

# Representations by Caregivers, Teachers, and Children on Food, Nutrition, Health, and School Breakfast Contributions for the “ESNUT” Nutritional Stabilization Program

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## Representations by Caregivers, Teachers, and Children on Food, Nutrition, Health, and School Breakfast

**Objective.** This work sought to determine the social representations conferred by caregivers, teachers, and children to food, health, and nutrition and the school breakfast program for children from three to seven years of age in the city of San Luis Potosí, San Luis Potosí, Mexico, through identifying a) knowledge and practices and b) meanings attributed on health and nutrition of children from three to seven years of age and on the school breakfast program. **Methods.** This was a qualitative health study. The sample included 33 mothers, 3 grandmothers, 1 father, 30 children from 3 to 7 years of age, and 8 teachers who signed an

informed consent. The data were collected through a semi-structured interview and treated through content analysis modality thematic analysis. **Results.** The analysis yielded the categories: knowledge on food, the health-feeding relation, customs and practices of the child's feeding, and meanings of the school breakfast program. **Conclusion.** On the reflection on the representations of the different players included in the school breakfast program, elements become manifest that would support an educational intervention by nursing, which would have to be based on the family as the central figure to provide good nutrition and teach good habits.

**Key words:** food and nutrition education; qualitative analysis; child; food relief.

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## Representaciones de cuidadores, profesores y niños sobre alimentación, nutrición, salud y desayunos escolares

**Objetivo.** Determinar las representaciones sociales atribuidas por cuidadores, profesores y niños a la alimentación, salud y nutrición, así como al programa de desayunos escolares para niños de tres a siete años en la ciudad de San Luis Potosí, México, mediante la identificación de saberes y prácticas, por un lado, y de los significados atribuidos a la salud y nutrición de los niños de tres a siete años y al Programa de Desayunos Escolares, por otro. **Métodos.** Estudio cualitativo en salud. Muestra de 33 madres, 3 abuelas, 1 padre, 30 niños de 3 a 7 años y 8 profesores. Todos firmaron consentimiento informado. Los datos se recolectaron mediante una entrevista semi-estructurada y se trataron mediante análisis de contenido modalidad análisis temático. **Resultados.** Del análisis emergieron las categorías: saberes sobre alimentación, la relación salud-alimentación, costumbres y prácticas de la alimentación del niño y significados del programa de desayunos escolares. **Conclusión.** En la reflexión sobre las representaciones de los diferentes actores que se incluyen en el programa de desayunos escolares se ponen de manifiesto elementos que apoyarían una intervención educativa de enfermería que tendría que estar fundamentada en la familia como figura central para otorgar una alimentación adecuada –sana– y para enseñar buenos hábitos.

**Palabras clave:** educación alimentaria y nutricional; análisis cualitativo; niño; socorro alimentario.

## Representações de cuidadores, professores e crianças sobre alimentação, nutrição, saúde e café da manhã escolares

**Objetivo.** Determinar as representações sociais atribuídas por cuidadores, professores e crianças na alimentação, saúde e nutrição e programa de café da manhã escolares para crianças de três a sete anos na cidade de San Luis Potosí, México, através de: a) Identificar os saberes e práticas b) Significados atribuídos sobre saúde e nutrição das crianças de três a sete anos e sobre o Programa de Café da Manhã Escolares. **Métodos.** Estudo qualitativo em saúde. Amostra de 33 mães, 3 avós, 1 pai, 30 crianças de 3 a 7 anos e 8 professores que assinaram consentimento informado. Os dados se coletaram mediante uma entrevista semiestruturada e foram tratados mediante análise de conteúdo modalidade análise temática. **Resultados.** Da análise emergiram as categorias: saberes sobre alimentação, a relação saúde-alimentação, costumes e práticas da alimentação da criança e significados do programa de café da manhã escolares. **Conclusão.** Na reflexão sobre as representações dos diferentes atores que se incluíram no programa de café da manhã escolares se põem de manifesto elementos que apoiariam uma intervenção educativa de enfermagem que teria que estar fundamentada na família como figura central para outorgar a boa alimentação e para ensinar bons hábitos.

**Palavras chave:** educação alimentar e nutricional; análise qualitativa; criança; socorro alimentar.

## Introduction

Child development is especially important and should normally follow a predictable course in which genetic, biological, and environmental factors intervene, like food and disease. Children with special health needs, including those who have or are at risk of having growth alterations, whether low weight, low height, or overweight, require interventions beyond basic care.<sup>1</sup> According to the Food and Agriculture Organization, malnutrition could represent up to 5% of the global gross

domestic product, equivalent to 3.5-billion US Dollars per year or USD\$500 per person.<sup>2</sup> Child malnutrition in Mexico continues being a public health problem even with support from social development and nutritional rescue programs, like school breakfasts by the National System for the Family's Comprehensive Development, among others, a situation revealed in the 2012 National Survey on Health and Nutrition where the prevalence in children under five years of age with low weight was at 2.8%, 14% were short for their age, and 1.6% showed acute malnutrition.<sup>3</sup>

In the nutritional sense prior to six years of age, the future Body Mass Index is established, both from 6 to 18 months and between 5 and 6 years of life;<sup>4</sup> along with the previously mentioned, in the tacit learning of preschoolers with respect to eating, the family's leading role is observed to include correct feeding when, above all, the mother has a background of neophobia or rejection to new foods, a behavior shown by the child between 2 and 5 years of age.<sup>5</sup>

In Mexico, the school breakfast program is aimed at children seven years of age at risk of or with malnutrition registered in public basic pre-school and primary education facilities, located in indigenous, rural, and urban-marginal zones. The program includes participation from the family, primarily mothers. The purpose of the program is to improve school achievement and diminish absenteeism; provides 250 ml of unflavored semi-skimmed cow milk, without added vegetable fat or any other substance foreign to milk, 30 or 60 g of whole grain cereal with dry fruit or ration of seeds, oil seeds and dried fruit, a piece of fresh or dry fruit.<sup>6</sup> In San Luis Potosí breakfast is served to 82 297 preschoolers and first and second graders.<sup>7</sup> Although school breakfasts have been distributed for several decades in Mexico, not much has been published on their impact.<sup>8</sup> Currently, a pediatric health policy must imply interdisciplinary work between the educational context and the health context.

The purpose of the study was to reflect upon the representations by the main players on the school breakfast program, understand the interphase between the educational and health contexts that objectify the vision of nursing within its educational function in preventing risks to the child's health.<sup>9</sup> In this case, the intent was to readjust the "Nutritional stabilization model" (ESNUT, for the term in Spanish), which is an educational-nutritional intervention proposed by the authors of this paper, and implies educational actions aimed at adults and children, which seeks to increase levels of knowledge on nutrition and nutritional recovery and the positive attitudes toward nutritional care in children, as well as

adhesion to the recovery treatment and aimed in tripartite manner at mothers or caregivers, at the children, and at educators. It is framed within a project aimed at evaluating nutritional recovery and support programs in San Luis Potosí, funded by the Potosí Council on Science and Technology (COPOCYT, for the term in Spanish), denominated "Educational intervention "Nutritional stabilization model" (ESNUT) directed at mothers and/or fathers, teachers, and children with malnutrition beneficent of programs of nutritional recovery with amaranth, nutritional complement or school breakfast in the National System for the Family's Comprehensive Development (DIF, for the term in Spanish)". In the "ESNUT" intervention, the bases were established to develop five support and guidance manuals aimed at healthcare providers, two of these to the parents, children, and the teaching staff.

The aim of this study was to determine the social representations attributed by caregivers, teachers, and children to feeding, health, and nutrition and the school breakfast program for children from three to seven years of age in the city of San Luis Potosí, San Luis Potosí, Mexico through identifying a) the knowledge and practices and b) meanings attributed on health and nutrition of the children from three to seven years of age and in the school breakfast program.

## Methods

The study took place from June to July 2014, with a clinical-qualitative health approach, regarding the description and understanding of senses and meanings of health phenomena.<sup>10</sup> The reference was based on social representations following Moscovici<sup>11</sup> in the cognitive and social aspects that enable unveiling the aspects implied in the health-disease phenomenon. The social representation may be understood as "responses of the subjective conscience to social environments and at that moment individuals may be capable of constructing their perception on anything". This means that people construct an image of our social reality within our context, have the function of knowing,

identifying, of justification and orientation. Due to this, the nurse's preventive or planning actions must include knowledge and understanding of the values, attitudes, and beliefs of the people to whom they are aimed, given that upon understanding the mental images and knowledge, as well as behaviors that provide identity with respect to the health-disease phenomenon, we could anticipate possible behaviors and together goals of behavioral change may be proposed from a new mental image reassessing health.

The National System for the Family's Comprehensive Development supports social development and family wellbeing, through nutritional assistance through school cold breakfasts, among other support.<sup>8</sup> Within the framework of a macro project “Evaluation of the impact of food support programs on the nutritional state of the child population in San Luis Potosí” stemmed the objective of designing an educational nutritional intervention, which the authors herein have denominated as: Nutritional stabilization model “ESNUT”, aimed at users of the school breakfast program. The ESNUT model implies educational actions directed at adults (caregivers) and children, which seeks to improve knowledge on health, nutrition, and nutritional recovery and foster positive attitudes toward nutritional care in children, as well as adherence to the recovery treatment, based on the theoretical reference of the Trans-theoretical Change Model according to Prochaska,<sup>12</sup> and on persuasion strategies for behavioral change.

To select the sample, the four pre-school and school educational facilities assigned to the School Breakfast program for the Family's Comprehensive Development in the cold breakfast modality were chosen through convenience, given that according to records from the DIF- San Luis Potosí, these had the greatest number of children being provided with cold breakfast and according to the informed consent of the caregivers to participate, which were 33 mothers, 3 grandmothers, and one father. Schooling included: complete primary (18.9%), secondary (43.2%), and incomplete or complete preparatory (37.8%). The occupation of the mothers was household work (83.7%), the

rest work – including the father. The teaching staff made up a sample of eight, with one to three respondents per facility, with ages ranging from 28 to 49 years of age and over five years of teaching experience. Child participants included from five to ten per facility, in total from 30 children whom their teachers invited and who were presents during the interview.

Data were gathered from a guide of a semi-structured interview on social representations of food intake, food, nutrition, and health by parents of children with malnutrition, adapted from Uicab-Pool.<sup>13</sup> The categories and guiding questions: 1) knowledge about food intake (what is healthy feeding, which are the foods that should be eaten by those under seven years of age, what is unhealthy feeding, how is a healthy child, how is a malnourished child, which is the cause?); 2) Feeding customs and practices of children from 3 to 7 years of age (preparation for infant feeding, who, how, and where is the food prepared for those under 7 years of age, what is purchased, what is eaten, who taught this person to prepare them, who helps to feed the child, what foods are preferred by the child, who does the child eat with, who helps the child to eat, what rites are practiced before or after the meal, what activities take place during the meal?); 3) relationship between food intake and health (what is thought of the child's health, what importance does food intake have for the child's growth and health, what makes the child healthy?); and 4) meaning of food components of the School Breakfast program (do you know the food components of the School Breakfast program, what do you think of them, what are they good for, how have they impacted upon your family and upon the child, what do you think of the actions carried out, how would you recommend improving it?).

The interviews – conceived by the researchers as interpersonal communication between the researcher and the participants and which is the opportunity to delve into the other person's ideas and interpret the sense the informants assign to their doing and thinking<sup>14</sup> with caregivers, children, and teachers were conducted in the educational facilities by health personnel trained

through a 30-h workshop course. The interviews lasted an average of 30 min. Each interview was voice recorded and completely transcribed for analysis. Interviews with children were in groups, telling them that they were "playing as reporters" and they were being interviewed.

The study was approved by the Research Ethics Committee of the Faculty of Nursing at Universidad Autónoma de San Luis Potosí; registry CEIFE-2014-091 was obtained to certify adherence to ethical norms and based on the General Health Legislation on Health Research. The study population granted its informed consent to participate. Privacy was protected by conducting the interviews in a place established for this purpose by the directives in the facilities, not identifying testimonials with names, but with letters: M (mother), P (father), A (grandmother), Prof. (teacher), and N (boy or girl).<sup>15</sup> To analyze the information, the material was submitted to content analysis in the modality of thematic analysis. According to Bardin,<sup>16</sup> the analysis scheme was based on three stages: pre-analysis consisting of the organization of the material and systematic application of successive analytical based on the categories proposed transversally in the series of interviews. During the second stage or exploration of the material, the texts were again read, codes were obtained, and were regrouped through equivalency, similarity, counterpoint, or contradictions. During the third stage or treatment and interpretation of the information, the categories were discussed and validated by the researchers against the reference.

## Results

The results were organized into the categories proposed and the themes apprehended.

### Knowledge on feeding

In the view of the caregivers, healthy feeding is based on food groups ...*my healthy feeding, milk, egg, meat, poultry, fish, vegetables, and fruits...* [M] which must be combined, according to what the child likes... *healthy food intake that has a*

*little of all the child likes ... [P] ...vegetables help them a lot, carrots, vitamin C, and A, to keep them from getting sick ...[M] and some avoided... eat less sugars and fats...[M].*

### Feeding and health relationship

The children's perception of health and nutrition reflects the concepts related to health regarding corporality... *I feel my daughter is not very healthy because I see she is fat, although she only gets sick sporadically... [M]... (my son) is skinny, but nourished... [M]. ...yes, you see obesity or malnutrition; of the 32 children I have, I see obesity in one or two students, I see it as normal because, generally, at that age is when we are all a bit fat...[Prof.] Vitality is included as a healthy component ...he has good color, he is strong, walks joyfully, playful...[M].*

### Customs and practices of feeding the child

The participants consider that their feeding actions maintain good health in their children ...*I try to give him food made at home and at the right schedule, so he won't get sick...[M].* On the contrary, the teachers perceive that children are being fed in unhealthy manner: ...*they tell me that if they have breakfast at home, this is, generally, sugared cereals, coffee with milk, cornflakes; I feel that what they eat does not nourish them... [Prof.]* With respect to the environment during the meals, it is mentioned that these are conducted in family: ...*the family eats together...[M].* In other cases, the children eat with the grandmothers: ...*my mother (grandmother for the children) sits them down to eat, they watch TV and then the children eat alone... [M].* Some children watch TV during the meal: ...*we watch TV while we eat... [M].* In some cases, conversations take place: ...*yes, we share and talk and don't usually watch TV... [M].* Also, quarrels and discussions may take place at meal time, or this may be the moment to air complaints to the father on the child's behavior: ...*we talk or quarrel at meal time... [M] ...we talk; she (daughter) tell my husband what she did in the kindergarten or during the day and I voice all my complaints... [M].*

The daily activity of feeding their children consists in providing the child with three to four meals per day, which may include breakfast, snack at school, lunch, afternoon snack, and dinner. Food choices for breakfast sometimes include protein, dairy products, flour, and stimulating or sugary drinks: ...egg with a glass of milk with a bread roll... [M] ...I only give them milk with chocolate... I tried early on to get them used to having breakfast, but they don't want to... [M] ...with a refreshment or with milk or coffee with milk... [M] ...in the morning I eat beans or a yogurt... [N]. The midmorning snack or “lunch” at school includes cereals, sugary drinks and not much fruit or vegetables: ...I send my child a fruit or juice or something... [M] ...during recess, a sandwich with juice [M]. When they come out at noon, I bring them some taco because they ask for food... [M]. A strong lunch includes proteins, cereals, and not much in terms of fruit and vegetables: ...at 3 or 4 pm, it is time for lunch and I give them rice soup, poultry... [M] ...in the evening it is the same as for lunch, I rarely give him vegetables because he doesn't like them... [M].

In the words of the children: sometimes at home when my mother doesn't prepare a juice with water, she buys a flavored drink... [N]. The afternoon snack consists of some fruit and/or fried stuff: between meals, a fruit or something to eat... [M] ... (mid-afternoon) he always gets his French fries, that is never left over ...[M]. The children mention: ...I like apples and fried potatoes... [N]. At dinner, light foods are also offered, along with dairy products and stimulating drinks: ...at night, we usually have cereal or bread with milk and chocolate... [M] ...bread with coffee for dinner... [M]. The baby feeding bottle is still used with pre-school children: ...and about eight or nine, he drinks a bottle of baby formula... [M] ...at night I also feed him fruit with yogurt and a full bottle of milk... [M]. Practices of buying and selling food denote for caretakers healthy or unhealthy food: ...the unhealthy food, or junk food, what they get in school... (sold) fried foods, fried potatoes... [M] ...it is unhealthy when they eat from the store, starting with fried potatoes, although often

some moms due to their hurry, I have seen it, make instant soup for their children, or give them money to buy something... [M] ...my mother buys me fritters (fried stuff) with hot sauce after school... [N].

### Meaning of the food components of the School Breakfast program

The mothers mention components, like dairy products, cereals, and seeds: ...they give their children milk, cookies, oatmeal, granola bars; they vary their breakfast...[M]. Teachers contribute with: ...one day cookies, or cereal, or granola bars – all this with milk...[P]. The mothers participate with the school breakfast based on a role of activities:...in our classroom, one of the children's mother and I come once or twice ... we take the milk to bring them atol or rice with milk or chocolate, we prepare it another way ...[M]. Barriers to improving the program in function of introducing other foods include lack of support among the mothers ... it is quite difficult for fruit to be given to the children, only milk is provided in the classroom and nothing else and the mothers don't want to support each other... [M]; in infrastructure, lack of space designated in the school to provide the breakfast makes it necessary to give the mothers the rations:... (rations) are given to go because what happens is that now we have no stable cafeteria and we cannot give them their breakfast here (school), so we prepare it at home and there you see that they eat, because if it is here (school) they will not eat... [M]. They perceive breakfast as something good: ...everything being given to the children I think is very good for them... [M]. They value breakfast in function of it providing at least some food for children who do not have breakfast, although some eat double or triple ration:...there are many children who arrive with nothing and nothing is brought to them so at least they get the milk and cookies... [M]...there are children who drink up to two, three glasses of milk, and ask for two or three cookie bars ...[M]... I like everything they give us here, sometimes they give me more because I am still hungry (laughs)...(N).

The mothers state reasons for not adhering to the school breakfast:...*I don't bring my daughter every day because she has breakfast at home and then she doesn't want the milk...[M]... the truth, she does not eat the granola bar they give her, she would just drink a glass of milk and that is not enough to hold her until noon... [M]... my child sometimes eats them because I am usually asleep and work nights sometimes I don't bring her or my mother can't...[M]*. Additionally, the lack of acceptance by their children also influences:...*if I bring her to have breakfast here, she says it doesn't fill her... [M]...she does not like the cereal...[M] ...My child says she does not like the cookie because it has too much granola...[M] ...it seems they are not like before, back then the cookies were better, they had cereal and the children get bored with this...[M]*. Also, the breakfast is accepted and consumed...*from my point of view it is alright because the children are motivated to having breakfast because often at home they do not want to have breakfast on their own [M]...I see my son does like it; he loves it... [M]*. The child states: ...*yes, I come every day, my mom brings me and, wow, I like it... I like the cookies a lot... [N]*.

Some benefits the school breakfast has had on children and families are manifested: ...*I give my child the granola bars (as snack), instead of going to the store... [M]...the benefit I have seen ever since I've given him milk in the mornings, he has taken the habit of drinking milk in the morning, at noon, and at night ... [A]*. The teaching staff, although not directly responsible for providing the school breakfast, mention their point of view: ...*not all my students come to have breakfast because from my group of about 29, of those only 15 have breakfast and they finish it all, they eat the amaranth with honey bars; what they don't eat are the raisins and dry fruit...[Prof.] ...(for) those with certain economic difficulties, the milk and cereal they get here have all the necessary nutrients... primarily, to learn they need to be well fed...[Prof.]*

## Discussion

The participants have technical knowledge from the point of view of the socialization of knowledge

and information. The discourse from the areas of health and education permeates their knowledge; nevertheless, these bring along ambiguity and lack of precision. In the same sense, they conceptualize health and disease through the corporeal, given that disease is deduced from the physical characteristics of the children. And knowledge on nutrition has been incorporated from the most recently socialized information within their context; such is partially imbued with classifications, like healthy and unhealthy foods and meanings of foods are denoted based on categories of bad or of high nutritional value.<sup>17</sup> In spite of this knowledge, individuals undergo a selection process of unhealthy foods more focused on the preferences of the caregivers and children, or behavioral paradoxes, according to a qualitative study on representations of healthcare.<sup>18</sup> We address the reflection from the point of view of anthropology, which reformulates the relationship between the observer and the observed and applied to the care provider, we consider that it is up to the nursing and nutrition professionals, among others, to broaden their perspective in function of understanding that they are addressing the needs of individuals who make their own elections and do not only impose their points of view.<sup>19</sup>

The school breakfast program represents something good, with health benefits; however, from its components categorized as good, but based on its culinary score it represents to the children tedious foods that do not vary and, hence, may also be discarded from the day-to-day food intake. Add to this the perceptions of the mothers and their children who support decisions of not using the program. To delve into the food choices of the subject under care, it is necessary for nursing, from the anthropological vision, to understand the act of eating as the result of a social, cultural, and historical process and as a complex bio-psychosocial phenomenon that must be approached.<sup>19</sup>

Subsidies were identified based on the presence or lack of knowledge and healthy nutritional behaviors

that reinforce learning nuclei contemplated in the ESNUT program, reiterating the characteristics of correct feeding from the nutritional point of view, the importance of having breakfast, the food components and their contribution to health and nutrition, characteristics of the correct drinks from the nutritional point of view, benefits and detriment of the drinks. The combinations and balance between the different types of foods and their preparation in workshops, constitutes another characteristic of healthy feeding, which could result in improved acceptance by the children, as well as the environment during mealtime. Change is punctual and corresponds to the educational proposal based on the trans-theoretical theory of change. The subsidies to adjust the ESNUT program, which must be addressed in greater depth, are the environment during the mealtime, given that commensality is the basis of socialization in the primary group, which is the family.<sup>20</sup> Empowerment, decision making, actions to educate, setting limits as part of educating for life and, hence, on the children's preferences for unhealthy foods. Components of the drinks in terms of their nutritional contribution, benefits, and detriment, making decisions on which drinks to offer. The family should be included in the intervention from a gender perspective, given that feeding practices are essentially attributed to women and it is part of trans-generational practices.<sup>14</sup>

The reflection on the representations by the different participants included in the school breakfast program manifests elements that support the approach selected to conduct the educational intervention founded on the stages of change, agreeing on that the central figure to provide good feeding and teach good habits is the family, which is congruent with the ESNUT intervention. Besides which the learning facilitator, whether the teacher or nurse or other healthcare provider who will apply the educational nutritional program, must develop their comprehensive ability in light of the feeding phenomenon contextualized within their history and policies, persuasion skills with ethical bases to encourage and accompany behavioral change in caregivers toward conducts that generate health

through their own decision making. Also, nursing – whose educational function is substantive and includes health promotion – will be able to aim its skills based on the Galway consensus to justify health promotion and health education. This skill includes as domains that of catalyzing change, assessment planning, implementation, evaluation, association, and advocacy<sup>21</sup>. All compatible with the methodology of the care process.

Suggestions for the school breakfast program to add some foods to the cold breakfast or change the physical characteristics that could encourage its consumption by the children, like incorporating fruits, different cereals, and cold milk, refers to considering the characteristics of the pre-school child so that acceptance of the breakfasts could increase inasmuch as the child's voice is heard in that children do not easily accept the incorporation of new foods or textures different from those they already know (neophobia).<sup>5</sup> Also, in the pedagogic-didactic aspect, proposed by the teaching staff, we can highlight educational actions adequate to the ages of the children – agreeing with the ESNUT intervention – for nutritional improvement, that is, having the experience to select, prepare, taste, and consider it for their feeding. This modality implies workshops with the parents to prepare menus based on correct feeding and on the child's neophobia. Also, keeping with the trans-theoretical model of change – which is the basis for ESNUT, the parents need to be addressed in that complex phenomenon of moving toward healthy behaviors, given that according to the teachers the parents *have to change for their children to change*. The study's limitations lie on the lack in-depth analysis to capture the reasons for the food choices in the primary caregivers, and on the relation between corporeity and eating, as well as on the disposition to change, and inquire on the social representations among the promoters of the school breakfast program.

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