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Methodology Article

Socio-Economic Factors and Growth Ratardation in a Sub-Quarter of Abidjan Cocody Angré (Ivory Coast)

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Abstract: The aim of this work is to study the socio-economic factors in relation to the stunted growth in children from 6 to 59 months in a suburb of Abidjan Cocody Angré. To this end, a cross-sectional, descriptive and analytical study was conducted at the community-based health facility in Abidjan (Cocody-Angré) over a period of three months (August to October 2016). In the course of this study, 958 children and mothers / accompanying persons were consulted. Of these children, 58 were stunted. This study found that 53% of children with stunting had mothers aged between 20 and 29 years. Similarly, mothers whose income were comprised between 3 USD and 6 USD registered 67% of growth retardation. Data were collected during the study period through the availability of structure staff, the use of growth curve tables and exchanges with selected mothers using individual questionnaires. These anthropometric data have been determined and compared with international ones. These results should be supplemented by further studies to better define the scope of actions to effectively fight malnutrition among children in the Cocody Angré health area in Côte d'Ivoire.

Keywords: Growth Retardation, Anthropometric– Ivory Coast

1. Introduction

Stunting is a public health problem in developing countries (onis et al., 2000). in both infants and young children, stunting affects the development of staturo-weight, psychomotor and socio-emotional development (aké-odile et al., 2010). this malnutrition generally appears during the weaning period which is around the age of six months (zannou et al., 2011). stunting is reflected in slower growth. the weight curve becomes stationary. the preferred indicator of stunting is the height / age index (turck, 2005). worldwide, more than 195 million children under five suffer from stunting, 90 per cent of whom live in developing countries (yi hui *et al.,* 2013). in ivory coast, according to the demographic and health survey of côte d'ivoire edsci-2011-2012, 28% of children suffer from stunting due to

chronic malnutrition, 74.3% with a mortality. this malnutrition is often underestimated in so-called middle-income neighborhoods. thus, strategies for its evaluation and treatment remain relatively low (michel *et al.,* 2013, egnon *et al.,* 2017). this study aims to study socio-economic factors related to stunting in children aged 6 to 59 months in a suburb of abidjan cocody angré (ivory coast).

2. Equipment and Methodology

2.1. Equipment

Collection sheets and anthropometric measurement instruments (administrative documents, Mother-child birth charts, Shorr's toise, Scale scale) have enabled the collection of socio-demographic and anthropometric data. The anthropometric measurements concerned weight, height and age.

2.2. Methodology

This cross-sectional descriptive and analytical study was carried out over a period of three months (August to October 2016). The study sample is made up of 958 children consulted in the community-based health facilities of Nimatoullah Cocody-Angre (Abidjan, Ivory Coast), 58 of whom were stunted. Data were collected during this study period through the availability of structure staff, the use of growth-curve tables and exchanges with selected mothers using individual questionnaires. Anthropometric data were determined and compared with international standards.

2.3. Data Processing

The data from this study were processed with the excel 2007 version.

3. Results

3.1. Distribution of Mothers by Age

In this study, 53% of children with stunted growth had mothers whose age ranged from 20 to 29 years. Of these children, over 70% were kept by house girls.

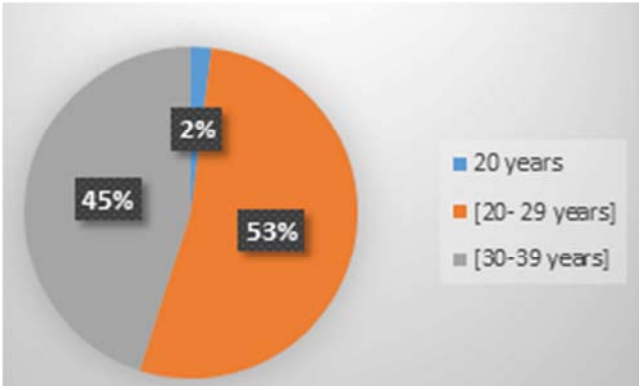

Figure 1. *Repartition of mothers by age.*

3.2. Repartition of Mothers by Function

Housewives have more malnourished children, with a proportion of 47% followed by the traders (40%).

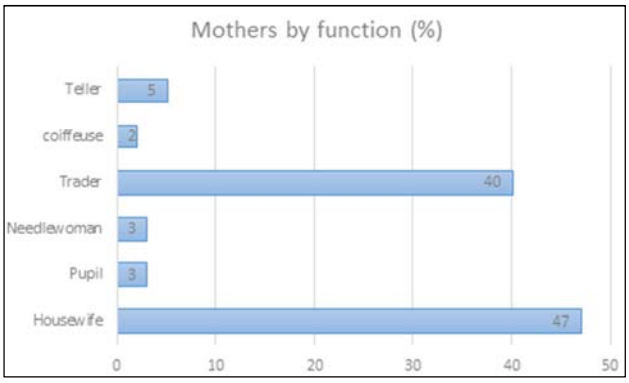

Figure 2. *Repartition of mothers by function.*

3.3. Repartition of Mothers by Level of Education

Growth was more pronounced in children (90%) with mothers having a level less than or equal to primary with more.

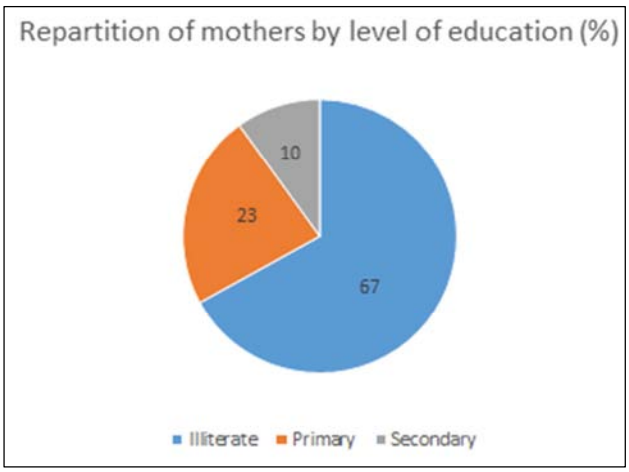

Figure 3. *Repartition of mothers by level of education.*

3.4. Distribution of Mothers by Daily Household Budget

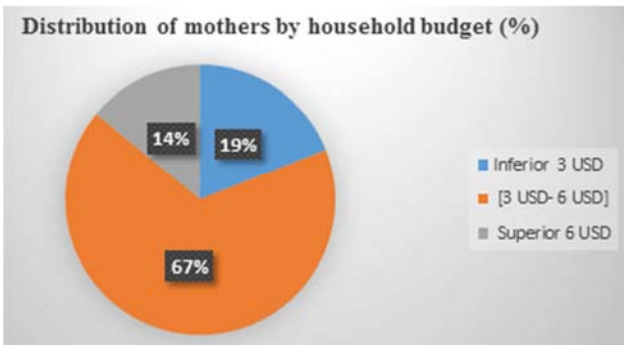

Figure 4. *Distribution of mothers by household budget.*

Households with income between 3 USD and 6 USD had far more children with stunted growth (67%).

4. Discussion

The results of stunting in this study are relatively lower than the national prevalence of Côte d'Ivoire (26.5%) (PNN, 2015). They are also three times lower than in Pakistan, with 55% (Shah et al., 2003) and Bangladesh (Semba et al., 2008) with 50.7%, and Togo 47.6% (Mbemba et al., 2006). These results are difficult to compare because of the heterogeneity of the reference used for the classification of stunting, the socio-demographic conditions and the nature of the study (carried out on a small scale in urban or rural areas or on a large scale at the national level).

Socio-economic status is a risk factor that can influence early childhood growth. In Cocody Angre, middle-income social classes are more vulnerable to the sudden cessation of breastfeeding and the early introduction of weaning food (Egnon et al., 2017). These inappropriate nutritional practices associated with diarrheal diseases severely affect early childhood growth (Lunn, 2000). This association of growth retardation and relatively low socio-economic classes has been reported by (WHO, 2004; Mbemba et al., 2006; WHO, 2008). In addition to inappropriate practices, the age of mothers certainly influenced the results of stunting in this study. Indeed, it was observed that more than 50% of mothers were of the age of 20 and 29 years. This age group (20 and 29 years) recorded 57% of children suffering from stunting. These results are consistent with those of Piechuleck and Mendoza 2012, which showed similar variables in the study of underweight children in a nutritional surveillance program conducted in Cameroon with more than half (57%) Of newborns of insufficient weight in mothers of this same age group. This link would be explained by a low level of study. In addition, children are often guarded by unqualified housekeepers. In addition, 67% of these women who came to the clinic were accompanying persons. The results of this work are consistent with those of Kirerem et al. 1999 in their study on the assessment of the nutritional status of children aged 0-5 years in a rural health area in the northeastern part of the Democratic Republic of Congo. They reported the link between the unfavorable socioeconomic conditions of the mother and the occurrence of chronic malnutrition.

The level of study of out-of-school mothers was estimated at 67% of women who came to the clinic. Also, on the basis of enrollment, this work showed that the mother's level of education (67%) is associated with chronic malnutrition (over 40%).

In the 2002 Poverty and Health Specific Study conducted by INSD in Burkina Faso, it was demonstrated that the mother's standard of living and education had statistical associations with the nutritional status of The child. This means that the children of an educated mother with a medium or high socio-economic level will be less likely to develop chronic malnutrition than those of an illiterate and low-social mother.

Indeed, education enables mothers to acquire better knowledge about good nutritional practices, different types of foods and hygiene rules. It is also easier for educated mothers to initiate or better manage income-generating activities. Unlike educated women, non-literate women often tend to attribute malnutrition, in its acute form, to the action of geniuses or gods (Aouehougon, 2007). This disoriented any initiative to consult with health care providers. Inevitably, this behavior leads to the chronic form of this malnutrition, resulting in stunted growth (Aouehougon, 2007). The set of these.

All these factors could explain this association between illiteracy of the mother, low socioeconomic level and the occurrence of stunting.

The limitation of economic resources affects the child's state of health (Shah et al., 2003). The present study shows an association between stunting and daily household budgets. It was recorded that 86% of malnourished children lived in households with less than 6 USD (-3000F CFA) per day.

Higher studies of parents improve the growth of the child (Lartey et al., 2000; Bhandari et al., 2002). This is consistent with our results. Indeed, there is an inverse relationship between parental education and stunting. This was also observed in Indonesia and Bangladesh (Semba et al., 2008).

Parents' occupation reflects the socio-economic level. Stunting is more pronounced in children whose mothers are domestic or shopkeepers (87%). It could be explained by the fact that these mothers would start their work in the morning, and would return at the end of the day. These particular hours would prevent them from caring for their children or preparing nutritious boiled meats. These findings are consistent with a study in Nigeria on children aged 0-59 months (Ukwuani and Suchindran, 2003).

Although the stunting in developing countries of which Côte d'Ivoire is linked to several factors, it would be strongly linked to the socio-economic level.

5. Conclusion

This study linked growth retardation, educational attainment and socio-economic factors of parents. The results showed that 53% of children with stunted growth had mothers whose age ranged from 20 to 29 years. Of these children, over 70% were kept by house girls. Housewives have more children with malnutrition, with a proportion of 47% followed by traders (40%). Stunting was more pronounced in children (90%) with mothers at or below the primary level. Households with incomes between 3 USD and 6 USD FCFA registered far more children with stunted growth (67%). These results could contribute to the fight against stunting in Cote d'Ivoire.

Nevertheless, this work has significant limitations, so it would be important to carry out further studies to confirm or infirm the prevalence of chronic malnutrition in the Nimatullah health facility.

6. Limitations of the Study

Data were collected in a very short time of the year (three months, 90 days). In addition, the study was conducted from

August to October; Corresponding to the vacancy period in Côte d'Ivoire. This could influence the prevalence of chronic malnutrition as food availability and the arrival of village holidaymakers in Abidjan is usually very high at this time. Under these conditions, the results on the number of chronic malnutrition that came to the consultation can only reflect the situation of this period of the year.

It was also found that the study of the factors associated with chronic malnutrition in a global way, without distinction between the different forms, was not addressed in this study. These factors were indicative of some probable causes of stunting in subsequent analytical studies. Moreover, since this study is of a cross-sectional type, it does not pretend to underline any causal relationships.

Finally, it must be recognized that this work was unable to take into account all the factors that appear to be associated with stunting (eg hygiene, case management, food safety, serum tests etc.). Complementary and more comprehensive studies may take all these aspects into account in the community health center.

7. Ethical Considerations

The participation was voluntary after a discussion on the subject of the study with the mother of the child coming in consultation. The information was collected after the informed consent of the mothers.

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