

Determinants of Nutrition in Nagaland, India

Household Access to and Practices pertaining to Food, Water and Sanitation



Hidden hunger is present in Nagaland, especially among lower income groups.

Other factors affecting nutritional status include high consumption of smoked and fermented food, tobacco and alcohol, indoor air pollution and poor hand washing practices.

While improvements in agriculture and access to markets will reduce food insecurity, dietary and hygiene practices may be susceptible to aggressive community and household-level behaviour change interventions.

Introduction

Several household-level factors are associated with better nutrition outcomes. These include food access and availability, practices pertaining to food preparation and consumption practices, and Water, Sanitation and Hygiene (WASH) practices and access. Availability of markets, and access to them, for a diverse range of foods is considered an essential for food security and improving nutrition outcomes. Some practices related to food preparation, such as use of biofuels for cooking resulting in indoor air pollution, have been observed to adversely affect health and nutrition, especially for infants, contributing to respiratory infections such as pneumonia¹ as well as stunting.² Similarly, the UNICEF framework of nutrition determinants highlights the “sanitation-nutrition” nexus, describing three pathways through which poor sanitation adversely affects nutritional outcomes: diarrhoeal diseases, environmental enteropathy and nematode

infections.³ A study of five countries found that poor sanitation leads to diarrhoea, which is estimated to account for 25 percent of the burden of stunting in children up to 24 months of age.⁴

Methods

The mixed-method study included focus group discussions with mothers and fathers of young children (0-5 years), conducted in selected villages in two pilot districts of the Nagaland Health Project, Tuensang and Peren. This was followed by a quantitative survey across all districts in the state. The survey was done in 55 villages, which were purposively selected from among those participating in the Nagaland Health Project, and covered 728 households with a woman who had had a pregnancy in the past two years. From each sampled household, the woman who had had a pregnancy in the past two years and the household head were interviewed.

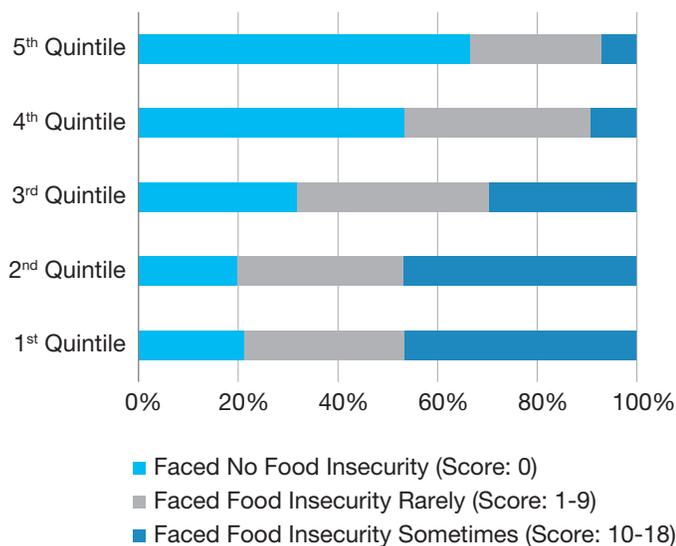


Findings

This brief describes findings on household access to food, and practices for food preparation, consumption and WASH that affect health and nutrition outcomes in Nagaland.

Food Insecurity

Among the sampled households, 62 percent reported to have two meals daily, while 38 percent reported three meals. Over 80 percent of households ate most meals together.



When asked whether any member of the household experienced an instance of food insecurity, 50 percent of households reported facing none, 43 percent rarely (once or twice in a month) and 4 percent sometimes (three to ten times in a month) over the past month prior to the survey. As depicted in the adjoining figure, those belonging to the lowest wealth quintiles faced a greater frequency of food insecurity⁵ as compared to those among the higher quintiles.⁶

Food Sources

Households largely produced vegetables and fruits at home and purchased items such as lentils,

meat, milk, eggs, tea, sugar and spices from the market. Grains were typically sourced equally from home and market. During focus group discussions with community members, many described the consumption of a predominantly vegetarian daily diet due to poor availability and high cost of meat, especially in remote areas.

Consumption of Alcohol and Tobacco

67 percent of households (n=706) reported that at least one adult male had consumed tobacco daily while in 42 percent of households one adult male had consumed alcohol in the last 30 days. While 17 percent of household heads reported that at least one adult woman consumed tobacco daily in their household, findings from qualitative interviews with women suggest a higher proportion. During focus group discussions, most respondents considered a disruption to communal harmony or domestic abuse to be the harmful effects of consuming alcohol and tobacco, but not other forms of ill health.

Food Preparation

A majority of households (n=728) used wood (75 percent) as a source of biofuel, while a smaller proportion used LPG/natural gas (21 percent). In addition, the cultural food preferences of the Naga community include preparation techniques of smoking and fermenting. Food was mainly cooked in a separate room but on an open fire and usually without a chimney. Cooking was predominantly done by adult/married women of the household.

WASH

59 percent of households had a piped well connection as the main source of drinking water, followed by 14 percent who used a protected well. Thus, about a quarter of households did not have a safe source of drinking water. However, nearly all households reported treating their water



(93 percent), with most stating that they boiled it to make it safer to drink. Water was mainly fetched by the adult woman of the household an average of three times a day, with 30 minutes as the maximum time taken to fetch water. Most households reported having enough water available for all their members.

Almost all (99 percent) households had a toilet facility on their premises. Most used a septic tank inside their dwelling (43 percent), followed by pit latrine inside (38 percent), and flush toilet inside the dwelling (15 percent). Outside facilities were much less commonly used, and open defecation was reported only by 0.5 percent of households. Around 12 percent of households reported sharing the toilet with others, with most sharing the facility with less than ten households. On the other hand, smaller proportions of respondents (n=727) reportedly always washed their hands after urination (19 percent) and defecation (35 percent), and before cooking (15 percent), eating (21 percent) and feeding a child (18 percent).

Conclusion

There is hidden hunger in Nagaland, as almost half of households reported facing food insecurity at least

once or twice in a month. The lowest 40 percent of households ranked by wealth were more likely to report instances of food insecurity. At the same time, possibly in contrast with popular perception, most households, especially in remote areas, do not regularly consume meat or other high-protein foods. Among other possible nutrition determinants, indoor air pollution due to the widespread use of wood for cooking is likely to be hazardous to household members' health and nutrition outcomes, especially for the women involved in food preparation as well as children who are more susceptible. High consumption of smoked and fermented food, along with tobacco and alcohol, have short- and long-term nutrition and health effects. More positively, three-quarters of households have an improved source of water, most people treat their drinking water, and most households have adequate toilet facilities. However, poor handwashing practices are likely to have an impact on health and nutrition. Reducing food insecurity will depend on improvements in agriculture and access to markets, and indeed poverty reduction more generally. At the same time, dietary and hygiene practices may be susceptible to aggressive community and household-level behaviour change interventions. The findings of this study should inform the content of such interventions.

Footnotes

- 1 World Health Organization. 2016. Ambient Air Pollution: A global assessment of exposure and burden of disease. Geneva, Switzerland.
- 2 Danaei G., Andrews K.G., Sudfeld C.R., Fink G., McCoy D.C., Peet E., Sania A., Fawzi M.C.S., Ezzati M., Fawzi W.W. Risk factors for childhood stunting in 137 developing countries: A comparative risk assessment analysis at global, regional, and country levels. *PLoS Med.* 2016;13:e1002164. doi: 10.1371/journal.pmed.1002164.
- 3 UNICEF (n.d.) Policy brief: The impact of poor sanitation on nutrition. SHARE Research Consortium, London School of Hygiene and Tropical Medicine.
- 4 Checkley et al (2008). Multi-country analysis of the effects of diarrhoea on childhood stunting. *International journal of epidemiology*, 37(4), 816-830.
- 5 The food insecurity index has been calculated using nine questions related to inadequacy of food intake in the past month due to lack of resource availability.
- 6 The chi2 test shows that the difference is statistically significant with negative association between wealth quintile and food insecurity.



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