

Research Article

Determinants of the Double Nutritional Burden of the Children of the Early Childhood Program of the Municipality of Barranquilla 2016

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Abstract: The objective of this research is to present the determinants of the double nutritional burden in the homes of children of the Early Childhood Program of the Mayor's Office of Barranquilla. A cross-sectional descriptive study was carried out in a sample of 295 boys and girls, selected by simple random sampling. The source of information was primary, tabulated and mechanically presented the results. The macro variables studied were the sociodemographic, economic and food characteristics, the anthropometric nutritional status, household food security and the physical activity of the mother or caregiver. The frequency of the double nutritional burden was 26.4%, which prevails in the families of mothers with an average educational level, the female head of household, mothers between 18 and 29 years old with 56.6%, the average Age was 30.0 years with a standard deviation of ± 10.2 years. Children between three and four years, the mean age was 2.9 years, with a standard deviation of ± 1.2 years and socioeconomic level low. Likewise, it observed that households with a double nutritional burden consume a higher proportion of carbohydrate, fat and empty calorie foods and present a degree of food insecurity in 75%. The double nutritional burden in early childhood shows a complicated situation of deficit and excess that forces us to continue looking for strategies that allow the approach of this problem in a comprehensive and intersectoral manner.

Keywords: Chronic malnutrition, demographic transition, epidemiological transition, nutritional transition, obesity, overweight

INTRODUCTION

In the study, an approach to the determinants of the double nutritional burden Fonseca *et al.* (2014), show several transition processes in Colombia, the delay in height with 13.2% in children under five years old. In the last two decades (the 90s and up), there has been a sustained decrease in chronic malnutrition. However, overweight and obesity is a problem that affects half of the population over 18 years old, with an increase in the last five (5) years. These effects have currently generated changes to the rise of the elderly population, in the lifestyle at the level of healthy eating and physical activity, which has led to the increase of chronic noncommunicable diseases such as cardiovascular, metabolic among other.

The demographic, nutritional and epidemiological transition are underlying factors of the so-called chronic noncommunicable diseases and in some way explain the changes that humanity is going through and that include multiple aspects of scarcity and opulence in the same population, such as explains Pasca and Pasca (2011) in his opinion article on transitions.

On the other hand, Carlos Alberto Velasquez Vega in his study "transition and double nutritional burden in

Bogota" states that in adult mothers an incidence of the problem of 44.43% is observed. Similarly, in terms of the educational level of the mother, this study shows that the double nutritional burden occurs in higher prevalence in those mothers with an average educational level (Primary-Secondary) with 82.11%.

In that order of ideas concerning the occupation of the mother, Benjumea *et al.* (2006). In the study Duality of home maintenance in Antioquia: underweight in those under 19 and overweight in adults, show that only 20, 4% of women are related to an economic activity.

Khan (2006), in his study the double burden of excess and lack of weight in developing countries states that the weight deficit remains a problem to intervene. In more significant proportion than overweight and obesity and establishes that the presence of the double nutritional burden has its genesis in the development of the countries, in which a reduction of the practice of physical activity has been observed and the food consumption of their traditional culture has changed, with possibilities of suffering consequences irreversible for health both physically and cognitively.

The previous thing is similar to the results found in the study of approximation to the determinants of the Double Nutritional Load of the Ministry of Health. In

which it observed that families with Double Nutritional Load have a low diversity of food (13.37%), established as the daily consumption of at least four food groups. In this sense, the study Malnutrition and food security of Fonseca *et al.* (2013), determines that more than half of the households with malnutrition (54.3%) present some degree of food insecurity.

As a measure to face the situation of double burden Brett (2017), in the study, "Food crisis worsens the double nutritional burden of Venezuelans," establishes that for the prevention and treatment of the double burden of malnutrition should be made not only modifications in the consumption of some foods considered harmful to health. But also encourage the practice of physical activity and other changes related to healthy lifestyles.

This project presents the determinants of the double nutritional burden in the homes of children of the Early Childhood Program of the Mayor's Office of Barranquilla, in 2016. To achieve this, specific objectives are formulated: to show the population studied by: sociodemographic, economic characteristics of the household diet; the nutritional status of the children and of the mother or responsible caregiver, the degree of food security of the households and the lifestyles according to physical activity; as well as to determine the double nutritional burden according to the indicated macro variables, which will allow to have relevant information to approach the problem in a coordinated, integral, efficient and effective way.

MATERIALS AND METHODS

A descriptive, cross-sectional study was carried out; the whose eligible population was 1,528 children attended in 6 Child Development Centers of the Mayor's Office of Barranquilla.

The size of the sample was obtained through the software EPIDAT V. 3.1, taking a prevalence of 9.33% of the presence of the Double Nutritional Load, for the Department of the Atlantic, reported in the study carried out by the Ministry of Health and Social Protection "Approximation to the determinants of the Double Nutritional Load in Colombia", a Reliability Index of 95%, a sampling error of 3%, a design effect of 1%, resulting in a sample size of 295 children and girls.

The macro variables and variables studied were: Sociodemographic characteristics: age, sex, socioeconomic stratum, head of the household, the occupation of the head of the household or responsible caregiver, educational level of the head of the household, economic characteristics: Monthly income, Conditional economic transfer programs. Food Characteristics: Consumption pattern. Anthropometric nutritional status: Weight, height, BMI (mothers/caregiver) and Size/age. (Children), physical activity and food security.

The collection source was primary and the collection technique was an interview, the Information Collection Instrument was a structured questionnaire with closed questions in which the sociodemographic, economic, food, nutritional status and physical activity variables recorded. Designed having taken into account the variables to be studied "Survey on Determinants of the double individual and family nutritional burden in children of the Early Childhood Program of the Mayor's Office of Barranquilla 2016". Which structured by the researcher taking different sources especially the National Survey of the Nutritional Situation in Colombia (ENSIN, 2010), the Latin American and Caribbean scale of food and nutritional security and contributions of different questionnaires reviewed in Research Methodology.

The BMI formula was used to determine the nutritional status of the mother and for the children, the age-related chronic malnutrition indicator used, taking into account the classification established in resolution 2465 of June 14, 2016. Based on the growth patterns of the World Health Organization (2006); whereby the anthropometric indicators, reference patterns and cut-off points adopted for the anthropometric classification of the nutritional status of girls, boys and teenagers under 18 years of age, adults 18 to 64 years of age and pregnant women and other provisions dictated.

The analysis of the qualitative variables was made through frequency measurements (percentages) and for the quantitative variables we used measures of central tendency (Average, median) and dispersion (standard deviation).

RESULTS AND DISCUSSION

26.44% of households have a double nutritional burden, in which children with chronic malnutrition were present with 28.8% and mothers with overweight or obesity with 47%.

The households where the age of the mother oscillates between 18 and 29 years presented a 56.6% of Double nutritional burden, followed by mothers from 30 to 39 years old with 27.1% and finally those under 18 years old with 2% (Fig. 1). To the age of children between three and four years, it observed that households have a more considerable double dietary weight, with 26.9% and 27.5% respectively. About sex, there is a higher double burden in the homes of male children, with 55.1%.

It observed that the households with the highest prevalence of double nutritional burden are those where the mother or the caregiver does not currently work with 73.1%. They have an average level of education, that is, those who attended some degree of primary school or early secondary with 79.3% and low level with 0.3%, (Fig. 2), they inhabit socioeconomic stratum 1 with 84.6% and 70.5% present some degree of food insecurity.

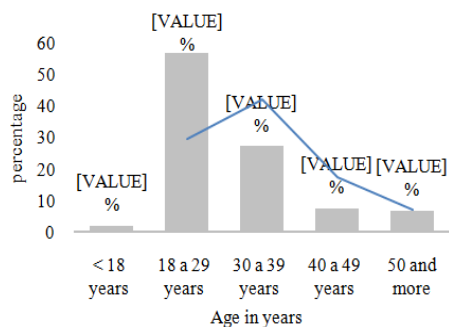


Fig. 1: Age of the Mother/Caregiver of the children of the early childhood program. Barranquilla 2016

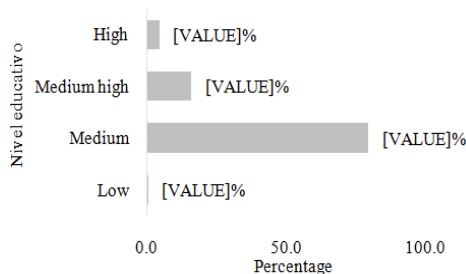


Fig. 2: Educational level of the Mother/Caregiver of the children of the early childhood program. Barranquilla 2016

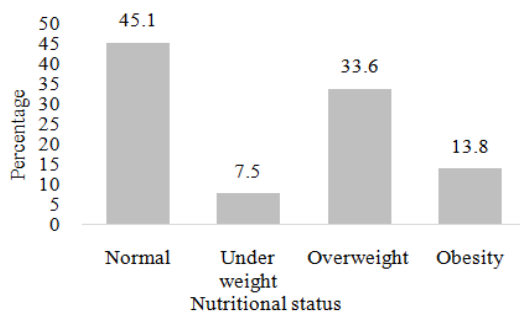


Fig. 3: Nutritional status of mothers/caregivers of children in the early childhood program. Barranquilla 2016

In households with a double nutritional burden, mothers or caregivers present a excess weight (overweight/obesity) in 47.4%, 7.5% have low weight and just 45.1% have adequate dietary status (Fig. 3). 83.3% of households with a double nutritional burden, the mother or caregiver does not perform any activity physically.

When comparing the data obtained from the study of approximation of the double nutritional burden carried out in 2014 with data from the ENSIN (2010), it observed that the prevalence of dual dietary charge is much higher than the data obtained for the Department of Atlantic. The available data evaluated show us that women, where there is a double nutritional burden, are at younger ages in contrast to other studies reviewed. Regarding the level of mothers, the values obtained are similar to those consulted.

Regarding the nutritional status of children with respect to the weight-for-height indicator, a considerable percentage of children with excess weight is observed with 44.9%, although this figure has not been analyzed in other studies if the growing number of children is of concern. Children with this problem in early childhood.

CONCLUSION

The analysis of the present study indicates that in households with a double nutritional burden, children despite having chronic malnutrition, have an adequate nutritional status or risk of overweight to the weight-for-height indicator. Which is an indication that the Program of Integral Early Childhood Care is a protective factor for the prevention of acute malnutrition. But does not exert the same action for the problems of excess weight, providing a high percentage of the child's daily caloric nutritional requirements and very little physical activity both in child development centers and in homes; promoting in some way probable "future young and obese adults", continuing the vicious circle of the Double Nutritional Load. For which it suggested the design of strategies that address the problem in an integral way towards the two routes in each of the components of early childhood care.

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CONFLICT OF INTEREST

This Project was carried out with the endorsement of the early childhood program of the mayor of the District of Barranquilla.

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