

**An Ethnographic Study of the Factors Affecting the
Nutritional Patterns of Navajo Women and Their Children in the WIC Program**

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Purpose and Research Questions

The overall purpose of this ethnographic study is to identify ways to improve the nutritional status of Navajo women and their children in the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) program. Navajo women and children, similar to other Native Americans and U.S. low income women and children ages 2 to 5 years, are at dietary risk (Cole 2002, Institute of Medicine 2002). Dietary risk refers to “an inadequate dietary pattern or a failure to adhere to the food guide pyramid and, within WIC, is typically assessed based on an individual’s intake from a 24-h recall or FFQ (food frequency query)” (Caulfield 2005:879). The participants in the study are Navajo women from the eastern Checkerboard area of the Navajo Nation who are enrolled in an off-reservation New Mexico Department of Health (NMDOH) WIC clinic in Cuba, New Mexico. WIC’s supplemental foods, nutrition education, and health referral services have the potential to reduce nutritional risk for Navajo pregnant, breastfeeding, and postpartum women, and infants and children from birth to 5 years of age.

Research questions are:

- 1) What are the social, cultural, and economic factors that affect the eating patterns of Navajo women and their children?
- 2) From the perspective of Navajo women and WIC staff members, what are the major concerns and challenges that affect Navajo women’s and children’s nutritional status?
- 3) What are the major characteristics of the eating patterns of Navajo

women and their children?

- 4) In what positive ways has WIC affected the eating patterns of Navajo women and their children?

Description of the Sample

The sample consisted of 44 Navajo women who were enrolled in the New Mexico Department of Health Cuba WIC clinic and 4 personnel who work with the Cuba WIC program. When Navajo women came into the Cuba WIC office to pick up their checks or for scheduled appointments, the office manager, a long-time Navajo resident of Torreon Chapter, explained the research project to them. They were asked if they wanted to participate in the research project, and those who did were scheduled for an interview. The women's ages ranged from 18 to 43. All of the women were pregnant or mothers of children enrolled in WIC, with the exception of a 43-year-old grandmother, who is the guardian for her 2-year-old granddaughter enrolled in WIC.

Most participants resided in one of three rural Navajo chapters--Torreon, Ojo Encino, or Counselor. In addition, a few resided in the small tricultural community of Cuba, composed of Hispanic, Anglo, and Native Americans (most of whom are Navajo). The educational level of the women ranged from those who did not complete high school to those who had completed some secondary education, but most women's education ended when they graduated from high school. The sample included women who were pregnant with their first child and mothers who had between one and five children. Women had a variety of relationships with men, including those who had boyfriends, those who were married, and those who were single mothers. Younger mothers were less likely to be

married, but many had an ongoing relationship with a boyfriend who was the father of their child.

Residence patterns varied according to the age of the mothers as well, with younger mothers often living in the same household with their parents or their boyfriends' parents, while somewhat older mothers in their late twenties, thirties, and forties were more likely to live in a separate household. Whether in the same household or a separate one, most women who lived in the rural chapters, lived "within shouting distance" of other relatives. Women who lived in Cuba or in Navajo Housing Authority housing developments in the rural chapters lived in residences designed for single families. Most women stayed at home with their children, while some mothers worked in Cuba or commuted to work in Albuquerque.

Social, Cultural, and Economic Factors Affecting Eating Patterns

The eastern Navajo chapters, Torreon, Ojo Encino, and Counselor, are characterized by their remoteness and dispersed, rural population. The next trip to town may depend on either the availability of gas money or being able to find a ride with someone who is driving to town. The most common reason given for missing a WIC appointment was lack of transportation.

Navajo women and their children who are enrolled in the Cuba WIC clinic live in an area characterized by high poverty rates and high levels of unemployment. According to the U.S. Census 2000, in Counselor 85.33% of individuals lived below the poverty level, in Ojo Encino 74.31% of individuals lived below the poverty level, and in Torreon 55.49% lived below the poverty level. For the Navajo Nation as a whole, 42.90% of individuals lived below the poverty level (Choudhary 2003). The

unemployment rate for the Eastern Navajo Agency as a whole was 65.72% in 2004, while the rate for the entire Navajo Nation was 48.04% (Choudhary 2005)

Extended Family Residence Patterns

Residence patterns affected Navajo women's eating patterns in regard to who bought and paid for food, who cooked the food, and who ate together. Navajo mothers and their children in the rural chapters lived with or near members of their extended families, a residence pattern derived from the former reliance on the pastoral, land-based economy. In the past relatives lived in extended family kinship groups to allow cooperation in carrying out the numerous tasks involved in herding sheep and goats and raising crops. Although extended family members now rely on the cash economy rather than the pastoral economy, the scarcity of employment opportunities contributes to continued reliance on members of the kin group, who share limited resources.

Navajo residence patterns stem from the matrilineal clan system, in which a child receives membership in his or her mother's clan at birth. In matrilineal residence groups, adult daughters, their husbands, and children live with or near the daughters' parents. As a result, female members of an extended family (and clan segment) form the core of Navajo residence groups. Within residence groups, senior women in the extended family have authority to plan and make decisions for the entire group.

An underlying value guiding relationships among extended family members and all of Navajo relationships is that of *k'e*, a Navajo term whose meanings encompass love, compassion, kindness, friendliness, generosity, and peacefulness (Witherspoon 1977). One way in which *k'e* is expressed is being generous with food. Sharing of food assures

that all family members will eat, regardless of individual adult contributions to buying and preparing food.

Living in extended family residence groups affected WIC mothers' eating patterns. For example, a 27-year old single mother of three children from Torreon lives in a large residence group. Extended family members provided support by babysitting while she worked and by cooking meals. She lived with her three children, and two sisters lived next door with their mother. A third sister lived with her boyfriend in a separate residence nearby, and her brothers lived together in another. This WIC mother described her eating patterns while at work in Cuba. "I buy my burritos and that keeps me going throughout the day 'til I get home." When asked whom she normally eats with, she stated. "My sister, my kids, and her boyfriend. Sometimes my brothers, everybody, they decide to come by, especially when I come home. They're like, 'Is there still some grub?'"(#29, 8/23/05).

A 24-year-old mother (#42, 12/14/05) of two children lives in Torreon with her boyfriend and her parents, who all eat together. She, her boyfriend, and her mother at times buy the food that they eat. However, it is her mother who does the cooking. "Mom's cooking is better than my cooking. My mom makes a big meal in the morning and in the evening. She loves cooking."

A 19-year-old mother (#15, 7/5/05), who is pregnant with her second child, lives in Torreon with her boyfriend, two-year-old son and her parents. She takes her mother to Albuquerque for her dialysis appointments, and she relies on her mother's food stamps. She stated, "Mom gets food stamps, and she shares with us." She credits WIC for the

food provided. “Like when we run out of food and stuff like that, they help us with food.”

An 18-year old (#27, 8/23/05) who is pregnant with her first child lives with her boyfriend and her mother in Counselor chapter. She eats with her mother and her boyfriend. She and her mother buy and cook the food that they eat.

Mothers and children who reported that they normally ate only with their children or with their partners and children, frequently ate with other family members.

Representative of these mothers, a 42-year old mother of four children (#36, 11/15/05) lives in NHA housing with her children. She gets food stamps and normally eats with her children. However, she noted, “If one of my family show up, we ask them if they want to eat.”

A 23-year-old mother (#45, 12/14/05) of an infant lives in Counselor with her boyfriend and baby. Although she most often ate with her boyfriend, who is working and pays for the food, the couple sometimes ate with her mother and sisters.

Navajo WIC mothers and their children most often live close to extended family members with whom they share meals daily or frequently. Visiting among relatives also contributes to sharing meals. Sharing food ensures that no one will go hungry, but also means that menu selection and food preparation may not be determined by individual mothers.

Transportation and Distance

For many Navajo mothers who lived in rural areas, transportation and the distance to the WIC clinic, grocery stores, and farmers’ markets affected their food supply and

eating patterns. As gas prices steadily rose during the period when interviews were conducted, many mothers commented on the high cost of gas.

The Navajo mothers who are enrolled in the NMDOH WIC clinic in Cuba have the option of enrolling in the Navajo Nation WIC program located in Crownpoint, New Mexico, the Eastern Navajo Agency administrative center. The Crownpoint tribal WIC office scheduled infrequent clinics in the outlying chapters. Mothers often reported that they chose to enroll at the Cuba WIC clinic simply because it is closer and open five days a week.

If a mother who was enrolled in the Navajo Nation WIC program missed a clinic day, they might have to travel to Crownpoint to recertify. For example, a 27-year-old mother of three children explained why she had transferred from the tribal WIC program to the NMDOH Cuba WIC.

And then they were giving me a hard time saying I had to go to Crownpoint to recertify, and that's far away. 'Cause one time I forgot to pick up my check when they were there. And then they said, 'You have to go down to Crownpoint to recertify because you missed last week's check.' I had to go all the way over there. I didn't even have gas money to go down there" (#29, 8/23/05).

Those mothers who do not have a vehicle have to depend on others for rides to the WIC office in Cuba. A 26-year-old mother of a one-year-old went to the local grocery store after picking up her check at the Cuba WIC office. "Yeah, I did 'cause I knew we wouldn't have a ride coming out this way for a while." To come to the interview, she had gotten a ride to Cuba with her baby's paternal great grandfather. "Sometimes I have transportation problems like today. We caught a ride with the dad's grandpa. He was coming out this way so we just jumped in. Plus the gas. Oh my God, it's so high" (#31, 8/30/05).

During the summer and fall months, the WIC program gives out farmers' market coupons to enrollees. Among the mothers who did not redeem their farmers' market coupons, the most common reason given was that they did not have transportation to a farmer's market in the Albuquerque or Farmington area.

Single Motherhood

Despite the financial, emotional, and social support provided by extended family members, single mothers may be at greater risk for experiencing poverty and food insecurity.

A 34-year-old single mother of a six-month-old infant son described her situation. "We live way out there. We have relatives, but they hardly come down. There's a lot of people out there, a lot of single parents that need help." She emphatically stated, "If it wasn't for the WIC program, I wouldn't have made it. You know with the milk and stuff how expensive it is these days. Thank God that you guys are here 'cause it's just me and my baby. His dad helps but not what I had expected, but at least he gives us something."

Besides relying on her baby's father's occasional financial help, this single mother depended upon her aunt. "Then I always have my aunt. If I need food, I call her, and then we go down." At times, she worries about running out of formula for her baby. She stated, "And then there's days like my little boy drinks all his formula, like yesterday, and I'm thinking, 'Oh, my God, I hope we make it through this week.' That's what I mean. If it wasn't for WIC there would be days when...I don't have money all the time" (#12, 6/28/05),

A 31-year-old single mother of a one-year-old and a two-year old lives close to her mother's house. She stated that "The reason why I enrolled in the WIC programs-- the formulas are too much and everything." Because she did not have a vehicle or transportation to Albuquerque or Farmington, she was unable to redeem the farmers' market coupons that she received this year. Another constraint was her small refrigerator, which made it difficult to store the gallons of milk that she received from WIC.

Single mothers and their children were a particularly vulnerable group who relied on family members and others for assistance with housing, transportation, food, and clothing. The variable nature of some fathers' support of their children created uncertainty for the mothers. Rather than supplemental foods, WIC foods were essential for some single mothers.

Mothers' Major Concerns and Challenges about Nutrition and Health

Major concerns and challenges reported by the mothers included their own and children's weight, running short of food, and providing a healthy diet for their children.

Navajo mothers expressed concern about overweight and obesity, both for themselves and for their children. As one woman stated, "I just want to lose all this weight I gained with the kids." (#9, 4/28/05).

Particularly moving were mothers' worries about their children who were obese. Some of these children were enrolled in the WIC program and some were older siblings of enrollees. One mother who had two younger children enrolled in WIC also had a nine-year-old daughter who was obese. She found that WIC recipes were beneficial for all three children. She stated:

Well, I talked to the doctor already, and they said I couldn't put her on a diet or special diet yet because they told me she was still a bit young. So they told me not to have her eat too much food that has fat in it, or a lot of sugar, and stuff like that. That's what I'm doing right now. So in a way, the WIC I get, most of it I use in a recipe or whatever. So that way I don't have to use too much... too much like shortening or butter or lard, and stuff like that. So in a way, it kinda' helps.

This mother ended the interview with a plea. "If you guys have any information on obesity kids, let me know. It would help" (#10, 6/28/05).

Although Navajo eating patterns may not differ that much from those of many other Americans, education and intervention programs for overweight and obesity may be most helpful when tailored to Navajo food preferences. A mother suggested, "Maybe, if they understand the Navajo way, because, you know, 'cause mostly everybody I know are diabetics, and they have problems with blood pressure, and, you know, mostly everybody likes potatoes and meat.... Something that will help us cut down" (#4, 4/21/05).

Some mothers experienced short-term food insecurity, particularly among those who, in addition to WIC, depended on food stamps. For these families, the WIC program forms a vital component of the assistance programs that provide foods necessary for survival. One mother who relies on WIC and food stamps stated, "That's all I'm getting. We have no income" (#11, 6/28/05). This mother worried about her underweight child. She and her fiancé shared scarce resources by eating dinner with her parents or his parents.

A 34-year-old mother who lives with her husband, grandfather and five kids, only eats snacks sometimes. She explained, "Some days I eat snacks, but not all the time.

There's hardly any food, that's why. I try to save it" (#30, 8/30/05). Concerns about providing food for her family took precedence over snacks for herself.

Mothers consistently expressed a desire to feed their children a healthy diet. Related to this desire was the challenge of preventing children from eating "junk foods." For example, a 23-year-old mother of three children stated that she worried about "what they eat. To me, that they get a well-balanced diet. My kids eat a lot of junk food. I'd cut that down" (#19, 7/26/05). Children wanted to eat these foods, and other family members made it difficult to avoid them.

A 26-year-old mother of an 8-month-old son objected to a brother who gave her baby Coke to drink. She stated:

For my son, I just want to find out all the information that I need for him to grow up healthy without ever getting to junk food and stuff. Like for now my little brother drinks Coke around him. And he gives it to him. I tell him not to. So when he does I kinda get mad 'cause I don't want him drinking (Coke) 'cause he's growing teeth right now. I don't want him to lose his teeth 'cause of all that sugar" (#32, 8/30/05).

Another mother has been successful in her effort to influence her son's consumption of certain foods. She stated, "Other kids are popping junk foods. He doesn't. We go to the store, and he grabs a bottle of water. My sister has tried to bribe him with pop. (She says) "Do something for me, and I will give you a pop." Her son responds, "No. because mommy will get mad at me" (#20, 7/26/05).

Mothers wanted their children to develop healthy eating habits in order to avoid future health problems, such as diabetes. When asked, "Do you have any worries about your children's health?" one mother replied: I wish they would just understand...How do I say it? What to do or what to eat before they get diabetes" (#17, 7/19/05).

Many mothers had a positive, even grateful, attitude towards WIC. When asked what other ways WIC might help them, many mothers gave no suggestions for change, but instead responded that the WIC program, as it currently exists, was helping them.. A 23-year-old mother of two children enrolled in WIC stated, “It’s good that this place is here. It’s hard on Navajo.” (#46, 1/17/06).

Other mothers offered specific suggestions for additional WIC foods, with fruits and vegetables at the top of the list. Others items frequently mentioned were yogurt, small containers of juice, raisins, and string cheese. The Cuba WIC clinic provides Farmers’ Market coupons to the mothers during the growing season. However, some mothers were not able to redeem these coupons because the Farmers’ Markets were located to the south in the Albuquerque area, with the closest approximately 70 miles away, or to the north in Farmington, about 100 miles away. The most recent increase in gas prices made it even harder for mothers to redeem the 2005 coupons.

Staff Members’ Perspectives on Navajo Clients’ Nutritional Needs and Concerns

The Cuba WIC clinic office manager, nurse, and nutritionist plus the New Mexico Department of Health nutrition program manager, who supervises WIC clinics in a three county area including the Cuba clinic, all expressed the need for more nutrition education, discussion, and counseling for Navajo mothers and their children. The WIC nutritionist emphasized that fresh fruits and vegetables, or even canned and frozen fruits and vegetables, were not any more expensive than junk foods. The nurse lamented, “They may go through the drive through at McDonalds, and they’re in line at McDonalds shoveling out the money. Kids are raised on potato chips and Coke by some of these young mothers” (Staff #B, 1/17/06).

The nutrition program manager emphasized that while different cultures have different relationships with food, the fundamental responsibility of parents to provide food for their children is similar among all families. She stated:

And modeling for your children sort of this ideal that as a parent it's your job to provide food, and as a child it's your job to decide how much or if you're gonna eat, and I don't think that's different in any culture.

I think that everyone's culture plays into the relationship that you develop with food. And that's where solutions have to be specific to individual families' cultures, but the solutions are still family driven or client driven. They might look different than other families, but I think that the needs are still the same (Staff #C, 3/21/06).

Because the WIC nutritionist works at the Cuba WIC clinic only one day a week, nutrition education remains an unmet need for some Navajo women and their children. The office manager schedules appointments with the nutritionist, but lack of transportation and gas money may prevent mothers from keeping their appointments.

Food insecurity was another topic of concern for WIC staff members. The WIC nutritionist found that when clients were asked about foods they ran out of at the end of the month, the foods most often listed were foods such as meat, bread, and rice, but occasionally WIC foods were listed. To solve the problem of food shortages in Cuba and the surrounding area, the WIC nurse and other Cuba community members organized and opened a food pantry in the summer of 2005. The nurse stated:

I mean you can talk about fancy recipes, but when there's no food in the house, families try to eat the WIC food, which is part of the reason that we started with the pantry. They can come once a month, and they get a big box of food, certainly not for the whole month, but it helps the baby food stay for the baby, and it helps financially. That's \$60.00 that you don't have to spend at the grocery store (Staff #B, 1/17/06)

The office manager worried about those mothers who ran out of formula before they were due to get another WIC check. To avoid situations like this, she told the

mothers, “We can only help you part of the way.” Her familiarity with community members added to her concern. “Since I know some of the family, and I know that they can’t (afford to pay for formula). It’s hard” (Staff #A, 1/17/06).

The WIC program encourages mothers to breastfeed their children, but staff members emphasized that family support was an important factor determining whether a mother continued breastfeeding throughout an infant’s first year. A common pattern among the mothers is to breastfeed for a short period of time and then switch to the bottle. The office manager found that those mothers that were still breastfeeding babies after a few months were ones that had strong support from their families.

In her 20 years with the WIC program, the nutrition program manager has seen increases in the rate of Navajo breastfeeding mothers. She stated. “I would say in general, our Navajo program often has higher breastfeeding rates than our state non-Indian WIC program. Because now there’s sort of a pride, and there’s a sense of generations supporting and communities coming together to support women who breastfeed” (Staff #C,3/21/06).

Contemporary Dietary Patterns

Based on 24 hour recalls, the food eaten by Navajo mothers and their young children appeared to be similar to that eaten by other women and children enrolled in WIC programs throughout the United States. This study of Navajo women and children supports the Institute of Medicine’s (2002) recommendation that all women and children ages 2 to 5 years who meet the WIC eligibility requirements of income, categorical, and residency status may be presumed to meet the requirement of nutrition risk through the category of dietary risk.

Women and children rarely reported eating traditional Navajo foods in the 24 hour recall. When asked about eating fry bread and mutton stew, women responded that these foods were eaten occasionally, such as at birthday celebrations, ceremonies, and other special events. The traditional foods prepared from corn and wild plants were eaten rarely. Some young Navajo mothers did not like traditional foods. As a 23-year-old mother stated, “I don’t really like that--fry bread, mutton” (#46, 1/17/06).

Rather than fry bread, flour tortillas are a staple in the diet, a legacy of the Hispanic influence in the eastern Navajo area, and were often eaten once or twice a day. Some women reported that they made tortillas with lard. One mother stated, “And I try not to make tortillas with too much lard. Just a little, maybe only just a little” (#4, 4/21/05). Another common food item identified in the 24 hour food recalls was fried potatoes, fried in shortening, lard, or oil.

Despite the distance and travel required, mothers frequently reported eating a fast food meal in the 24 hour recall. A McDonalds is located in the village of Cuba, and Bernalillo, which is an hour’s drive from Cuba, has several fast food restaurants. The typical fast food meal reported was a hamburger with French fries and Coke.

Navajo women and children consistently ate fewer than the recommended servings of fruits and vegetables. Often one of the fruit servings was juice, a food provided by WIC. The most common vegetables served were corn and potatoes.

As one mother stated, “For me, for my family, I usually run out of fruits and vegetables” (#9, 4/28/05). Mothers recognized the contribution that WIC made to their children’s diet. A mother stated, “Usually they want more pop. So in a way WIC helps that, too ‘cause they get orange juice, and ‘cause they drink that.” (#10, 6/28/05). When

asked what foods they would like WIC to provide, Navajo women most often mentioned fruits and vegetables.

Positive Changes in Eating Patterns

Women reported that they learned about healthy foods from the WIC nutrition education program, and some had made changes in food preparation and foods eaten. Types of changes included serving children milk and juice instead of soft drinks and Kool Aid, preparing foods with less fat, and eating more fruits and vegetables. When a 27-year-old pregnant woman who has a three-year-old son was asked how WIC had been helpful, she replied: “It’s helpful for me ‘cause my son needs all those nutrients and that stuff. He used to drink pop, Kool Aid, and now he drinks milk. Milk and juice” (#11, 6/28/05)

As a group, women pregnant with their first child stood out because of their interest in making changes in their diets. Representative of these women, a 19-year-old pregnant woman (#25, 8/16/05) who kept a food record and talked to the nutritionist about “what was good for me and the baby,” stopped eating fry bread every day and cut down on pop and candy.

Another 19-year-old (#3, 4/15/05) who was pregnant with her first child reported that for dinner the previous day she ate a homemade hamburger, lots of grapes, and an orange and an apple. She asked, “Does that sound healthy?” Also, she stated, “I like to drink milk; that’s my favorite.” She did not eat fry bread because it has “too much lard. And I don’t eat mutton. I eat like store food, store bread.”

Also, a 21-year-old woman (#38, 11/15/05) who was pregnant with her first child reported that she ate boiled eggs, boiled beans, and a salad among other foods. A salad

was an item rarely mentioned in the 24 hour recalls. A 22-year-old (#44, 12/14/05) woman who was pregnant with her first was trying to cut down on sodas and wished that the WIC program would provide fruits. She stated, “I really like fruits. Sometimes we don’t get fruit.”

Besides pregnancy, other motivating factors for changing the diet were health conditions such as diabetes and having overweight children. A mother of three children who has diabetes and has two sons who are overweight represents these women. She served beans and fry bread only once a month.

I’ll make beans, like once a month, and I’ll make fry bread, but that’ll be like sopaipillas. Two each to my kids and myself. But I’m not allowed to, and since I’ve been a diabetic, that really helped me cut down on my fry bread. I don’t make it too much.

This mother found it helpful to talk with the WIC nutritionist about changes she could make in the food that she prepares for her sons.

Yes, the WIC person yesterday gave me the amounts, how much I had to give my boys, ‘cause of their weight—more vegetables. You know she made me a chart and gave me pamphlets. How much (in a) serving I had to give, especially to my four-year- old. And exercising, what I can do with my boys to go exercising, activities (#13, 6/28/05).

A 34-year old mother (#30) lived in Torreon with her husband, five children, and grandfather, who is a diabetic. She cooked for her grandfather, following guidelines for a diabetic diet.

Policy Implications

WIC personnel were united in their opinion that Navajo mothers and their children needed more nutrition education. The nutritionist’s once-a-week visits to the Cuba clinic and women’s transportation problems contributed to limited amounts of nutrition education. Besides offering more frequent nutrition education, the need exists

to offer education in the local communities and to expand the target audience to include all women in an extended family, particularly senior women.

Mothers who lived in matrilineal, matrilineal extended family residence groups typically shared the responsibility for selecting, purchasing, and cooking food. Female relatives who lived together, such as a mother, her sisters, and her daughters were likely to make joint decisions about food and cooperatively cooked meals. Thus, an appropriate target of WIC nutrition education programs is related Navajo women who live in a residence group, rather than individual mothers. Also, offering nutrition education in rural chapters such as Torreon, Ojo Encino, and Counselor, would make it easier for more family members to attend. Although eating patterns demonstrated great variability, the tendency for family members in extended family residence groups to eat together indicates that efforts to promote change in diet must involve those women involved in planning meals, buying food, and cooking.

Among the women in the sample of Cuba WIC mothers, two groups of women stood out because of their desire to learn more about a healthy diet, their receptivity to sessions with the WIC nutritionist, and their efforts to make healthier food choices. These two groups of women were those young women who were pregnant with their first child and women or their children who were overweight. Thus, two topics to prioritize in WIC nutrition education are prenatal nutrition and nutrition for weight control.

Pregnant Navajo women were motivated by the awareness that what they ate affected themselves as well as the baby. They wanted to cut down on fried foods and sodas, and to eat more fruits and vegetables. At the same time this group of young women often lived with extended family members who in part or totally provided their

food, thus giving them less control over what they ate. Not only do pregnant women need family support to sustain breastfeeding, but also to make improvements in their diet.

The 24 hour recalls indicated that Navajo mothers and their children lack fruits and vegetables in their diets. At the same time, mothers most often mentioned fruits and vegetables as foods that they would like WIC to provide. Consistent with the recommendations of the Institute of Medicine's Committee to Review the WIC Food Packages (2006), these findings indicate that the inclusion of fruits and vegetables would improve Navajo women's and children's diets.

Similar to high and increasing national rates of overweight and obesity (Institute of Medicine 2002), Navajo women and children are at risk for overweight and obesity. Navajo women not only acknowledged issues of overweight and obesity for themselves and their children, but also related excess weight to the increased likelihood of health problems. Using culturally sensitive approaches, WIC nutrition education programs must focus on weight control and promoting health eating habits that prevent chronic diseases.

Reports by Navajo women and WIC program staff suggest that some Navajo women and their children experienced some degree of food insecurity. The coexistence of food insecurity and obesity is a "poorly understood paradox," (Institute of Medicine 2002:118) wherein food insecure women are more likely to be overweight than food secure women, even among those who receive food stamps. However, participation in WIC decreases, rather than increases, the risk of overweight among food insecure mothers, and WIC promotes health and well-being among food insufficient children without increasing the risk of being overweight (IOM 2002). The co-occurrence of

overweight and obesity and food insecurity among Navajo mothers and children demands more study.

The flexible nature of the Cuba WIC clinic, where Navajo women can get their WIC checks at any time during business hours, is a boon to those Navajo women who must rely on others for transportation to the clinic. WIC contributes an essential component to Navajo pregnant women's, nursing mothers', and their children's diets. Women expressed appreciation for the foods in the food package, at times simply because they could not afford them otherwise, and at times for improving the nutritional content of their own and their children's diets.

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