and to avoid them during the menses consequently eliminates the potassium sources needed. Kelly (1965) described folk practices in northern Mexico where women also avoided fruit, which was defined as "cold", or "any acid" food during the menstrual period for fear of cramps. Kay (1972) observed that Mexican-American women in Arizona avoided foods

which were acid such as lemons and tomatoes. They believed that if these foods were ingested the menstrual blood would congeal in the uterus to later re-appear as cancer. Also, Kay noted that watermelon and cucumbers were avoided because they were considered very "cold", and made the uterus very "cold".

Cardenas and Gibbs (1976) found that the diets of many Mexican-Americans were very low in nutrients because of cultural food patterns. Foster (1973) studied the people of Tzintzuntzan. During menstruation these women restricted some foods, including bananas, oranges, and cactus stalks, since they were thought to produce colic.

Whetzel (1973) studied the food customs of the Arizona border. She reported that some informants avoided eating bananas, lemons or "acid foods" since they believed they caused cramps when eaten during the menstrual period. Snow and Johnson (1977) studied low income Americans and Mexican-Americans and found that these women changed their diet during the menses based on an assumption that certain foods could clot the blood or could cause cramps. Therefore, their consumption at this time might stop the natural flow. The foods usually avoided were citrus fruits, tomatoes, and green leafy vegetables.

According to these studies, the avoidance of some foods during menstruation were due to a fear of stopping the flow, severe menstrual cramping, a longer flow, cancer, stroke, and/or sterility.

Pregnancy

During pregnancy, many precautions are taken to maintain well being. Many of these precautions include changes in the diet.

O'Grady (1973) studied childbirth practices of Mexican-Americans in Tucson. Most women were able to provide a list of foods forbidden during pregnancy. These foods were classified as "very hot" or "very cold", and included chile, chocolate, pork, beans, tomatoes, lemons, watermelon, ice, and jello. Mothers believed that these foods caused gas in a pregnant woman.

Bartholomew, et al. (1970) studied the dietary habits of both black and white Americans and observed some food restrictions during pregnancy. It was believed that milk should be avoided because it would cause cancer in either the pregnant woman or the fetus, that pork would cause death for the mother by "rotting" the uterus, that green leafy vegetables would "mark the baby", that rice cake which was over-cooked would make labor difficult, and that diet colas would be "toxic" to the fetus.

Clark (1970) found that the Mexican-Americans in California held beliefs that certain foods could "mark a child". For instance, eating fish would result in a child having scales. "Hot" foods would cause the child to suffer from diaper rash.

Kelly (1965) reported that pregnant women in northern Mexico believed that eating eggs and meat caused the fetus to grow too big and labor would be difficult.

Foster (1973) studied the people in Tzintzuntzan. Most women avoided eating chiles, beans, and eggs since they believed the child would suffer from "chinkual", a skin eruption. A pregnant woman must not eat rabbit since they believed that the child would have big ears, nor do they eat squirrel since it was believed the child would have big teeth and long nose.

Wellin (1955) studied maternal and infant feeding practices in a Peruvian village. Women avoided "hot" items like chocolate, spices and alcohol because they aggravated heartburn during pregnancy. They ate foods that were mildly hot such as chicken broth, teas, soups, and stews. Cold foods such as pork and watermelon were avoided because it was believed that they were dangerous for the expectant mother.

Meleney (1976) observed food habits in Chile and found that pregnant women believed they should not eat squash, hot peppers, cabbage or cauliflower because it was thought that gases might be passed into the baby.

Pregnancy appeared to be a time of much concern in relation to food and nutrition beliefs and practices. All these beliefs and practices had as a special purpose the protection of the mother or her fetus.

Cravings

Many cultures believe that the fetus may be affected by maternal experiences, emotions, and exposures during pregnancy.

The most popular belief is that unsatisfied food cravings or eating too much of the craved food will produce a birthmark, dietary preference or allergy in the infant (Snow and Johnson, 1978, Kay, 1977, and Edwards, et al, 1954). Foster (1973) observed that in Tzintzuntzan people believed that unsatisfied cravings could induce miscarriage.

Most researchers found that a common belief was that cravings were demands of the fetus since they only happened during pregnancy.

Pica

The belief that the fetus may somehow signal its nutritional needs may also contribute to pica during pregnancy. Laufer (1933) and other researchers concluded that pica was widespread and not limited to any one culture, race, age, economic group or educational level. This practice has been reported in all ages and both sexes, but was more common in pregnant women among Blacks, Hispanics and Whites. Snow and Johnson (1978) studied American and Latin-American women and found that some women practiced pica during pregnancy. Starch pica was more common among Black women while clay was more common among the Hispanics. Snow & Johnson mentioned that some Mexican-American women have eaten "jarritos", while others reported eating the little balls of dirt found in dried pinto beans.

Edwards, et al (1959) observed clay and cornstarch-eating among Black pregnant women. Some of the women were starch-eaters, others clay-eaters, and some ate both. The desire usually ceased at

the end of the pregnancy. There was fear the baby would not be normal if the mother did not eat clay or starch. Edwards also noted that such practices were more common in rural areas than in towns and cities and that older persons exerted a strong influence on the food choices of the younger women.

Ferguson and Keaton (1950) studied pregnant women's diets in Mississippi and observed a high incidence of toxemia in those pregnant women who practiced pica. Keith, et al (1968) observed pregnant women in Chicago and found that those pregnant women who ate laundry starch had a higher incidence of anemia and greater severity of the anemia than did nonstarch-eaters. Talkington, et al (1970) studied the effects of ingestion of starch and some clays on iron absorption. They observed that iron absorption and utilization was not affected by clay or starch ingestion in the presence or absence of a standard dosage of ferrous iron. The relationship of pica to nutritional deficiency is controversial but no researcher has found that such a practice was beneficial.

Childbirth and Postpartum

Food plays an important part in the childbirth and postpartum periods. Dietary precautions are observed to keep the mother's health in good condition. Kay (1977) observed that Mexican-Americans may avoid eating "acid foods" during childbirth and postpartum because they believed such foods would cause breast infections and edema around the eyes and ankles. Kay also observed that hot chocolate,

cinnamon and camomile teas are believed to help in the birthing process.

Foster (1967) studied Mexican villagers and found that the eating of beans by the mother was forbidden until the umbilical stump fell off. The mother was to eat light meals consisting of chocolate, coffee with milk, soups, tortillas, and broth of the meat of female chickens.

Molony (1975) studied a Mexican community, and found that women after childbirth were to eat "hot" food because women were in a "cold" condition after birth. Clark (1970) noted that Mexican-Americans in California may avoid some fruits, such as bananas, grapefruit, oranges, and other citrus fruits because they are "too acid" and are believed to cause varicose veins in the women who eat them during the childbirth and postpartum periods.

Lewis (1951) studied life in a Mexican village and observed that the diet of the women during these periods was very poor. It consisted of cinnamon tea, tortillas, cheese, and warm water. Lewis also mentioned that some foods such as milk, chocolate, and coffee were believed to be dangerous when taken alone because they "chilled" the ovaries. This type of diet was changed when the mother was "clean" or the bleeding stopped. It has been suggested that food avoidances during the childbirth and postpartum periods were changed because the people believed that certain foods inhibited the postpartum bleeding or caused varicose veins or breast infections.

Lactation

According to some studies, the foods that are eaten by a lactating mother are carefully chosen to avoid causing gas and diarrhea in the baby and to assure richness and abundance of milk. Kelly (1965) reported that in northern Mexico, it was believed that lactation may be affected by environmental extremes of either heat or cold causing the breast milk to become thin. "Enlechado", an ailment found only in nursing children, is thought to result from an over-heated mother breast-feeding her child thereby causing the child to develop a "congestive" condition. Kelly also mentioned the belief that the newborn baby was considered hot from the womb and would reject the mothers' milk which was "young and fresh, but cold to him". It was believed that the baby should be rid of the phlegm in his stomach before he could tolerate the breast milk. Kay (1977) found a belief in southern Arizona that colostrum was bad for new babies and that the baby should have his system cleared by castor oil or olive oil before being allowed to nurse. Currier (1966) studied Mexican and Spanish-American folk medicine and observed that there was a belief that contact with cold would decrease the flow of milk in a nursing mother, but warmth would increase it. Snow and Johnson (1978) studied American and Latin-American women and found that some women avoided eating spicy foods, cabbage and acid foods since they believed that these foods would sour the breast milk.

Most of these studies revealed many folk beliefs associated with food, nutrition and the life cycle of women present in the United States today. Some of these beliefs can have harmful effects which result in poor nutrition for the women and/or their children.

This study was designed to investigate both beliefs and practices concerning food associated with critical periods in the female life cycle.

CHAPTER 3

PROCEDURES AND METHODS

This descriptive study of the beliefs and practices of Spanish-speaking American women concerning food and nutrition had three objectives. The first objective was to determine if there was a significant difference in beliefs and practices between women who lived with an older relative (mother, aunt, sister, grandmother) and those women who did not. A second objective was to compare food beliefs and practices followed by young women (15-29 years) and those beliefs and practices followed by older women (30-45 years). The third objective was to determine if there was an association between level of formal education and food and nutrition beliefs and practices.

Selection of the Sample

The initial contact to obtain Spanish-speaking American women for this study was made through the Women Infants and Children (WIC) nutritionists in Tucson, Arizona. Subjects were contacted in person by the nutritionists and the investigator in the clinic setting. Each one was asked if they would be willing to participate in this study. The final sample consisted of forty volunteer women who were very cooperative during all of the interview sessions. The sample size of

forty was chosen as it was expected to represent an appropriate age range for purpose of analysis. Fifteen to 29 years was considered "young" and 30 to 45 years was considered to be "older".

Development of the Instrument

A bilingual interview instrument (English/Spanish) was constructed specifically for this study. In order to facilitate use of the instrument by both the informants and interviewer, it was constructed in two parts. Part I was to be answered entirely by circling a choice of words, yes or no. This part included only demographic data. Part II required longer and more detailed free response answers. It covered information about food beliefs and practices associated with menstruation, pregnancy, childbirth and postpartum, and lactation. Specific questions about dietary changes during the life cycle were included as well as questions about cravings and pica. The questionnaire was reviewed by a five member review panel consisting of three nutritionists, a statistician, and a program evaluation specialist. It was then pilot tested with three Mexican-American women as a validation procedure. It was reworded for greater clarity and re-reviewed. (See appendix A for sample copy of the instrument).

Data Collection

The women involved in this study consisted of forty women that attended a WIC clinic in Tucson, Arizona. To be potential recipients of the WIC program, the women had to be pregnant,

breast-feeding, or in the postpartum condition with an infant or child, (up to 5 years of age), considered to be at nutritional risk through a medical or nutritional assessment. The women had to have an annual low income range per family (See Table I).

Table I. Financial Guide for Determining WIC Eligibility

Family Size	Income
1	8,660
2	11,510
3	14,360
4	17,210
5	20,050
6	22,900
7	25,750
8	25,750

For this study, the subjects were divided into two different age groups. Young women (15-29 years) and older women (30-45 years). The women in this study all lived in Tucson. The information was gathered from verbal responses during a personal interview in which the questionnaire was administered to the forty volunteer women. One bilingual interviewer administered all questionnaires. All interviews were conducted at the clinic with the exception of three which were conducted in the respondents' home. All interviews were

conducted at the respondents' convenience.

The information was compiled and grouped categorically for reporting. This project was approved by the University of Arizona Human Subjects Committee.

Analysis of Data

The data in this study is reported by use of frequencies, proportions and percentages. Significance tests for proportions were used to assess group differences.

CHAPTER 4

RESULTS AND DISCUSSION

Findings in this study were varied. Some food beliefs and practices were reported again and again with little variation from subject to subject. The findings will be reported in the following five sections: (1) sample description, (2) food beliefs and practices during the menstruation period, (3) food beliefs and practices during pregnancy including cravings and pica, (4) food beliefs and practices during childbirth and the postpartum period, and (5) food beliefs and practices associated with lactation.

Sample

There were 29 women in this study with an age range of 15 to 29 years. This group was classified as the "young women" group. The mean age was 23.4. Fourteen of these women were originally from Mexico, one was from Cuba, 13 were Mexican-Americans born in the United States of Mexican heritage, and one was a Colombian-American born in the United States of Colombian heritage. (See Table II).

Only 22.5% (9) reported living with an older female relative such as grandmother, mother, sister or in-law. (See Table III). All of the women spoke Spanish. Most of the parents and grandparents were

Table II. Age and Place of Birth of Subjects

Age	Born in USA	Percent	Born in Latin Countries	Percent	Total
15 - 29	14	35	15	37.5	29
30 - 45	6	15	5	12.5	11

N = 40

Table III. Subjects Living With an Older Female Relative

Group	Number	Percent
Older	2	5.0
Young group	9	22.5
Total	11	27.5

N = 40

reportedly born in Latin American countries.

The subjects reported a varying amount of formal education. Fifty-five percent had 12 or fewer years of schooling. Those with six or fewer years of schooling totaled 7.5% (3) while 10% (4) had a college education. The most education reported was 16 years and the least was four years of formal schooling (See Table IV).

The second group, the "older women", was composed of 11 women with ages ranging from 30 to 45 years. The mean age was 34.3. Five of these women were born in Mexico and six were born in the

Table IV. Educational Level of All Subjects

Age	0-6	Percent	Years of Education		College	Percent
			6-12	Percent		
15-29	3	7.5	22	55.0	4	10.0
30-45	1	2.5	8	20.0	2	5

N =40

United States. All reported themselves to be of Mexican heritage. Five percent (2) reported they lived with an older relative in their home. Spanish was the preferred language of all respondents. These women also reported a diverse amount of formal education. Twenty percent (8) had 12 years or less of formal schooling, 5% (2) had a college education while 2.5% (1) had not completed elementary school (K-6). The mean level of formal schooling for both groups was 10.4 years.

Diet During Menstruation

The women reported their food beliefs and practices associated with menstruation. Thirty-six women believed that their diet during menstruation should be changed. Twenty-six women followed these practices each month. Twenty-two women reported changing their diets during this period due to the influence of an older female relative. Only four women changed their diet because of influence by others such as friends and neighbors (See Table V).

Table V. Food Beliefs and Practices During Menstruation

Group	Number of Subjects	Subjects Reporting Beliefs	Subjects Practicing Dietary Changes Influenced by:		No Response
			Older Relatives	Others	
Older	11	10	5	5	1
Young	29	26	17	1	2
Total	40	36	22	4	3

N = 40

The women followed these practices monthly during the menstrual period which ranged from three to seven days. The majority of the informants reported that they avoided eating chiles, bananas, or any "acid food" such as lemons, tomatoes, oranges, grapefruit, and pickles, since they believed they would cause severe abdominal cramps. This finding is similar to the beliefs reported by Kelly (1965), Kay (1972), Snow and Johnson (1977) and Whetzel (1973). Four women reported believing that "acid food" might cause the menstrual flow to stop. Five informants indicated that they believed that if chocolate was eaten during this time it would cause pimples on the face. Only one woman mentioned the belief that eating beans and salty foods during this period would cause the abdomen to swell. All but three of the subjects listed foods which should be avoided during menstruation. These foods included avocados, pork, milk, watermelon and soft drinks. Another reason given for avoidance were that certain foods were "too heavy" for the stomach and would cause indigestion. (See Table VI & VII).

Table VI. Reasons given for Avoiding Foods During Menstruation

Reasons	Frequency Mentioned	Percent
Cramp	25	62.50
Bad odor	6	15.00
Pimple	5	12.50
Stop the flow	4	10.00
Heavy for the stomach	3	7.50
Swell the stomach	1	2.50

N = 40

The group with fewer years of formal education (4-10 years of schooling) changed their diet more during the menstruation period than the group with more education ($P \geq 0.05$). (See Table VIII). Age and presence of an older female relative were not significant factors.

Diet During Pregnancy

The women reported some beliefs concerning pregnancy which related to eating habits. Twenty-four believed that their diet should be changed during this period but only sixteen followed these practices. The changes were adopted for all or part of the

Table VII. Foods Commonly Avoided During Menstruation

Foods	Frequency Mentioned	Percent
Oranges	21	52.50
Lemon	26	65.00
Grapefruit	13	32.50
Tomatoes	10	25.00
Egg	6	15.00
Soft drink	10	25.00
Watermelon	2	5.00
Chiles	14	35.00
Pickles	2	5.00
Bananas	4	10.00
Milk	6	15.00
Chocolate	5	12.50
Avocado	1	2.50
Pork	3	7.50
Beans	2	5.00

N = 40

Table VIII. Association of Food Beliefs and Practices and Educational Level

Beliefs/Practices	4 - 10 grade (N = 15)	10 + (N = 25)	Z
Believed diet should be changed during menstruation	15	21	2.19*
Avoided foods in pregnancy	7	9	.66
Satisfied food cravings	6	13	.74
Practiced pica during pregnancy	3	3	.65
Believed diet should be changed during postpartum	13	17	1.45
Avoided food during lactation	9	5	2.68*

* Significant at the .05 level

pregnancy. Six of the women reported believing that milk, eggs, beans, fish and meat, (especially pork) would cause nausea and vomiting. Five subjects mentioned the belief that beans, chiles, and any "acid food" would cause the baby to have colic after it was born. Seven women believed that chiles and any "acid food" would cause cramps and heartburn. Five women reported that they avoided eating chiles, beans, and eggs since they believed those foods caused the baby to be born with skin eruptions. This explanation was confirmed by Foster (1973). Only one of the women in this study said that she eliminated junk food, since she believed it would cause her to gain weight. She included bread, potato chips, soft drinks, and tortillas in this "junk" food category. See Table IX for list of foods commonly avoided during this period, and Table X for the reasons given for avoidance. There was no significant difference in food beliefs and practices between the old and young group.

Food Cravings During Pregnancy

Nineteen of the women studied satisfied their food cravings during pregnancy. Three of them believed that if cravings were not satisfied they would become ill. Four women said that unsatisfied food cravings would cause the baby to be born with an open mouth while three women reported that the baby would be born with these cravings. Two women mentioned that they usually satisfied their cravings because it was a belief in their family. Only one woman

Table IX. Foods Commonly Avoided During Pregnancy.

Foods	Frequency Mentioned	Percent
Chiles	14	35.00
Milk	6	15.00
Eggs	6	15.00
Fish	6	15.00
Meat	6	15.00
Beans	5	12.50
Lemons	5	12.50
Orange	5	12.50
Grapefruit	5	12.50
Tomatoes	5	12.50
Salty foods	3	7.50
Tortilla	1	2.50
Bread	1	2.50
Soft drink	1	2.50
Potato chips	1	2.50

N = 40

Table X. Reasons given for Avoiding Foods During Pregnancy

Reasons	Frequency Mentioned	Percent
Nausea and vomiting	6	15.00
Cramps and heartburn	7	17.50
Baby born with colic	5	12.50
Baby born with skin eruption	1	12.50
Weight gain	1	2.50

N = 40

said that food cravings were due to a vitamin deficiency in the expectant mother, and therefore she must satisfy her craving. Two women said that after they satisfied their cravings they felt better. One woman reported believing that unsatisfied food cravings were dangerous to the baby. The most common food cravings were ice cream and fruits (See Table XI).

Table XI. Reasons Given For Food Cravings

Reasons	Frequency Mentioned	Percent
Woman got sick	3	7.50
Baby born with an open mouth	4	10.00
Baby born with craving	3	7.50
Beliefs of the family	2	5.00
Woman has vitamin deficiency	1	2.50
Woman felt better	2	5.00
Dangerous for the baby	1	2.50

N = 40

Those women who lived with an older female relative satisfied their food cravings more frequently ($P > .05$) during pregnancy than women living without an older female relative (See Table XII). The scope of this study did not cover "aversions", however, two respondents mentioned that they did not eat eggs and fish during pregnancy

because the smell of these foods caused them to vomit. There were no significant differences between the young women and the older women in regard to beliefs or practices associated with food cravings nor was there a difference in educational level.

Pica

Twenty-five respondents reported knowing of women eating non-food items while they were pregnant. Only six of the women in this study followed this practice. Of these, most ate dirt, cigarette ashes, and ice. One mentioned that she ate the dirt found in "frijoles" during her first pregnancy but not during later pregnancies. Similar practices have been reported by Snow and Johnson (1977). Four women believed that these practices were beneficial both to them and to their unborn baby. Three of them said that they ate these substances because they believed their bodies needed them. All six women who practiced pica lived with an older female relative ($p > .05$). Age was not a factor associated with the practice of pica.

Diet During Childbirth

All subjects in this study gave birth in a hospital, so no data were available regarding food items consumed during childbirth, although other researchers (Foster (1973), Lewis (1951), Kay (1972), Kelly (1965) have found that items such as hot chocolate, cinnamon and camomile teas are believed to help in the birthing process. The subjects in this study were asked verbally about changes in their diet during the postpartum period. This period was known as "la dieta" for all the respondents and consisted of the forty days

immediately following the birth of the child. During this time the mother restricted the intake of certain foods, avoided sexual intercourse, and rested. Thirty women believed that their diet during this time should be changed because of its effect on the health of the mother. Twenty-four women followed this practice. Seven avoided the intake of chiles, beans, cabbage, cauliflower, and pork since they were considered difficult to digest and to promote flatulence. Five women eliminated "junk foods" such as doughnuts, potato chips, and sweet foods because they wanted to lose weight.

Seven respondents reported that they restricted the intake of chiles and any "acid food" such as lemons, grapefruit, oranges, and tomatoes for fear the postpartum flow would cease. These prescribed foods were mentioned by Clark (1959) and Kay (1966), but the reasons they reported for avoidance were not the same as the reasons reported in this study.

Five women mentioned that they avoided eggs, chiles, and beans because they believed these foods would cause colic in the baby. One woman reported that beans and chiles made her stomach swell. One respondent said she avoided beans and chiles during postpartum because she believed they were dangerous for the kidneys. Another woman explained that she did not eat "cocido" during this time since a woman in her neighborhood died from eating this type of food during postpartum (See Tables XII and XIII). The women reported following these postpartum practices for from 40 days to four months. The

Table XII. Reasons Given for Avoiding Foods During Postpartum

Reasons	Frequency Mentioned	Percent
Flatulence	7	17.50
Lose weight	5	12.50
Flow to stop	7	17.50
Colic in the baby	5	12.50
Swell the stomach	1	2.50
Dangerous for the kidneys	1	2.50

N = 40

younger group tended to change their diet more ($P > .05$) during the postpartum period than the older group (See Table XIV), but an older female in the household made no difference, nor did educational level.

Diet During Lactation

Food intake during the lactation period was also affected by cultural attitudes toward food and nutrition. Sixteen women responded positively to the question that the diet should be changed during this time. Fourteen practiced these beliefs.

Ten women reported believing that eating chiles, beans, fruits, eggs, soft drinks, cabbage, milk, potatoes and "tripas de leche" would produce colic and gas in the baby. Three women mentioned

Table XIII. Foods Commonly Avoided During Postpartum

Foods	Frequency Mentioned	Percent
Chiles	14	35.00
Beans	7	17.50
Cabbage	7	17.50
Cauliflower	7	17.50
Doughnuts	7	17.50
Potato Chips	7	17.50
Sweet foods	7	17.50
Acid foods	7	17.50
Pork	7	17.50
Eggs	5	12.50

N = 40

Table XIV. Food Beliefs and Practices as Compared Between Old Group and Young

Beliefs/Practices	Young (N=29)	Old (N=11)	Z
Believed diet should be changed during menstruation	27	9	.94
Avoided foods in pregnancy	12	4	.29
Satisfied food cravings	13	6	1.58
Practiced pica during pregnancy	5	1	0.27
Believed diet should be changed during postpartum	24	6	1.70*
Avoided food during lactation	10	4	.63

* Significant at the 0.05 level.

the belief that chocolate, green beans, cabbage and pork would cause indigestion. One woman believed that chiles, spicy foods and certain fruits would sour the breast milk. These beliefs were also reported by Snow and Johnson (1977). Only one informant explained that she ate everything but increased the intake of liquids and oatmeal to increase the milk supply (See Table XV & XVI).

The group with less education (4-10 years of schooling) tended to change their diet more during the lactation period than the group with more education (10 + years of schooling) (See Table XVI). This association was significant ($P \geq .05$). Those women who lived with an older female relative avoided more foods ($P \geq .05$) during the lactation period than those women living without an older female relative (See Table XVII). Age was not a factor associated with food and nutrition beliefs during lactation.

Table XV. Reasons Given for Avoiding Foods During Lactation

Reasons	Frequency Mentioned	Percent
Colic in the baby	10	25.00
Sour the breast milk	1	2.5
Gas in the baby	10	25.00
Indigestion	3	7.50

N = 40

Table XVI. Foods Commonly Avoided During Lactation

Foods	Frequency Mentioned	Percent
Chiles	11	27.50
Beans	10	25.00
Fruits	10	25.00
Eggs	10	25.00
Cabbage	10	25.00
Milk	4	10.00
Soft drink	4	10.00
Green beans	1	2.50
Pork	3	7.50
Spicy foods	1	2.50
Tripas de leche	1	2.50
Chocolate	3	7.50

N = 40

Table XVII. Food Beliefs and Practices Associated with Presence of an Older Female Relative

Beliefs/Practices	With Older Relative (N=11)	Without Older Relative (N=29)	Z
Believed diet should be changed during menstruation	10	26	.12
Avoided foods during pregnancy	4	12	.29
Satisfied food cravings	8	11	2.16*
Practiced pica during pregnancy	6	0	4.47*
Believed diet should be changed during postpartum	8	22	0.18
Avoided food during lactation	7	7	2.39*

* significant at the 0.05 level.

Table XVIII. Food Beliefs and Practices Associated With Life Cycle

Beliefs/Practices	Women with an older relative				Women without an older relative			
	Young	%	Older	%	Young	%	Older	%
Believed diet should be changed during menstruation	8	20.00	2	5.00	19	47.50	7	17.50
Avoided during pregnancy	4	10.00	-	-	8	20.00	4	10.00
Satisfied food cravings	7	17.50	1	2.50	6	15.00	5	12.50
Practiced pica during pregnancy	5	12.50	1	2.50	-	-	-	-
Believed diet should be changed during postpartum	8	20.00	-	-	16	40.00	6	15.00
Avoided food during lactation	6	15.00	1	2.50	4	10.00	3	7.50

N = 40

CHAPTER 5

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This study investigated the food and nutrition beliefs and practices of forty volunteer Spanish-speaking American women as they related to the female life cycle. The sample was divided into two groups by age. Both the younger group and the older group showed the influence of an older female relative, although only eleven of the women studied lived with one. Most of the women studied, however, had frequent contact with older female relatives. Grandmother, mother, sisters, aunts, and in-laws frequently lived nearby and seemed to be a constant source of advice and aid. The beliefs concerning food and nutrition and their practices during the life cycle were very similar among all of the women studied.

Most of the women in both groups reported changing their diet during the menstrual period with the majority reporting they were influenced to do so by an older female relative. The younger group appeared to be the most influenced by an older female. The advice and opinions of older relatives were believed and highly respected. Edwards et al. (1959) reported older persons in rural communities as exerting strong influences on food choices of the younger group. The results of this study appear to confirm their findings although these

subjects came from an urban setting. The foods commonly avoided during the menstrual period for both groups were chiles, bananas, and "acid foods". Those women having less education followed these practices to a greater extent than did the women with a higher level of education.

More than half of the subjects changed their diet during pregnancy. The foods commonly restricted were milk, eggs, beans, fish, meat (especially pork), 'acid foods", and chiles. Age, educational level, and presence of an older female relative in the household were not influencing factors.

Nineteen women reported that they satisfied their food cravings during pregnancy as they believed unsatisfied cravings would cause the pregnant women to get sick or the baby to be born with an open mouth or cravings for these foods. Significant differences ($P > .05$) were found between those women living with an older female relative and those women living without in regards to the practice of satisfying food cravings.

Pica was practiced by six respondents. The substances most commonly eaten were dirt, ashes, and ice. There was a significant difference ($p > .05$) between those women living with an older female relative and those women without on the practice of pica. Educational level was not significantly associated with this practice nor was subject age.

Both younger and older women changed their diet during the

postpartum period. The foods commonly avoided during this period were pork, chiles, bean, cabbage, cauliflower, "acid foods", potatoes, and sweet foods. There was a significant difference ($P_{>.05}$) in food beliefs and practices during the postpartum period between the young women and the older women. There were no significant differences found between educational levels or presence of an older female relative.

Diet during lactation was changed by both the young and older subjects. The commonly avoided foods during lactation were chiles, beans, fruits, eggs, milk, cabbage, cauliflower, chocolate, "tripas de leche", and spicy foods. There was a significant association ($P_{>.05}$) between food beliefs and practices during lactation period and both educational level and the presence of an older female relative. Age was not a significant factor.

Some practices and beliefs seem quaint and harmless but others contribute directly to poor nutrition for the women and their infants. Some of the subjects avoided eating nutrient-dense food such as milk, eggs, fish, and meat during critical times while others practiced eating non-food items that could affect their nutrient status.

Studies of Wellin (1955), Currier (1966), Harwood (1971), O'Grady (1973) and Molony (1975) reported food avoidance practices relating to "hot" and "cold" foods. This study elicited no information directly or indirectly relating to this concept.

The avoidance practices seen in this study appear to be

related to culturally patterned beliefs. A major factor was the influence of older female relatives. Age and education also were associated with some aspects of these beliefs and practices.

Nutrition education programs need to be developed for this ethnic group to correct dietary misconceptions and practices. A replication of this study is being planned for a similar sample in Venezuela for comparison.

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APPENDIX A

SURVEY QUESTIONNAIRE

PART II:

1. Should you eat differently during the menstruation period?
If yes, why?
2. How long do you follow these practices each month? _____
3. From whom did you learn this? _____
4. What did they tell you? Can you tell me what they said?
5. Should you avoid eating some food during pregnancy? If yes, why?
6. Could you please give some examples?
7. If you are pregnant and have food cravings, should you satisfy them? If yes, why?
8. Have you ever heard of a woman eating non-food items (clay, dirt, etc.) while she is pregnant? Do you believe this is beneficial? Who told you about this? Have you done it?
9. Are there any foods you should avoid or eat in particular during childbirth? If yes, why?

10. Could you give me some examples?

11. How long should you continue this practice?

12. Are there any foods you should eat or avoid during the lactation?
If yes, why?

13. Could you give me some examples?

APPENDIX B

HUMAN SUBJECTS CONSENT PARAGRAPH

(HUMAN SUBJECTS CONSENT PARAGRAPH)

I am a graduate student at the University of Arizona. I am doing research about food and nutrition beliefs and practices associated with menstruation, pregnancy, childbirth and lactation with Spanish-speaking American women. Could you help me by participating in this study?

If you decide to participate, please answer as many of the questions as you are able to answer with confidence. Your answering of the questions will indicate your consent as a willing participant in this study. If you are not willing to answer these questions, please say so. This will not influence your participation in WIC. You are free to withdraw from the study at any time without incurring ill will.

Thank you very much for helping me.

Rosario Suniaga de Vargas