THE NUTRITIONAL AND DIETARY STATUS OF UNDER- FIVE (5) CHILDREN IN THE INTERNALLY DISPLACED PERSONS (IDPs) CAMPS OF NORTH WEST, NIGERIA

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Abstract

Nutrition status and dietary needs remain the major public health concern in IDPs camps and continues as the underlying cause of child mortality. However, there is scarcity of information on the magnitude and determinant factors of the dietary needs, nutritional status and deficiency of under-fives in the IDPs camps of Adamawa, Borno and Yobe states; because of lack of a data-base, information gathered by various governmental organizations and nongovernmental organizations is harmonized, disseminated and duplications are eliminated. The nutrition status and dietary needs of children in IDPs camps of these states and the unique traditional culture have recently gained attention as the entire IDPs population of under-five children is poor and the prevalence of malnutrition higher, especially undernessweight, wasnessting, under-nutrition and stunting. This paper reviewed IDPs camps, and the nutritional status and dietary needs of IDP children in the camps of Dolori, Maiduguri; Malkohi in Adamawa and Damaturu in Yobe state.

Keywords: Nutrition, dietary, IDPs, under-nutrition & malnutrition

Introduction

Nutritional status is the result of complex interactions between food consumption and the overall status of health and health care practices; it is also the state of the body with respect to each nutrient and to the overall state of body weight and condition (Tibilla; 2007). According to Black, Morris & Bryce (2003), numerous socioeconomic and cultural factors influence the patterns of child feeding and the nutritional status of under-five children. Appropriate and adequate feeding is a pre-requisite to good nutritional status in any given time because the consumption of nutritionally inadequate diet leads to malnutrition (United Nations Children's Fund, 2009). Proper nutrition in the early years of
life is usually determined by feeding practice, which includes the methods and
frequency of feeding, the degree of stimulation and interaction with parents
(Black, Allen, Bhutta, Caulfield, de Onis & Ezzati, et al. 2009). Data from the
World Health Organization (2007) showed that about 60% of all deaths occurring
among children aged less than five years (under-five children) in developing
countries could be attributed to malnutrition. It has been estimated that nearly 50.6
million under-five children are malnourished and almost 90% of these children
are from developing countries.

Wamani, Astrom, Tumwine, Peterson and Tylleskar (2007) explained that
traditional feeding practices are directly related to the nutritional and dietary
aspects of feeding inherent in a given culture. Goel, Mishra, Gaur and Das (2007)
went further to state that Nigeria is a large country with cultural diversification
reflected by different feeding habits and traditional feeding practices. More so,
the North East has the highest population of IDPs when compared to other geo-
political zones. Malnutrition remains one of the most common causes of morbidity
and mortality among children throughout the world. It has been responsible,
directly or indirectly, for 60% of the 10.9 million deaths annually among children
under-five. Over two-thirds of these deaths, which are often associated with
inappropriate feeding practices, occur during the first year of life (United Nations

The nutritional and dietary status of children aged 5 and under was assessed
in three IDPs camps in the North west of Dolari Camp Maiduguri, Borno State
had a population as high as 15,000 persons and suffered lack of health facilities,
malnutrition and basic education; Malkohi Internally Displaced Persons camp,
which is in the suburb of Yola, Adamawa state 12,000 and Damaturu in Yobe
state, had a total population of 13,000 (WHO 2009). “The nutrition status of
children and women is particularly poor, with 5% of children under-five suffering
acute malnutrition and 15% from moderate malnutrition.

Mugisha (2006) viewed malnutrition as the gravest single threat to global
public health. It is by far the largest contributor of child mortality globally. Severe
hunger is especially prevalent amongst street children who are most vulnerable to
disease and live under extremely difficult conditions. It is one of the leading
causes of morbidity and mortality in children under the age of five in developing
countries. Nigeria being one of these countries, malnutrition is its
important public health problem; stunting, underweight and wasting were identified as 44%, 29% and 10% respectively in children under five (Black, Morris & Bryce, 2003).

Under nutrition is one of the most serious but least addressed health problems in the world. The human and economic costs are enormous, falling hardest on the very poor and on women and children. Globally, it is estimated that, directly or indirectly, for at least 35% of deaths in children less than five years of age, over two-thirds of these deaths, which are often associated with inappropriate feeding practices, occur during the first year of life (Nti & Lartey, 2007). Under-nutrition is also a major cause of disability preventing children who survive from reaching their full development potential (United Nations Children's Fund, 2009).

The Lancet Series on Maternal and Child Nutrition and the 2010 multi-stakeholder global ‘Scale Up Nutrition (SUN) effort both emphasized the importance of addressing under-nutrition and acute malnutrition in meeting the Millennium Development Goals (MDG) of reducing child and maternal mortality rates. Many nutritional studies of WHO (2009); United Nations reports (2009) and that of Wells (2000) have demonstrated that malnutrition in IDP camps is serious and 44% of children were stunted, 10% wasted and 29% underweight with wide camp variations. In Malkohi of Adamawa state, stunting, wasting and being underweight were found as 52%, 9.9% and 33.4% in Dolori in Borno and in Damaturu, Yobe states, stunting, under-weightness and being functionally deficient in vitamins and micronutrients 51.4%; 41.4%, and 44.1, respectively (Mensah, 2017).

The rationale behind the review was to address the dearth of harmonized information from several nongovernmental organizations who are working in the North West states were the IDPs camps are situated and also to bring to the limelight the actual happenings as they relate to the health status in the context of their nutritional and dietary needs of the children in the camps. However, data establishing differences in dietary practices among under-five IDPs children in three camps are lacking. In North West IDPs camps, the trends of stunting and underweight between 2013 and 2016 among under-fives remained largely unchanged despite several approaches and attempts at reducing the persistence of under-five IDPs malnutrition in the North West camps. It appears to be due to
multiple factors that include uncertain access to enough food and inappropriate dietary practices.

**IDPs in Adamawa, Borno and Yobe**

The highest number of IDPs are in Borno (672,714 IDPs), followed by Adamawa (220,159 IDPs) and Yobe (135,810 IDPs); 7 LGAs host 84% (133,000 people) of IDPs (Girei, Madagali, Maiha, Michika, Mubi North, Yola North and Yola South) (Mensah, 2017). All the LGAs host IDPs with the largest number in Girei (16% of the population) and Michika (13% of the LGA population, and 17% of IDPs). Displacement in Yola (N&S) and Mubi (N&S) LGAs is likely to become protracted as the majority of the IDP population was originally from Chibok, Madagali and Michika LGAs, which have been significantly impacted by the insurgency. Additionally, these IDPs have been displaced multiple times, moving south as BH advanced (Mensah, 2017). Since April 2015, Adamawa has been the state with the highest number of reported returnees. By June 2016, 600,000 people had returned there including some 200,000 who had been displaced within the state and 73,000 who returned from Gombe (International Organization for Migration & Displacement Tracking Matrix report IOM-DTM 30/06/2016).

Borno state is the most heavily impacted by the violence. One point, BH controlled all the 27 LGAs. Since January 2016, Nigerian security forces have significantly reduced BH’s control, enabling humanitarian access to the main towns in all but three LGAs. However, these counter-insurgency operations, together with the military control of IDP camps, have compounded the protection needs of the population, especially women and girls. A State of Emergency was declared in the state in May 2013.

IDPs Populations in areas recently accessed are in urgent need of food, nutrition and medical support, with deaths from diarrhoea and starvation reported. Military escort is required to access many areas and only in Bayo and Shani LGAs is access possible beyond the main roads and towns. Maiduguri hosts the largest number of IDPs (over 1.6 million) (United Nations Office for the Coordination of Humanitarian Affairs Report UN-OCHA 24/06/2016) and people in need (2.2 million (UN Joint Multi-Sector Assessment Report 14/04/2016). Bama, Damboa, Dikwa and Monguno are priorities as they have been recently opened to humanitarian access.
After Borno, Yobe has been the state most affected by the BH crisis, both in terms of conflict and the population displacement caused by the conflict. It has sustained 13% of all the infrastructure damage in the North East (US$1.2 billion). (World Bank report 11/03/2016)

Since January 2016, operations by the Nigerian security forces have enabled access to the main towns in Yobe and many of the villages of 15 out of the 17 LGAs (UN Joint Multi-sector Assessment 04/2015). A State of Emergency was declared in the state in May 2013. BH held territory within the state as well as carried out attacks. Gujba and Gulani LGAs remained inaccessible and occasional BH attacks from Niger restrict access to Yunusari. An increase in BH raids in villages, mainly in Yunusari, was reported in June. Gombe state is an IDP hosting state – it has not been affected directly by BH violence since suicide attacks in July 2015. Most of the 26,600 IDPs reside in Akko, Gombe, Funakaye and Yamaltu LGAs. Damage to infrastructure has been reported and existing infrastructure is stretched due to the existence of IDPs in the state (Oxfam report 27/06/2016).

**The Nutritional Status of IDPs Under-Five Children**

Nutritional status is the result of complex interactions between food consumption and the overall status of health and health care practices. Numerous socioeconomic and cultural factors influence the patterns of child feeding and the nutritional status of women and children (Central Statistical Agency, 2011). Appropriate and adequate feeding is a pre-requisite to good nutritional status in any given time of human life because the consumption of nutritionally inadequate diet leads to malnutrition (Jansen & Bailey, 2007). Proper nutrition in the early years of life is usually determined by feeding practice, which includes the methods and frequency of feeding, the degree of stimulation and interaction with parents (Ramalingaswani, Jonson & Rhode, 1997). Traditional feeding practices are those practices that are directly related to the nutritional and dietary aspects of feeding.

Knowing the prevalence rates of underweight, wasting and stunting is important for determining the overall health of under-five children in the IDPs camps. The three IDPs camps were considered as a low prevalence area for all the three problems Currently, using the newly published WHO (2010) standards, we found that 72.3% of children had normal weight, 4.7%
were underweight, 1.7% was wasted, 15.6% were stunted and 5.7% were overweight. The 15.6% prevalence rate of stunting classifies the country as a moderate prevalence area rather than a low (severe) prevalence area. In the same year, the average prevalence of overweight children in developing countries, as revealed by weight for height in reference to NCHS/WHO standards, was 3.3% (0.1%-14.4%) (Deconinck, Bahwere, Diene, Bernardo & Adou, 2011).

Overall, the prevalence of underweinessght in children less than 5 years of age in IDPS camps of Adamawa, Borno and Yobe would be classified as low because it is less than 10% by WHO classification. However, the prevalence of stunting in the three camps is classified as “high” because it falls into the range of 30-39%. The overall estimate of the prevalence of wasnessting is statistically indistinguishable from that in the WHO Child Growth Standard and is classified as “acceptable.” In addition, the region-specific estimates of the prevalence of wasting are also all below 5% and all prior surveys, even the survey completed after two consecutive observations, have shown a low level of wasting (2015).

Table 1: Nutritional Deficiency Status of Children in IDPs Camps (in per cent)

<table>
<thead>
<tr>
<th></th>
<th>Adamawa (in %)</th>
<th>Borno (in %)</th>
<th>Yobe (in %)</th>
<th>Gombe (in %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stunted</td>
<td>47.2</td>
<td>37.4</td>
<td>44.9</td>
<td>51.0</td>
</tr>
<tr>
<td>Wasted</td>
<td>24.1</td>
<td>19.0</td>
<td>22.9</td>
<td>19.7</td>
</tr>
<tr>
<td>Underweight</td>
<td>43.7</td>
<td>30.1</td>
<td>40.4</td>
<td>42.7</td>
</tr>
</tbody>
</table>

Source: (WHO, 2015).

The nutritional status of Under-five children in the IDPs camp was found to be very poor. As per the Table above, it was observed that the number of stunted and underweight children decreased over the last three years marginally but the number of wasted children has increased. Malnutrition plagues a disproportionately large number of children in the IDPs camp in North West Nigeria, compared with most other IDPs in other parts of the country (Global Hunger Index Report 2011).
Under-five children are most vulnerable to malnutrition because of low dietary intake, lack of appropriate care, and inequitable distribution of food within the three camps. Malnutrition in internally displaced persons camp is in the form of stunting, underweightness and wastingness in children who are under five were identified as caused by an array of factors, including dietary inadequate deficiencies; excesses or in-balance in energy protein and micronutrients; infections and socio-cultural factors. The magnitude and various associated factors not clearly known consumption and the overall status of health and health care practices.

In North West IDPs camps, the trends of stuntingness and underweightness between 2013 and 2016 among under-five children remained largely unchanged despite several approaches and attempts at reducing it (Scaling up Nutrition a framework for Action 2014); Nigeria Demographic and Health Survey, 2003). According to the National Demographic and Health Survey (NDHS) (2003) conducted in 2013, the prevalence of stuntingness, underweightness and wastingness among under-five children 37%, 29%, and 18%, respectively (National Population Commission (NPC), 2014). An earlier study by the NDHS (2003) showed that nationally, 38% of children below 5 years of age were stunted, 29% are underweight and 9.2% are wasted (Nigeria Demographic and Health Survey, 2003).

A Similar trend was reported by the Nigerian Food Consumption and Nutrition (NFCN) 2003) survey conducted between 2001 and 2003 with 42% stunting, 25% underweight and 9% wasting (Maziya-Dixon B, Akinyele IO, Oguntona EB, Nokoe S, Sanusi RA, Harris E, Nigeria Food Consumption and Nutrition Survey, 2004). In these studies, the prevalence of under-nutrition was higher in rural than in urban areas (National Population Commission (NPC) 2014; Nigeria Demographic and Health Survey 2003; Maziya-Dixon, Akinyele, Oguntona, Nokoe, Sanusi, Harris. Nigeria Food Consumption and Nutrition Survey, 2004).

The persistence of under-five IDP children malnutrition in the North West camps appears to be due to a multiple of factors that include uncertain access to enough food and inappropriate dietary practices (Maziya-Dixon B, Akinyele IO, Oguntona EB, Nokoe S, Sanusi RA, Harris E. Nigeria Food Consumption and
However, data establishing differences in dietary practices among under-five IDPs children in three camps are lacking.

**Dietary Status and Diversity**

Malnutrition is the cellular imbalance between the supply of nutrients, energy and the body’s demand for them to ensure growth, maintenance and specific functions. The causes of malnutrition are multi-factorial. Dietary and environmental factors contribute to the risks of malnutrition in children (Onis, Monteiro and Akre, 1993). The spectrum of the more severe forms of protein energy malnutrition of early childhood considered to form clinical and biochemical change include nutritional marasmus, marasmickwashiorkor and kwashiorkor (NCHS, 1997).

An appropriate energy intake is the cornerstone of the under five children diet, since it supports optimal body function, determines the capacity for the intake of macronutrients and micronutrients and assists in manipulating body composition. Dietary diversity provides a more rapid, user-friendly and cost-effective approach to measure changes in the dietary quality at the individual’s level of the IDPs (FAO, 2006). Dietary diversity is a qualitative measure of food consumption that reflects IDP camps access to a wide variety of foods and is also a proxy of the nutrient adequacy of the diet for individuals. The IDP camps dietary diversity score is meant to reflect, in a snapshot from the consumptions rate of a variety of foods. Studies have shown that an increase in dietary diversity is associated with food items supplied and consumed by IDPs (UN, 2009). Malnutrition remains one of the largest problems worldwide, affecting IDPs in both developed and developing countries (WHO, 2004).

Children are particularly vulnerable to micronutrient deficiency owing to their high nutrient requirements for growth and susceptibility to infectious diseases, such as diarrhoea and respiratory infections, which can inhibit nutrient absorption as well as decrease appetite. The nutrient density of the diet given to under five children in IDPs camps is often insufficient to meet their nutrient requirements and increasing the diversity of foods provided, particularly meat, poultry, fish, eggs, fruits and vegetables, is recommended to improve micronutrient intake (WHO, 2008).
Table 2.: Dietary Status and diversity

<table>
<thead>
<tr>
<th>Food group</th>
<th>Every 24 hrs</th>
</tr>
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<tbody>
<tr>
<td>Cereals</td>
<td>204(82.9)</td>
</tr>
<tr>
<td>Vitamin A rich vegetables and tubers</td>
<td>172(69.9)</td>
</tr>
<tr>
<td>Dark green leafy vegetables</td>
<td>146(59.4)</td>
</tr>
<tr>
<td>Other vegetables</td>
<td>141(57.3)</td>
</tr>
<tr>
<td>Vitamin A rich fruits</td>
<td>107(43.5)</td>
</tr>
<tr>
<td>Other fruits</td>
<td>107(43.5)</td>
</tr>
<tr>
<td>Organ meat</td>
<td>19(7.7)</td>
</tr>
<tr>
<td>flesh meats</td>
<td>13(5.3)</td>
</tr>
<tr>
<td>Eggs</td>
<td>22(8.9)</td>
</tr>
<tr>
<td>Fish</td>
<td>72(29.3)</td>
</tr>
<tr>
<td>Legumes, nuts, seeds</td>
<td>101(41.1)</td>
</tr>
<tr>
<td>Milk and milk products</td>
<td>172(69.9)</td>
</tr>
<tr>
<td>Oils and fats</td>
<td>146(59.4)</td>
</tr>
<tr>
<td>Sweets</td>
<td>141(57.3)</td>
</tr>
<tr>
<td>Spices, beverages</td>
<td>151(61.4)</td>
</tr>
</tbody>
</table>

Source: WHO Global Database on dietary status of IDP 2015.

The population-level statistics of interest for dietary diversity are the mean dietary diversity score and a measure of distribution of the scores, such as percentiles. The percent of households consuming each food group is another analytical strategy. Dietary diversity scores and the percent of households consuming each food group may be used as a one-time measure or for on-going monitoring. For children below five years, nine food groups are considered nutritionally as sweets, spices and beverages are not of any nutritional value to children. Table 2 above shows how IDPs caregivers of fewer than five children were able to diversify the foods given to the children over a period of one week. For cereals, 82.9% had consumed within 24 hour period. Vitamin A rich vegetables and tubers were consumed by a good number, accounting to 69.9% within the last 24 hours while Vitamin A rich fruits had been consumed by 43.5% within the last 24 hours. Protein rich foods had been consumed generally well, especially in the last four days where eggs, fish, nuts, fresh meat, milk and
26 milk products had been consumed by 44.7%, 54.4%, and 77.2%, 15% and 73.2%, respectively.

**Under-Five Camps Children Face Acute, Chronic Malnutrition Prevalence**

In September 2012, global acute malnutrition (GAM) measured by MUAC among children 12-59 months was 9.5% in Borno and 8.6% in Yobe. Severe acute malnutrition (SAM) was 3.4% in Borno and 2.0% in Yobe (UNICEF, 2012). Disaggregated data for IDPs and host families is not available; however, a SMART survey conducted from February-May 2014 showed the nutritional situation was considerably worse in the states affected by the insurgency, particularly Yobe and Borno, where 15.5% and 13.6% of children under five were wasted, respectively. These compared to a national average of 8.7%.

In Gombe, 10.4% of under-fives were wasted. Based on rates for severe wasting per state, a total caseload of more than 110,000 children under five was estimated across Adamawa, Borno, Gombe and Yobe (Joint HNA, 11/07/2014). The SMART survey’s MUAC assessment found 12.0% GAM and 1.4% SAM in Borno; 10.6% and 1.2% respectively in Yobe; and 7.0% GAM and 1.9% SAM in Gombe. In Adamawa, acute malnutrition prevalence was below the national average of 4.6% and 0.9% GAM and SAM, respectively (Joint HNA, 11/07/2014).

In December 2014, more than 2,900 children under five were reportedly admitted for SAM treatment in Borno, Adamawa and Yobe states (UNICEF, 05/02/2015). Wasting is usually due to recent illness and/or insufficient dietary intake caused by food shortages, feeding practices or other events. Provided there is no severe food shortage, the prevalence of wasting is below 5% in most impoverished settings in developing countries consistent with the findings of this survey. Under-nutrition and childhood morbidity have a synergistic relationship. The interrelationship of the two is in such a way that illness can suppress appetite precipitating under-nutrition of a child while, on the other hand, nutritional deficiencies increase the susceptibility of the child to infectious diseases (Gobotswang, 2008).

Malnutrition during childhood is as a result of a wide range of factors most of which relate to unsatisfactory food intake or severe and repeated infections or a combinations of the two. The most frequently suggested causes
of malnutrition are: poverty, low parental education, lack of sanitation, low food intake, diarrhea and other infections, poor feeding practices, family size, short birth intervals, maternal time availability, child rearing practices and seasonality. There are also economic, social and cultural causes of malnutrition, which underscore the close link between malnutrition and morbidity (Tibilla, 2007).

There was a looming humanitarian disaster in the North East of Borno, Adamawa and Yobe States. There were 400,000 children “with severe acute malnutrition, and in Borno alone, 244,000 children are affected which was the “worst level of malnutrition possible”, and the children were on “the brink of death”. According to Ajao, Ojofeitimi, Adebayo, Fatusi and Afolabi (2010), about one in five of those children were likely to die if they were not reached in time with specialized therapeutic foods. If nothing was done, about 49,000 of the 244,000 children suffering from severe acute malnutrition in Borno State would die over the coming 12 months, translating to about 134 every day. “Some 65,000 people are in famine-like conditions, the worst level of food insecurity, and facing starving to death for lack of food. It is a very unique situation in the world.” A March 2015 screening conducted by Action Against Hunger (ACF) in greater Maiduguri (MMC and Jere LGAs), Borno found 29.5% of children under-fives were acutely malnourished, including 9.5% severely. This represents an increase from the 27.8% and 8.7% found in the same areas in January 2015. The proportion is somewhat higher in informal settlements than in camp situations (FEWSNET, 25/06/2015). 60% of IDPs in camps in Adamawa, Borno and Gombe states reportedly did not have access to adequate nutritious food in January 2015 (INGO Forum, 19/06/2015).

Northeastern states have high levels of chronic malnutrition compared to the national average. Some 48% of children in the northeast were stunted, compared to 32%, including 12% severely, nationwide in 2014. In Adamawa, Borno, Gombe and Yobe, stunting reached between 46% and 57%; severe stunting varied from 15-24%. Yobe reports the highest levels of chronic malnutrition (United Nations, (2004).

Conclusions

In conclusion, the IDP population is composed of 53% women and 47% men. 56% of the total IDP populations are children of which more than half are up to 5 years old, while 42% are adults.
Total IDPs identified in northern Nigeria number 1,235,294. The highest number is in Borno (672,714 IDPs), followed by Adamawa (220,159 IDPs) and Yobe (135,810 IDPs). Appropriate and adequate feeding is a pre-requisite to good nutritional status in any given time of human life because consumption of nutritionally inadequate diet leads to malnutrition. Malnutrition in children is the consequence of a range of factors, which are often related to poor food quality, insufficient food intake and severe and repeated infectious diseases. These conditions, in turn, are closely linked to the overall standard of living and whether a population, such as the IDPs, can meet its basic needs, such as access to good and adequate food seems to be a mirage. Food assistance in the camp is unreliable and of poor nutritional quality and there are few actors in the camp who provide nutritional services. Monitoring and evaluation reports have not been rigorous enough to identify which programme activities were implemented as designed or whether programmes were effective at improving the nutritional and health status of young children.

Therefore, child nutritional status assessment not only serves as a means for evaluating the health condition and survival of children but also provides an indirect measurement of the quality of life of an entire population of which this review is what it has achieved. Households in 20 sites have access to food distribution. In terms of frequency, 13 sites receive food distribution every day; another 13 sites receive irregular food distribution. In 3 (all located in Adamawa) sites, individuals have never received food distribution. Households in all the sites with the exception of one reported having no supplementary feeding for children or breastfeeding mothers. Screening for malnutrition has not been conducted in 27 sites; the same story applies to Borno and Adamawa.

**Recommendations**

From the available information of children’s nutritional status and well-being in the three states of Adamawa, Borno and Yobe of the North-East region, the proportion of children aged 6–23 months who received appropriate and adequate feeding of liquids and solid or semi-solid foods in general was below the national average. To address the situation, resources in financial, human and organizational terms were needed. “All partners – Governments, the UN, NGOs and the private sector and individuals had to work together to provide the support that is needed.” “For the youngest children as well as pregnant and
breastfeeding mothers, specialized, therapeutic, high nutrient food is required. If this is not addressed, more and more children would develop severe acute malnutrition,” even though UNICEF was supporting a nutrition programme and had recruited 1,500 community mobilizers going from shelter to shelter, so that severely malnourished children could be linked to the health services, so they could get treatment. Differences of the data and information provided by governmental and non-governmental organizations seem not to be accurate It is therefore recommended that a common data bank should be provided were accurate and up to date data could be assessed and ascertained for proper planning and assistance.

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