Review of: "Nutritional Status and Dietary Patterns of Children Aged Ten Years and Below In the Buea Municipality, South West Region Cameroon"

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Potential competing interests: No potential competing interests to declare.

Generally, the results are interesting and would give a good insight in the prevalence of malnutrition in the Buena Head District in Cameroon. Some improvements are recommended (with more detailed suggestions in the pages to follow): Replace ‘nutritional status’ with ‘anthropomorphic descriptors from which the nutritional status was assessed’ (abstract, M&M); Describe and name the 4 health areas in the Buea Head District (M&M); Include the anthropometric data as a Table (results); Suggestions to readability are given below (mainly discussion and conclusion); It is common for journals not to use abbreviations in the abstract and to introduce abbreviations upon first mention in the body of the manuscript; Citations are needed throughout and often the manuscript lacks a specific citation or is wrongly transferred e.g. {m/28/}.

Page 1, abstract

M&M:

Insert abbreviation after Buena Head District (BHD)

Mention the number of participants and their age (354; 302 <= 5 years of age; 52 were > 5 and 10 years of age).

remove double ‘self’

Replace ‘nutritional status’ with ‘anthropomorphic descriptors from which the nutritional status was assessed’. Or to introduce more technical terms ‘Anthropometric measurements were analyzed using WHO AnthroPlus software and the WHO z-score system was used to classify the nutritional status of children’.

World Health Organisation (WHO)

Results:

Adjusted odds ratio (AOR)

Conclusion:

Suggestion for improvement:

The prevalence of malnutrition among children under ten years in the BHD is high, with about a quarter of children have a poor dietary intake. This study shows that factors such as vaccine noncompliance and specific socioeconomic factors of

mothers are associated with the nutritional status of children in the BHD, and would be a first line of easy modifiable reasons to improving the nutritional status of young children.

Background

Start a new paragraph, starting with the sentence ‘Food intake directly…’ as this could be a paragraph dedicated to ‘defining malnutrition’ and contrast to the previous paragraph topic ‘health, poverty hunger’

Start a new paragraph, starting with the sentence ‘With poverty…’ as this could be a paragraph dedicated to ‘describing Cameroon’s factors influencing nutrition’ and contrast to the previous paragraph topic ‘defining malnutrition’

Suggestion for improvement in final paragraph of introduction:

This study aimed to examine the relationship between dietary patterns, nutritional status among children aged five years and below, as well as six to ten years of age at the BHD of Cameroon through self-reported food intake and anthropomorphic characterization.

M&M

Study Design: Can the authors describe the 4 health areas in the Buea Head District a bit more in detail? Why these areas? Is this part of a outskirts of a city?

Suggestion for improvement:

Study population: Mothers/caregivers resident in the Buea Health District for at least six consecutive months with children aged 10 years and below, who gave consent, were included. Excluded were children with certain factors that affect their nutritional status such as birth defect, physical disability sickle cell, HIV.

Results

Please, use years of age to indicate the children and infants age, and not months, e.g., Table 1.

In Table 1, use ‘descriptor’ instead of ‘variable’, and use ‘percentage’ instead of ‘percent’.

Nutritional status of children aged 0-4 years and 5-10 years

The data with anthropometric data is not included as a table, and would be the most correct way of introduce the prompt classification of nutritional status. Actually, it would be best to introduce the anthropometric data of children and infants in the prior section: ‘Anthropometrics of the participating children’.

These is no description under the header ‘Factors associated with malnutrition of infants aged 0-60 months’ If none were performed/found, please report it, and the reason why.

Discussion

Sociodemographic characteristics:

‘A total of 354 participants were enrolled from four selected’

The lowest number of participants came from the Tole Health area (51) The reason for the minimum number of participants from this health area is that Tole is less developed, with fewer opportunities causing people to move out to seek better job opportunities, schools, and healthcare.

This is the first distinction and mention of Tole and Mount Cameroon out of four areas. As the paper did not mention these districts by name early on in the methods, and it was not a particular focus of analysis this whole paragraph on ‘Sociodemographic characteristics’ needs to be moved to later in the discussion.

Nutritional status of children:

Please use citations for the following:

Stunting is associated with a range of health problems, including impaired cognitive function, reduced work capacity, and increased risk of chronic diseases later in life (references).

Meanwhile, obesity is a major risk factor for a range of chronic diseases, including diabetes, cardiovascular disease, and some forms of cancer (references).

‘The high prevalence of stunting, wasting and underweight could be because of the social context of the community such as the ongoing sociopolitical crisis in the South West Region of Cameroon.’ This sentence could be under the paragraph ‘Sociodemographic characteristics’.

Dietary intake of children:

Please use citations for the following:

Poor dietary diversity score can lead to an increase in growth faltering such as stunting (references).

Change to: ‘The present findings on dietary intake of children are identical to the results of Arimond and Ruel {m/27/}, and indicates that many parental women still do not have good knowledge of the importance of proper nutrition for their children within the BHD.’

Suggestions for improvement by linking sentences to more readable sections:

Factors associated with the Nutritional status of study participants: Inadequate source of drinking water has adverse effects on health and nutritional status, and in this study about 26.6% of children were determined to drink from a poor source of drinking water being associated with stunting. Poor sources of drinking water are linked to poor sanitation, and association between poor sources of drinking water and nutritional status has been stated before [2]. Inadequate sources of drinking water can thus cause diseases such as diarrheal, typhoid, and other gastrointestinal problems which affect the child’s nutritional status (references), which is seen by the UNICEF conceptual framework {m/24/} as an underlying cause

of malnutrition.

Children with non-compliance to vaccine uptake were more likely to be stunted than children who had taken their vaccine. Vaccine compliance in children is important as it helps to boost the immune system of the child and prevent them from infection which could affect their nutritional status (references). Besides, malnourished children are more likely to grow into adults who are vulnerable to diseases and death [3]. The observed vaccine non-compliance could be due to either dropout by mothers of the children, missed opportunities from the healthcare personnel, or a failing health care program.

From this study it became clear that mothers or caregivers who have not attained a certain degree of education and mothers with low income had children who were more likely to be malnourished, either stunted or wasted. This finding is similar to that of a study {m/28/} that has found significant associations between child nutritional status and socio-economic factors such as maternal education, and maternal wealth status, where mothers who are more knowledgeable know the importance of good and adequate nutrition for their children. However, this finding differs from another study carried out by Ukwuani and Suchindran {m/29/}, who found negative effects of low maternal education on child nutritional status, and where it was observed that children whose mothers had higher education were more likely to be stunted compared to their counterparts whose mothers had no education. This may be due to the distinct setting in which the study was carried out as there are many adult schools offering free and accessible education to upgrade knowledge on the nutrition of their children. We equally found the place of residence of the mothers to be significantly associated with the nutritional status of the child: Those resident in the rural areas had children who were more likely to be wasted than their counterparts in urban areas. This finding is similar to a study carried out by Ray and collaborators {m/28/} in their assessment of nutritional status and dietary patterns, where it was found that the magnitude of malnutrition was higher in the rural communities as compared to the urban areas. Thus the place of residence influences dietary intake, but additionally as physical activity will also have a significant impact on nutritional outcomes: e.g., tural residents may engage in physical activities such as farming and other activities that require a lot of energy and burning fats.

Also, the nutritional status of children was found to be associated with the number of children the mother had. Children of mothers with more than two children were more likely to be malnourished (wasted) than those with less than two children, as the higher the number of children in a household means increased competition for food which negatively affects nutritional status. These findings are similar to the results by Capanzana and collaborators [2] that found an association between household size and the nutritional status of children aged ten years and below. A valid reason would be the low purchasing power because of increased prices of goods within the BHD that limits some mothers leading to (forced) poor nutritional choices and thus unhealthy nutritional outcomes of their children.

You might want to finalize the discussion or integrate these last pargraphy with the statements under ‘Sociodemographic characteristics’.

Conclusions:

The prevalence of malnutrition among children under ten years in the BHD is high, with about a quarter of children have a poor dietary intake. This study shows that factors such as vaccine noncompliance and specific socioeconomic factors of

mothers are associated with the nutritional status of children in the BHD, and would be a first line of easy modifiable reasons to improving the nutritional status of young children.

Recommendations:

The Delegation of Public Health should provide healthcare access to address underlying health conditions in the community that may contribute to the poor nutritional status of children. The Quarter heads and other authorities such as Non-Governmental Organizations should urgently educate mothers on the importance of healthy eating habits by their children which take into consideration diverse nutritious foods and to provide more integrated health care services and education on nutrition. Further studies of other aspects of nutritional assessment in children such as dietary diversity, household food security and biochemical markers of nutritional status should be carried out in the Buea Health District, as well a proper assessment of provision of the health care services in the said districts.