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ASSOCIATION BETWEEN THE SOCIO-DEMOGRAPHIC AND ECONOMIC CHARACTERISTICS OF MOTHERS AND CHILDHOODS WITH THE CHILDREN HEALTH AND NUTRITIONAL STATUS

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The socio-demographic and economic environment in which grows a child affects his nutritional and health status. This study aimed to determine the association between the socio-demographic and economic characteristics of mothers and childhoods with the children health and nutritional status. It was a transversal and descriptive study conducted from January 6th to May 2nd, 2016 in Niamey. The children were scaled (height and weight) and the socio demographics and economics data were collected from mothers. The Pearson test was used to analyze the associations between the socio-demographics and economics characteristics of the respondents and the state of nutrition and health of the children. Finding of this study showed that the children health state was significantly correlated only with the mothers' parity ($r = 0.004$, $p < 0.005$). Contrariwise, the nutritional state was significantly correlated with the mothers age group ($r = 0.002$, $p < 0.005$), their instructions ($r = 0.001$, $p < 0.005$) and when a mother had no source of income ($r = 0.001$, $p < 0.005$). Thus, it is advisable that health interventions systematically integrate those aimed at the social advancement of mothers.

Keywords: Child, Health status, Nutritional status, Socio-demographic, Economics, Niger

INTRODUCTION

The child's survival strategies remain inseparable from those of poverty and its consequential effects on the life of household. These issues remain topical and urgent because a significant number of children do not yet receive the basic care they need for their health and fulfilment (<https://scalingupnutrition.org/fr/news/consultée>). The families in precarious situation barely provide care for children. In fact, these families are not able to cover health care expenses allocated to the children (Islam *et al.*, 2013). Thus, the type

and the length of feeding, the alimentary practices, infections and the socio-economics level of the household also determine the nutritional and health state of the child. In most of African countries malnutrition is still a major public health problem that weighs down silently their productive capacities and worsens their economic burdens. However, the malnutrition is nothing more than a clinical expression of social dysfunction. This also suggests that it is not only by ensuring food security for the household that malnutrition will be eliminated. The health interventions to

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be more effective must, necessarily take into account the socio-economic conditions of household (WHO, 2001). However, while it is known that, the social environment influences the child's health and nutrition status, the degrees and the levels of this inter-relationship remain unclear. So, this study aimed to determine the association between the socio-demographic and economic characteristics of mothers and childhoods with the children health and nutritional status.

MATERIELS AND METHODS

Ethical Approval

This study was approved by the National Ethics Committee (n°010/2015/CCNE/July-29-2015) and the Scientific Academic Council of Abdou Moumouni University and authorized by the directors of the two hospitals. The protocol fitted with Helsinki Declaration of 1975 and revised in 2008. The participation to the study was free. The objective of the study was explained to the mothers and their agreements were clearly expressed.

Respondent and Study Location

The study was conducted from January 16th to May 2nd, 2016 at the National Hospital of Niamey and at the National Hospital of Lamordé, in Niamey. It concerned, any child from 6 to 59 months old hospitalized at the pediatric emergency services during the survey and whose mother accepted to be involved in the study. Obese patients and those presenting edema, or less than 6 months old or less than 4000 g were not included in this study.

Operation Protocol

Once arrived, the children were received in the welcoming room for admission procedures, and for the medical check-up. They were weighed on a SECA® weighing scale of 25 ± 0.1 kg, their sizes were determined using a measure in the pattern of UNICEF, (precision of 0.1 cm). The socio-demographics information's were collected from mothers after control of any medical complication in the child.

Data Analysis

The data were entered on Epi-Data software 3.1 and analyzed on the Stata.12 software. A descriptive statistical analysis made it possible to determine the average of the physical characteristics of the respondents and the standard deviations. Frequency and percentage were used to express the distribution of the respondents according to socio-demographics and economics classifications. A Pearson test

was used to analyze the associations between the socio-demographics and economics characteristics of the respondents and the state of nutrition and health of the children.

RESULTS

Description of the Children Socio-Demographic Profiles

This study showed that the children from 6 to 59 months old were the most represented in pediatric emergency departments in Niamey with 54.1%. It also appears that boys were in majority with 57.1% (Table 1).

Table 1: Distribution of the Child According to their Physical Characteristics

Variable	n	%
Sex		
Boys	164	57.1
Girls	123	42.9
Age Group		
6-11	113	39.4
12-23	77	26.8
24-59	97	33.8

Distribution of Reasons for Consultation in Pediatric Emergency Departments

The main reasons for the medical visit clearly identified by the mothers were the fever 31%, diarrhea 21% and 58.5% of the patients arrived in a state of severe malnutrition (Table 2).

Distribution of Mothers According to their Socio-Demographics Profiles

Results from this study showed that mother's from 18 and 35 years old were in majority, 73.5% with an average age of 26.5 years ± 2 years. It also showed that 94.6% of the mothers were married and 80.5% of them were multiparous (Table 3).

Distribution of Household According to their Socio-Economic Profiles

Findings from this study showed 62% of mothers were not in school, 87.5% did not have a money generating activity, 26% of fathers were jobless and 89.6% of the households had 5 or more than 5 children (Table 4).

Table 2: Distribution of Patients by Reasons of Consultation and Health State and Nutritional Status

Variable	n	%
Consultation's Reason		
Ndm	92	32.1
Fever	89	31
Diarrhea	61	21.2
Vomiting	20	7
ARI	25	9
Nutritional State		
Normal nourished	69	24.1
Moderate malnourished	50	17.4
Severe malnourished	168	58.5

Note: MND = Non defined motive; ARI = Acute Respiratory Infectious

Table 3: Description of the Socio-Demographics Characteristics of the Mothers

Variables	n	(%)
The Mother's Age Group (Years)		
< 18	11	4
18 - 35	211	74
> 35	65	23
The Mother's Marital Situation		
No married	15	5.2
Married	272	94.8
Parity		
Primiparous	56	19.5
Multiparous	231	80.5

Association of Nutritional Status and Child Health with Mother's and Household's Profiles

In this study the children health state was significantly correlated only with the mothers' parity ($r = 0.004$, $p < 0.005$), (Table 5).

Table 4: Description of the Socio-Economic and Cultural Characteristics of the Families

Variable	n	%
The Mother's Level of Education		
Non scolarized	133	46.3
Scolarized	52	18.1
The Mother's Generating Money Activities		
Whith	36	12.5
Without	251	87.5
The Father's Occupation		
With	215	75
Without	72	26
The Father's Marital Regime		
Monogamous	196	68.3
Polygamous	91	31.7
Number of Children in the Family		
< 5 children	30	10.5
≥ 5 children	257	89.6

Table 5: Correlations Between Socio-Demographic Characteristics of the Mothers and the Children's Health and Nutrition Status

Variable	n	r	P-Value
Pathologies Correlation			
Mother's age group	287	0,023	>0,005
Mother marital status	287	0,025	>0,005
Mother's parity	287	0,004**	<0,005
Malnutrition Correlation			
Mother's age group	287	0,002**	<0,005
Mother marital status	287	0,041	>0,005
Mother's parity	287	0,341	>0,005

Contrariwise the nutritional state was significantly correlated with the mothers age group, ($r = 0.002$, $p < 0.005$), (Table 5); their instructions ($r = 0.001$, $p < 0.005$) and the lack

Table 6: Correlations Between Socio-Economic Characteristics of the Families and the Children's Health and Nutrition Status

Variables	n	r	P-Value
Pathologies Correlations			
Mother's instruction	287	0,258	>0,005
Mother's lack of income activities	287	0,044	> 0,005
Father's marital regime	287	0,675	>0,005
Father's occupation	287	0,306	>0,005
More five than five children	287	0,043	>0,005
Malnutrition Correlations			
Mother's instruction	287	0,001	<0,005**
Mother's lack of income activities	287	0,001	<0,005**
Father's marital regime	287	0,032	> 0,005
Father's occupation	287	0,020	> 0,005
More five than five children	287	0,009	> 0,005

of income-generating activities of the mothers ($r = 0.001$, $p < 0.005$) (Table 6).

DISCUSSION

This study founded that the child's health status was more influenced by the socio-demographic characteristics of the mother and his nutritional status mainly by the economic characteristics of the household. Results of this study show that mothers were mostly young. However, according to Grira (2007) a younger mother is less experienced in child care. They also show that the mother's level of education was significantly associated with the nutritional status of the child. But as Delpeuch *et al.* (2000) recalls, the impact of the formal education on mothers is limited only to their ability to read and write. In this regard Aklina *et al.* (2011) adds that better than a formal education, teaching a mother good dietary practices would have more positive effect on improving child care. In addition, the results reveal a significant influence of a mother's lack of a source of income on the nutritional status of her child. In fact, the dietary practices depend on the economic level of the household. These results were also consistent with those of Ahmed *et al.* (2012) who showed that maternal activities were an important predictor of malnutrition among children.

However, this point of view must be nuanced, because in several African countries women continue to play an auxiliary role in the management of the household. In fact, a mother without financial resources stays dependent to others and vulnerable to health problems. In addition, an underfed mother can perpetuate the intergenerational cycle of malnutrition by giving birth to babies with low weight (Kramer, 2003). So, the level of care to be given to the children will depend on the socio-economic status of the household head. But this assertion is not consistent with the findings of this study. Indeed, the findings from this study showed that the father's professional status was not significantly associated with the nutritional status of the child. In fact, the employment of the father is often represented by the small commerce and craftsmanship, as founded also in Malaysia and in Bangladesh (<https://www.moh.gov.my>). Otherwise, as reported in Vietnam (Hien and Kam, 2008) and in Pakistan (Khattak and Ali, 2010) the size of the family represent an important predictive factor of child malnutrition. This may be related to the increase in spending on care and the time needed for each child (Senbanjo *et al.*, 2013). However a big family size does not always represent a characteristic that predicts infantile malnutrition. In fact, as reported by Larrea and Kawachi (2005), a crowded family does not mean necessarily a poor family. So, malnutrition is not only linked to poor families. It has been also found in rich families in Malaysia (Cheah *et al.*, 2010). This rather indicates the importance of the resources that a household accepts to invest in child care. Thus the government and its partners need to invest more in poverty reduction strategies and its effects on child care practices.

CONCLUSION

In this study the child's health status was more influenced by the socio-demographic characteristics of the mother and his nutritional status mainly by the socio-economic characteristics of the household. Given that health-related deprivations most often result in irreversible damage to children, governments and their partners need to invest more in the implementation of child survival and development strategies.

SIGNIFICANCE STATEMENT

This study will help the researcher to uncover the critical areas of the level of growth difficulties faced by the children in their families' environment that many researchers were not able to explore especially, in Niger. Thus, a new theory on the factors that may contribute to prevent malnutrition

and health risk may be developed. In addition to a new theory, this study stands for the back bone of any elaboration of the message in terms of health and nutrition education program although lots of patricians neglect it. We can therefore reach new preventive approaches of malnutrition and health risk.

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