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ORIGINAL ARTICLE / *ARTIGO ORIGINAL*

Social Determinants of Health among children aged between 5 and 9 years within the urban area, Sobral, Ceará, Brazil

Determinantes sociais da saúde de crianças de 5 a 9 anos da zona urbana de Sobral, Ceará, Brasil

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ABSTRACT: ***Introduction:*** In the district of Sobral, for the decade of 2000 at the same time that political measures were implanted towards the decrease of children mortality, discussions have begun about health and educations conditions, as well as life quality of children aged between 5 and 9, which is an age group of lesser vulnerability as far as health goes, although of major importance in the development of healthy habits and for the child's development itself. ***Objective:*** Based on such scenario, it was set up a cohort of children aged between 5 and 9 and residents of the urban area of the district in order to study health and education conditions and quality of life which are essential for the future of these children in light of the Social Determinants of Health. ***Methods:*** This is a cross-sectional study with a cohort of children born from 1990 to 1994, home interviews, clinical evaluation and lab exams. The structure for the development of the research was elaborated based on the model of attention towards the health of Family Health Strategy. In this report, the results of such home interviews shall be presented in regards to socio-demographic and environmental conditions in general, with a more detailed analysis of life styles, educational levels, child labor, nutrition and the use of health services by children.

Keywords: Social determinants. School failure. Child labor. Use of health services. Nutrition. Family Health.

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RESUMO: ***Introdução:*** No município de Sobral, para a década de 2000, ao mesmo tempo em que foram implantadas políticas para redução da mortalidade infantil, tiveram início as discussões sobre as condições de saúde, educação e qualidade de vida das crianças de 5 a 9 anos de idade, uma faixa etária considerada de menor vulnerabilidade do ponto de vista da saúde, mas de grande importância para a formação de hábitos saudáveis e para o desenvolvimento da criança. ***Objetivo:*** Nessa perspectiva, criou-se uma coorte de crianças de 5 a 9 anos de idade residentes na zona urbana do município, com o objetivo de estudar as condições de saúde, educação e qualidade de vida, fundamentais para o futuro delas, à luz dos Determinantes Sociais em Saúde. ***Métodos:*** Este é um estudo de corte transversal de uma coorte de crianças nascidas nos anos de 1990 a 1994, com entrevistas domiciliares, avaliação clínica e exames laboratoriais. A estrutura do desenvolvimento da pesquisa foi elaborada tendo como base o modelo de atenção à saúde da Estratégia de Saúde da Família. No presente relato são apresentados resultados das entrevistas domiciliares quanto às condições sociodemográficas e ambientais em geral, com análise mais detalhada dos estilos de vida, escolaridade, trabalho infantil, nutrição e consumo de serviços de saúde das crianças.

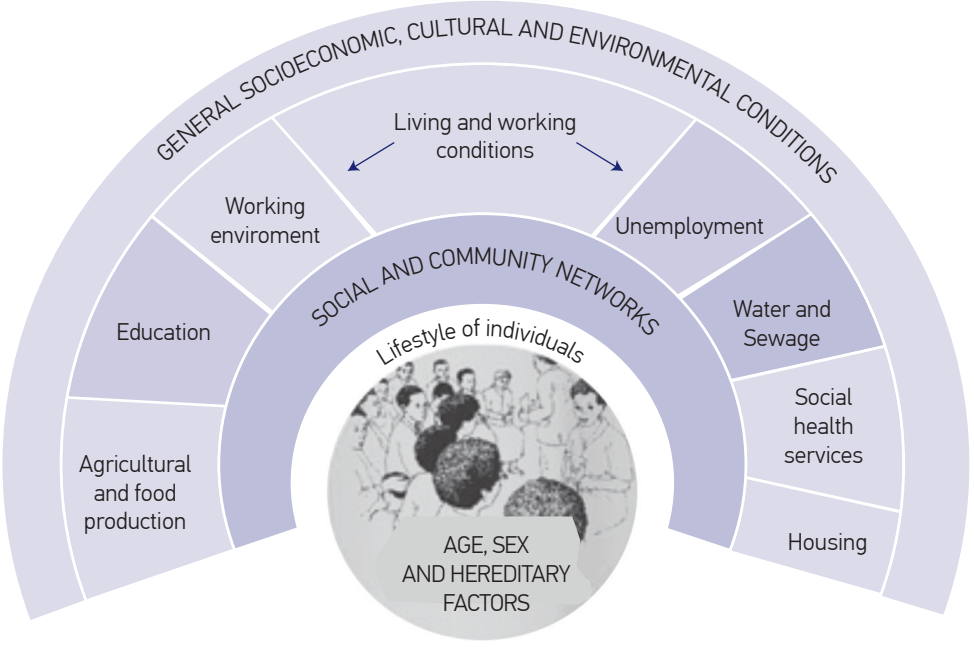
Palavras-chave: Determinantes sociais. Fracasso escolar. Trabalho infantil. Consumo de serviços de saúde. Nutrição. Saúde da Família.

INTRODUCTION

The elaboration of social policies aimed at improving the health and quality of life of a population should be based on knowledge of the living conditions of this population. It is important to analyze how social inequities are reflected in the possibilities of access to social goods and the level of development of the basic capabilities of individuals. The determination of the health-disease process for social causes has long been used as an argument by actors who advocated state intervention in health matters during the organization of the modern state, from mid-19th century[1]. From the 1990s, this debate intensified, occupying a new agenda in the field of scientific production and in the technopolitical debate on health. In 2004, the Commission on Social Determinants of Health was created by the WHO[2], having as one of its main tasks to lead the formation of similar committees around the world. In Brazil, the National Commission on Social Determinants of Health (CSDH), in its Final Report of 2008, entitled "The social causes of health inequities in Brazil", makes an extensive analysis of the situation and recommends policies and programs primarily focused on the problem of health inequities in urban areas of the country[3]. This document strengthens the importance of the study on Social Determinants of Health (SDH) to identify key interventions that must be made to achieve better health, education and social development. Among the models for the analysis of SDHs, is the model by Dahlgren and Whitehead[4], which classifies SDHs in different layers and tries to show the possible

determinants, from those directly related to the individual characteristics, called proximal, to those located in the more distal layers, considered macrodeterminants. Buss and Pllegrini Filho[5] point to one exception: although it is easy to visualize, "the model does not intend to explain in detail the relations and mediations between the various levels and the genesis of iniquities" (Figure 1).

In recent decades, Brazil has made important advances in reducing infant mortality through social and health policies. In Sobral, for the 2000s, while policies to reduce child mortality were deployed, discussions began on health, education and quality of life for children aged 5 to 9 years, an age range considered less vulnerable as far as health goes, but of great importance for the development of healthy habits. In this perspective, a cohort of children aged 5 to 9 years old, residents in the city of Sobral, was created with the aim of studying the health, education and quality of life conditions in the light of the SDHs. One of the most important aspects of the research was the fact that the city has 100% coverage by the Family Health Strategy (FHS). This cohort, on one side, allowed the visualization of the quality of life of children studied, and, on the other, integration between services, education and research, enabling several studies, among which stand out those by Sucupira[6], Barreto[7], Noro[8], Queiroz[9], Santiago[10].



Source: Dahlgren and Whitehead

Figure 1. Social Determinants of Health: Dahlgren and Whitehead model.

METHOD

Cross-sectional study with a cohort of children born between 1990 and 1994, household interviews, clinical evaluation and laboratory tests. The structure of the study's development is based on the model of health care of FHS, involving the Family Health Teams. Important role played by the Community Health Agents (CHA). The research was conducted in Sobral, Ceará, which, according to the IBGE census of 2000[11], had a population of 155,276 inhabitants, with 48% of the population between 0 – 19 years.

DEFINITION OF THE SAMPLE

The sample was constructed by random sampling, stratified by year of birth in five age groups, from the register of households of FHS. Only one child per household was considered, with a defined sample of 2,900 children in total, assuming a prevalence of 10% for the rarest event with a confidence interval of 95% including a 10% relative error (95%CI 9 – 11). Considering possible losses, 4,400 children (800 in each age group, plus an additional 10%) were randomly selected. For different reasons, 700 children could not be included. Initially, we obtained 3,700 questionnaires, and 256 children were excluded for different reasons. The final sample was comprised of 3,444 subjects for home interview, 2,856 for nursing assessment, 2,822 for clinical evaluation and 2,795 for the three procedures.

Data collection occurred between November 1999 and October 2000, and to consider the seasonal variations of the municipality, the study population was divided into two groups that were studied in different semesters. Home interviews were preferentially made with the child's mother, using a semistructured questionnaire. The operationalization of the research was done by means of modules based on Family Health Units (USF) and ascribed areas. Community health agents (CHA) helped the interviewers in locating the households and clarifying the research objectives, reassuring and motivating parents to participate in the research. A pilot was conducted in a neighboring municipality with characteristics similar to Sobral. The software used was Epi-Info version 6.04, and the study was double typed, with the correction of the differences found. The independent variables were grouped into six sets of indicators: demographic, education, nutrition, child labor, morbidity, use of health care services.

ETHICAL ISSUES

The study was approved by the Research Ethics Committee of *Universidade Estadual Vale do Acaraú* (UVA). There were no conflicts of interest to declare.

RESULTS

The results and discussion have as their guiding thread the model proposed by Dahlgren and Whitehead, and the variables related to the social determinants of health are presented in this article.

Age, sex and hereditary factors – The distribution by sex, year of birth and color, which correspond to the first layer of the model, are shown in Table 1.

Lifestyle of individuals and social and community networks – Information on layers 2 and 3 are shown in Table 2, which shows the perception of the family as the distance from home to the main social facilities and the most common habits of social contacts.

Living and working conditions – Are located on the fourth layer of the model by Dalgrean & Whitehead.

Housing, sanitation, education, employment, health services and child labor are shown in Table 3. Regarding education, few mothers refer to their 7-year-old as knowing how to read correctly. Only 36.9% and 43.6% of children, respectively at 9 and 10 years of age, are seen as knowing how to read properly. 63.2% of preschool children are not in school. At eight years old, 27.2% are still out of school. Over seven years old, predominantly male (64.4%) and black/brown/mulatto (84.6%) children are among those who are out of

Table 1. Distribution of children aged between 5 and 9, by year of birth, gender and race, urban area of Sobral, 1999 – 2000.

	Frequency	%
Year of birth		
1990	689	20.0
1991	709	20.6
1992	689	20.0
1993	688	20.0
1994	669	19.4
Gender		
Male	2.722	50
Female	2.722	50
Race		
Black/Mulatto/Brown	2.497	72.5
White	935	27.1
Asian	4	0.1
Indigenous	2	0.1
No answer	6	0.2

Table 2. Distribution of the children aged between 5 and 9 according to the perceptions of families regarding the distance from home to the main social facilities in the surroundings and frequency of use of such facilities, urban area of Sobral, 1999 – 2000.

Social facilities in the surroundings	Freq.	%	Social facilities frequency of use	Freq.	%
Church or temple					
Yes	2679	77.8	Always	1961	56.9
No	742	21.6	Sometimes	1347	39.1
NA	23	0.7	Never	133	3.9
			NA	3	0.1
Residents association					
Yes	1598	46.4	Always	192	5.6
No	1129	32.5	Sometimes	346	10.0
NA	727	21.1	Never	2532	73.5
			NA	204	10.9
Sports club					
Yes	968	28.1	Always	232	6.7
No	1940	56.4	Sometimes	474	13.8
NA	536	15.5	Never	2534	73.6
			NA	204	5.9
Public park					
Yes	2267	65.8	Always	389	11.3
No	1050	30.5	Sometimes	769	22.3
NA	127	3.7	Never	2236	65.0
			NA	50	1.5
Supermarket or grocery store					
Yes	3214	93.3	DNA**		
No	224	6.5	DNA**		
NA	6	0.2	DNA**		
			DNA**		
Bar					
Yes	2917	84.7	Always	189	5.5
No	512	14.9	Sometimes	368	10.7
NA	15	0.4	Never	2867	83.3
			NA	20	0.6
Friends/Family house					
DNA**			Always	2221	64.5
DNA**			Sometimes	1019	29.6
DNA**			Never	201	5.8
DNA**			NA	3	0.1
School					
Yes	2471	71.7	DNA**		
No	940	27.3	DNA**		
NA*	33	1.0	DNA**		
			DNA**		

Tabela 2. Continuation.

Social facilities in the surroundings	Freq.	%	Social facilities frequency of use	Freq.	%
Health unit					
Yes	2683	77.9	DNA**		
No	752	21.9	DNA**		
NA	9	0.3	DNA**		
			DNA**		
Police station					
Yes	1522	44.2	DNA**		
No	1755	51.0	DNA**		
NA	167	4.8	DNA**		

NA* No answers; DNA** Do not apply.

Table 3. Health, working and income conditions of the families of children aged between 5 to 9, living in the urban area of Sobral, northeast semiarid, 1999 – 2000.

Housing features		Freq.	%
Type	House	3370	97.9
	Apartment	47	1.4
	Room	21	0.6
	Other/no answer	6	0.2
Ownership of residence	Owned and completely paid	2565	74.5
	Leased	501	14.6
	Transferred	331	9.6
	Financing	32	0.9
	Another condition/no answer	15	0.3
Type of construction	Masonry	2377	69.0
	Masonry without finishing	466	13.5
	Mud walls	401	11.7
	Mud walls without finishing	186	5.4
	Other/no answer	14	0.4
Sanitation		**Freq.**	**%**
Water supply	Public system with plumbing	2968	86.2
	Public system without plumbing	281	8.2
	Well water with plumbing	58	1.6
	Other sources/no answer	137	4.0
Waste sewage	Public system	1938	56.3
	Open air ditch	489	14.2
	Rudimentary cesspool os septic tank	381	19.8
	Other/No answer	336	9.7
Garbage collection	Collected daily	2427	70.4
	Thrown in vacant lot or river	624	18.1
	Secondhand Collected	382	11.1

Tabela 3. Continuation.

Education		Freq.	%
Education of father	Did not study	434	16.8
	Incomplete or complete primary education	932	36.0
	Complete secondary education	642	24.8
	High school or higher	583	22.5
	Total	2591	100.0
Education of mother	Did not study	414	12.7
	Incomplete or complete primary education	1214	37.1
	Complete secondary education	936	28.6
	High school or higher	704	21.5
	Total	3268	100.0

school, with statistically significant differences by gender and race/color. The lower the mother's education and family income, the greater the occurrence of grade repetition. Between seven and ten years of age, the percentage of grade repetition was of 20.5% and, considering repetition and dropout, we have 25.1% of school failure.

Regarding health services, only 5.7% of the sample reported owning a private health plan. In a statistically significant manner ($p < 0.01$), the population enrolled in the FHS shows lower levels of education and per capita income than the population that didn't recognize itself as registered in the FHS. 88.6% of families reported to having sought services of the FHS. Only 11.1% never sought the FHS. Almost 80% reported seeking the FHS when their children gets sick, 16.9% go to private services and only 1% admits they go to a pharmacy. Obtaining consultation on the same day was reported by 97.6% of the families. Almost 40% sought services from Santa Casa, a philanthropic health entity, and for more than three quarters of the subjects, this occurs when there is urgency. The search for Santa Casa significantly increased with income ($p < 0.01$).

Regarding child labor, among the 157 families who reported having no income, 29 (18.7%) reported that the children performed some form of child labor. As the education level of the head of household increases, the percentage of children related to any child labor decreases. The same relationship can be observed with per capita income. As to the reason for the children to work, 83.5 % said it was to help with household chores and 2.4% said it was to help the family income (2.4%). Paid work was reported by 3.9% of children, and 6.2% of them had fixed working hours. 27 children suffered some kind of accident with the most diverse repercussions, and one third required medical attention. A quarter (7 children) missed classes due to the accident. There was no significant difference between children who are and who are not in school in the group of children whose families reported some type of child labor. Children who worked had a 1.6 times greater chance of repeating grades than those who did not work.

Almost 30% of families stated that their children had previously presented malnutrition. Of the children who reported previous malnutrition, 153 (15.6) of families reported having

participated in programs for the malnourished. Only half of the families reported that children consumed daily school meals. There is a statistically significant ($p < 0.01$) relationship, indicating that the lower the income, the higher the consumption of school meals. Significant percentages of low-income children who go to school and do not consume meals were also observed.

Socioeconomic, cultural and general environmental conditions – This information is presented in Table 4 and refers to the fifth layer. Among consumer goods, it is noteworthy that only 63.55 of the families had a water filter. In the vast majority, the father was the breadwinner; the mother was in third place with 10.5%. In the second place, 17%, the breadwinner was another relative (in 15.7%, it was one of the grandparents, with the grandfather in 62.3% and the grandmother in 37.7%). There was a significant difference in income of male heads of household with respect to female heads of households ($p < 0.01$). A little more than half of the households have a peridomicilary outdoor area, which is used for recreation by 62.8% of children. Of recreational areas, 34.6% offer risk for diseases or accidents.

Table 4. Distribution of children aged 5 – 9 years according to monthly per capita income, possession of goods, environmental conditions and religion, urban zone of Sobral, 1999 – 2000.

	Frequency	%
Monthly income		
No income	157	4.6
0.00 ---| 0.25 MW	1216	35.3
0.25 ---| 0.50 MW	1116	32.4
0.50 ---| 1.00 MW	597	17.3
1.00 ---| 2.00 MW	215	6.2
> 2.00 MW	71	2.1
No answer	72	2.1
Possession of consumer goods		
Stove	3,410	99.0
Television	3,076	89.3
Refrigerator	2,298	66.7
Radio	2,020	58.7
Stereo	1,756	51.0
Washing machine	62	1.8
Environmental conditions		
Lives in urbanized neighborhood	2456	71.3
Paved streets or sidewalks	2510	72.9
Streetlights	3367	97.8
Religion		
Catholic	3047	88.5
Other	294	8.5
None	101	2.9

DISCUSSION

For the discussion, the model proposed by Dahlgren and Whitehead is used again as the guiding thread.

AGE, SEX AND HEREDITARY FACTORS

At the base of the model by Dahlgren and Whitehead are individuals with individual characteristics that influence the way they live and get sick. The final sample represented the population of Sobral very well. The color of the child and parents according to the classification made by the informants themselves, as recommended by IBGE, was considered[12,13]. In Sobral, according to data from the 2000 Census by IBGE, one third of the population is classified as white and two-thirds as black or mixed.

LIFESTYLE OF INDIVIDUALS

In the second layer of the model above, is the lifestyle, which, according to Buss and Pellegrini Filho[5], "is a layer situated on the threshold between individual factors and the SDHs, since the behaviors, often understood only as individual responsibility, dependent on choices made by the free will of people, in fact may also be considered part of the SDHs, as these options are severely constrained by social determinants — such as information, advertising, peer pressure, possibilities of access to healthy foods and leisure opportunities." The mode of socialization is very important in how families come in contact with information and define their own lifestyle, which can lead to more or less healthy habits[6] In the light of the extent of the information obtained in household interviews, we chose to include only two variables referring to the lives of families: the perception of the distance from the household to the main social facilities and the most frequent habits of social contacts. Facilities considered to be "near" are those who provide education and health services, while leisure facilities were seen as more distant. In the observation of the authors, the availability of parks and sports fields is more concentrated in the central regions, and the population with better income are the ones who have access to most sporting clubs. Possibly, the perception of distance between the household and these facilities is influenced by how the respondents have access to and attend such facilities. The frequency with which families reported having a religion is reflected in the high percentage of reporting going to church or temple. The use of leisure facilities is too low. The frequency of going to the bar is also very low, although the bar was considered to be close to the residence. A practice that is more evident is visiting the house of friends and relatives, reported by almost all families. This information profile reflects the current cultural habits in the city.

SOCIAL AND COMMUNITY NETWORKS

The data mentioned above allow inferences about family and religious ties, which constitute major support hubs and can be considered part of those networks. In the literature, there are often references to these public spaces as important means of socialization and access to information[14]. The results suggest that socialization resulting from coexistence in public recreational areas in the city is still incipient. Several authors have emphasized the set of factors in society that comprise the so-called "social capital". Kawachi and Kennedy[14] discuss the importance of income inequality and social cohesion as determinants of health of a population. The density of associational life, estimated by participation in church groups, sports groups, fraternal organizations and labor unions, is one of the most strongly related components to the quality of life and health[6].

LIVING AND WORKING CONDITIONS

Fourth layer of the model by Dalgrean & Whitehead.

HOUSING CONDITIONS

The characteristics of the households reflect the housing profile of Sobral, where almost all families live in a house and even those with the lowest income live in their own property, already completely paid for. Although most households are made of masonry without any finishing, 30% of families live in houses without finishing or with mud walls, therefore in unsuitable conditions for health.

BASIC SANITATION

The conditions of the basic sanitation infrastructure are fundamental to the health and quality of life. The basic sanitation conditions reflect investments in this sector that have been carried out in Sobral, especially in the most deprived and of most recent formation neighborhoods. The data found are above the values indicated for most cities of the Northeast. According to the 2000 Census, Ceará had treated water in 60.8% of households, and the Northeastern Region has it in 58.7% of households. Garbage was collected in 61.5% of households of Ceará, and in and 59.7% of the households in the Northeastern Region.

EDUCATION CONDITIONS

The low education of mothers is noteworthy, with the educational level of the head of household being even worse, 22.8% of them having no formal education, probably due to the presence of grandparents as heads of household. Currently, many authors prefer to use education as a socioeconomic indicator instead of family income. This is because these variables, in our setting, appear strongly associated with education, and information on education is more reliable than on income. The education of the head of household is still a determining factor in the way of entering the labor market and, consequently, in the levels of salary and living conditions. Monteiro et al.[15], in his study, *"Saúde e nutrição das crianças de 0 a 5 anos no município de São Paulo"*, chose to stratify the study population according to the education of the head of household, because this is a more available information, due to the dependence education has in relation to social class and the association between the level of education and level of income. Interestingly, the education profile has been changing with the generations. Beltrão[16], analyzing the education of men and women in the IBGE demographic census, shows that, in recent decades, the difference in mean education between men and women has decreased, and an actual reversal occurred, with women surpassing men. This change in the education profile between genders reflects, among other factors, the changing role of women in society. The low parental education had a great impact on the school profile of the children surveyed. Access to pre-school is very low, seeing the low number of children under seven years old that are out of school. Adding children who are out of school with those who had some repetition, we have a school failure rate of 25.1%. That is, a quarter of children have a history of school failure in their lives[6]. It is noteworthy that a quarter of the 8-years-old children are out of school. The information that among children who are out of school, boys classified by families as black/brown/mulatto are predominant is consistent with the literature, pointing school failure as a characteristic of the male, black and poor population[6].

EMPLOYMENT

The way parents are inserted in the labor market defines the possibilities of access to goods produced by society. The number of heads of households with occupations requiring more education is small. Among the heads of households who are employed, in general, the level of education is better than in those who unemployed. Retirees are the ones with less education.

HEALTH SERVICES

The use of health services is determined in large part by the availability of the services — the types of services in existence and mode of operation of these services.

The ease or difficulty in access affects how those services are used. The differential in Sobral regarding access was the implementation of the FHS with universal coverage since 1997. A key feature of the FHS, the assignment of the population to family health teams, enables a more personalized attention as links are created between the teams and the registered population.

One aspect that was valued in the elaboration of the study was to identify the perception of the population regarding the characteristics of care in the FHS in relation to the dynamics of the population's registration and link to it. While this is a universal strategy, in the study, subjects from the popular classes were those who benefited the most from the expansion of the coverage of health services. It was noteworthy how the families interviewed recognize the FHS and how they use it. Obtaining a consultation immediately is an excellent indicator of the ease of access to public health services. Regarding the use of hospital services, the demand occurs when the family considers the situation to be urgent.

CHILD LABOR

Among the factors that can be used to define the conditions of life and health and quality of life of children is child labor. This type of activity can interfere with the educational process, affecting school performance[6] It was therefore important to study the existence and characteristics of the work done by children. Brazilian law permits the employment of adolescents, starting from 14 years old, assuming that it is exercised in three ways: employment, internship and apprenticeship. However, in Brazil, as in almost all countries in the world, thousands of children perform in some kind of work. Child labor is related to poor socioeconomic conditions of the family and parental unemployment. In Brazil, according to the National Household Sample Survey (PNAD), from 1992 to 2001, the level of employment of children and adolescents went from 3.7% to 1.8% in the 5 – 9 years old age group, and from 20.4% to 11.6% in the 10 – 14 years old age group. In the Northeast, this percentage was of 5.1% in 1992 and decreased to 3.6% in 2001. PNAD defines work as any paid occupation performed for at least one hour a day, or unpaid activities to ensure food, shelter or to help the family, linked to the primary sector, including agriculture, livestock and fisheries, or the secondary sector, such as manufacturing (PNAD, IBGE, 2003)[18]. There is great difficulty in defining what constitutes child labor, especially when dealing with household chores. In this research, the definition of child labor was given by the family, which responded if the child performed some work inside or outside the household. The difference in the data collection methodology and conceptualization of child labor employed in the present study explains the variation observed in the percentages presented in the editions of PNAD of 1992 and 2001. It is noteworthy that families consider that children under five years old perform some kind of child labor, a factor that leads to confusion when analyzing the data on child labor in this study. As the education level of the head of household increases, the percentage of families that report children performing some kind of work decreases.

The same relationship can be observed with per capita income. The percentage of answers regarding help with the family income was small (2.4%), which approached the percentage of 3.6% found by the 2001 National Household Survey on child labor among children of the 5-9 years old age range in the Northeast. Most children do household chores. This is a type of work little quantified by the difficulty of recognition from the family that the child is performing child labor. Although only 3.9% of children have paid work, 6.2% of families referred journey with fixed working hours. The definition of work requires a reference to a remuneration, which may be in cash or benefits, such as housing or food or some good. However, children working at their own home, without remuneration, performing tasks that would be the duty of a maid, can be considered as child labor. Thus, these children are ensuring a return to their families, who don't have to pay for the services of a maid. This kind of work is evident in children in this study, since the majority took care of siblings or performed domestic services, such as washing the dishes, sweeping the floor, tidying the house up, among others. Other forms of remuneration characterize more informal working relationships, as in the case of children who perform work in exchange for food or housing. Although the media points out the detrimental aspects of child labor very well, this was not the representation that the families surveyed had of their children's child labor. The vast majority made positive remarks on the fact that their children worked. One of the reasons for this appreciation of child labor may be due to the fact that these responses were obtained from families who have children who work. Despite all the difficulties in characterizing child labor referred by families, the number of children who got injured while performing these activities was noteworthy. The analysis of how work interferes in the lives of children becomes difficult by the very nature of the work that is reported, being performed at their homes and often not with a fixed workload. Children who worked were more likely to repeat grades than those who did not work. Despite the importance of the relationship between school performance and child labor, there are few studies on this issue in both national and international literature.

NUTRITION

The importance of analyzing the occurrence of previous malnutrition and the presence of current malnutrition is to add one more data that may indicate living conditions and access to food produced by society. The information that almost a third of the children had previously presented malnutrition is compatible with existing malnutrition rates in the early 1990s in Sobral. The reporting by families of the occurrence of malnutrition in the first two years of life corroborates with literature data, for malnutrition is most prevalent in the early years of life in various population studies. Monteiro[15] found a prevalence of 41.2% of malnourished children in the first two years of life. The prevalence of malnutrition in Sobral was already showing a decline in the previous survey years, especially with regard

to its most severe forms. According to the Primary Care System (SIAB) of Sobral, in the period between 1996 and 2002, the proportion of malnourished children under one year old fell from 14.0% to 3.1% and in children between 12 – 23 months of age, malnutrition fell from 23.7% to 10.8%. In children under five years of age, hospital admissions for malnutrition declined from 9.4% to 0.9% and the mortality rate decreased from 4.9% to 2.6%. This decrease was probably due to the improvement in living conditions recorded in the county in the last six years and the supplemental feeding programs. The thesis that most children go to school because of the meals given for free is widely accepted. While it is evident that there is a statistically significant relationship ($p < 0.01$) indicating that the lower the income, the higher the consumption of school meals, it was also observed that many low-income children go to school and do not consume meals.

GENERAL SOCIOECONOMIC, CULTURAL AND ENVIRONMENTAL CONDITIONS

These variables are located in the most distal layer of the model by Dahlgren and Whitehead and correspond to macrodeterminants of health conditions. Besides the low level of education, most families had low income levels. The answer "no income" has not always meant the complete absence income, most commonly meaning the absence of a fixed income, because when comparing income and rent of homes, even those families that reported "no income" paid rent and had other forms of consumption. The difference in income of heads households between men and women distinctly showed a social inequality related to gender. Comparing the distribution of the variable income of the head of household in the sample with the population of Sobral (data of 1991), no significant difference between the two populations was observed, and it could be verified that, in the two cases, the contingent of families with high income is small. It is worth noting that, although the per capita income is low, 85% of households do not have housing expenses, and the income/cost of living ratio in Sobral is very different from the reality of big cities. Other factors used to assess the socioeconomic conditions and quality of life are the household appliances that families own. Many studies use the ownership of such equipment for the social classification of the families. In this study, the goal was just verifying the number of households that have access to the consumption of these goods. It is worth noting that television is much more frequent than the refrigerator, with a difference of 22.6 percentage points. Information on dietary intake of these families show that it is predominantly based on non-perishable foods, bought when they receive salary. Perishable foods that require storage in the refrigerator must be purchased more frequently and are relatively more expensive. The washing machine, considered basic in many families, appears in eighth place, which may reflect the low income of families. One has to also consider the ease of washing clothes, both for the warm climate and the availability of labor in domestic work. Other household equipment considered important for health maintenance is the water filter, reported by a number of families well below the number of those who own television.

CULTURAL AND RELIGIOUS ASPECTS

There is a difference between cultural habits of a great part of the low-income population and the small percentage that has a higher income and access to cultural events. The lack of commercial cinemas at the time of the survey justifies that only 2.6% of households said they always or sometimes go to the movies. The availability of leisure facilities in the city and how the population relates to these spaces and the different types of activities present at the municipality were already described. The municipality of Sobral is characterized by a strong religiosity, having 22 Catholic churches. The number of people that report having no religion is very small. The profile of the distribution of the population according to religion, in the 2000 census, is quite similar to this study, with 86.5% of Catholics. Among other religions, almost all are evangelicals, because the others did not reach 0.5%. There is no reference to the Jewish religion or to Eastern religions. The growth of other faiths in the city is relatively recent. In Sobral, there are mainly missionary evangelicals (name given by IBGE to traditional Evangelicals or Protestants) and there some Pentecostals.

GENERAL ENVIRONMENTAL CONDITIONS

Another important aspect in the characterization of the household is its location and the improvements that it can rely on, which express the socioeconomic conditions of families and, especially, access to goods and services produced by society. The survey data reflect a satisfactory condition of urbanization for the vast majority of households where children live. As to the specific conditions of the household, leisure areas and situations of risk in the environment in which children live were verified whenever possible. Although more than half of the households have peridomiciliar areas available, used for recreation by children, a third presents risk for illness or accidents. This information shows the importance that public leisure facilities must assume, since over 40% of the households have no outdoor area. However, as discussed earlier, there is little reference to the existence of parks and public recreational areas close to the households, and especially the habit of going to them, probably conditioned by distance and limited availability of such facilities.

FINAL CONSIDERATIONS

In the expanded health conceptualization, present in the Citizen Constitution of 1988, Article 196 states that health is everyone's right, and a duty of the state, guaranteed by social and economic policies aimed at reducing the risk of illness and other hazards and to universal and equal access to health actions and services. The results of this study allow us

to state that in 2000, despite some advances made in public policies, much had to be done to ensure "health" and equal conditions for social inclusion of most children aged 5 – 9 years in the urban area of Sobral. This reality is probably present in many municipalities with similar characteristics in the country, especially in the Northeast. The analyzes presented here are of great importance as benchmarks for assessing the impact of public policies aimed at this age group that have been implemented from the year 2000 and should be subject of future research and publications.

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