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CHANGES IN THE CONSUMPTION OF TRADITIONAL FOOD AMONG THE KHASI AND JAIÑTIA PEOPLE IN RURAL MEGHALAYA, INDIA

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There is a diversity of traditional food among communities. Across the indigenous communities, it is seen that the consumption of traditional food is changing. In such a context, statistics reveal the health of children and women in these communities to be poor. Thus the study aims to analyze the consumption of traditional food among the indigenous Khasi and Jaiñtia communities in Meghalaya, India, the associative factors causing the change and the association to the health of children and women. This study was conducted in 20 villages of Khasi and Jaiñtia Hills. To achieve the objectives, a food frequency questionnaire and focus group discussion was conducted. It was found that rice has become the staple food of the people. There is large scale consumption of polished white rice especially when locally grown rice is not adequate. There is an association between the decline in the consumption of traditional food including local rice, wild edibles and snacks and the increasing consumption of modern food and ready to eat snacks which can be attributed to the globalization processes at play. The need is therefore to highlight the importance of consuming traditional food among the indigenous people and its implications to health.

Keywords: Consumption of traditional food, Khasi traditional food, Jaiñtia food, Meghalaya

INTRODUCTION

Communities around the world have their own distinct traditional food with much diversity (1). For instance, the Igbo community in Nigeria has 400 varieties of food items (2). Food diversity is evident in India as well. Several studies have documented the diversity of traditional food in indigenous communities of Meghalaya (3-7). In the last few decades, there have been dietary changes across the world. For instance, among the Inuit of Canada, there has been a nutrition transition characterized by a decrease in the consumption of traditional foods and reliance on processed, store-bought foods (8). There is an increased consumption of processed foods replacing the traditional diets which

constituted healthy food such as fruits, vegetables, nuts and grains in 7 ethnic communities in Europe (9). In India, it was also found that consumption of beverages, biscuits, processed foods, salted snacks or prepared sweets have also increased (10).

In this context of dietary changes, the health indices of children and women of these indigenous communities in Meghalaya are poor. The National Family Health Survey-4 reveals that children age 6-59 months who are anaemic is 48%, children under 5 years who are underweight is 29%, the total children age 6-23 months receiving an adequate diet is 23.6% and all women age 15-49 years who are anaemic is 56.2% (11).

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To our knowledge, there are no studies that have been done so far that highlighted the changes in the consumption of traditional food in these communities and its association to the health of its people. This paper therefore aims to analyze the changes in the consumption of traditional food among the Khasi and Jaintia people in rural Meghalaya, the associative factors causing the change and the association with the health of children and women.

MATERIALS AND METHODS

This study was conducted in Meghalaya, a state inhabited mainly by indigenous people (Khasi, Jaintia and Garo) constituting 86.1% of the population of the state (12). This state is located in the North Eastern region of India. In this region, there are eight states comprising of more than 200 indigenous communities. In Meghalaya, there are 11 districts with 39 Community and Rural and Development Blocks. A cross sectional study was conducted in 4 districts, 4 blocks, 20 villages and 659 households. The data was collected through a Food Frequency Questionnaire during household interviews. The interviewee was a married person or an adult in the family. A topic guide was used to conduct the focused group discussions with the married women and elderly persons in each village. All data were transferred to computer spreadsheets. The spreadsheets were prepared in MS Excel and trial entries and analysis of data was done before finalizing the data sheets. Statistical analysis was done in MS Excel for quantitative data and thematic analysis was done for qualitative data. Informed consent was sought at two levels. Permission was sought from the headman of each village prior to the data collection period. Thereafter, individual consent was sought from each research participant.

RESULTS AND DISCUSSION

Staple Food

It has been documented that the Khasis in the late 19th century consumed millet (*Digitaria sp.*), maize, brown rice as their staple food (Singh and Arora, 1972; Nongkynrih, 2002; and Behera *et al.*, 2016) yet in the present context, rice has become the staple food. The locally grown rice consists of as many as 13 to 20 varieties (15) but it is not always eaten as harvested rice is not adequate for the whole family for the entire year. The harvested rice was adequate for a family (average family size is 6) for 3 to 6 months in West Khasi Hills, 5 to 6 months in Ri Bhoi district and 6 to 11 months in Jaintia Hills districts. In one administrative block,

Pynursla Block, rice was not cultivated at all. Such households consume only white polished rice sold in the market. Also, local rice sold in markets is more expensive in comparison to white polished rice brought from other states of the country. Thus, the preference is to consume white polished rice. Polished rice has lower concentrations of mineral elements than unpolished rice. It has been seen that there is large scale anaemia in rice eating communities because of the low iron content in white polished rice (16) (17). Considering the large scale consumption of white polished rice by the Khasi communities exacerbated by poor quality meals (which will be explained later), there could be an association with the high prevalence of anaemia.

Moreover, Albert (2017) argues that apart from food consumption, there could be a relation between cooking done in iron vessels and the prevalence of anaemia in a community. It was noted that traditionally, the Khasi people used iron vessels for cooking but these have been replaced by aluminum pots. This could have been one of the reasons for high prevalence of anaemia among women and children as the cooking in iron vessels could have been helpful in reducing anaemia in these populations (18).

Vegetarian and Non Vegetarian Food

It was found that apart from the common vegetables such as potato, beans, carrot, peas, pumpkin etc. which are consumed, wild edibles (green leafy, stems, tubers and fruits) form an important component of the traditional food of the Khasi. These wild edibles have been determined to have high nutritive value (5,19). More often than not, the common vegetables have to be bought from the market but the wild edibles are accessed from their home gardens or from the forests. However, in certain villages especially Pynursla block, it was expressed that the availability of many types of wild edibles were not easily available due to degradation of forests and large scale broom-grass cultivation. In terms of consumption, it was found that during the lean season when the harvest bumper is over, the meals will consist of mainly rice, dal (pulses) and potato. Sixty three percent (63%) of the mothers cooked potato on a daily basis and only 0.25% gave any wild green leafy vegetable to their children. Mustard leaf is the most consumed leafy vegetable by children but this is mostly consumed during the winter months.

The non vegetarian food items such as chicken, beef, pork, fish, egg, silk worm, dried fish are mainly consumed. Nonetheless, the consumption of these items is largely

influenced by the economic condition of a family. Thus for 80% of households, non vegetarian item was eaten rarely (once a month); although dry fish was more commonly eaten, at least once a week.

It is understood that while non vegetarian items are a luxury for many and the wild edibles are poorly consumed, the diversity of the meals is very low for a large proportion of households. In such situations, the food consumed lack in various micronutrients and vitamins essential for the body. Traditional food diversity has been associated with higher intake of nutrients in women and children among the Awajún community (20). The low consumption of wild edibles could be because of the lack of knowledge of the high nutritive value of these vegetables. In a study conducted in the Khasi Hills Nongrum and Kharkongor (2015) found that the knowledge is being lost (21).

Beverages and Snacks

The beverage and snacks is the food component that has seen a lot of changes. Traditionally, tea without milk is mostly preferred. Milk was rarely consumed by adults. Rice beer was consumed by adults occasionally. In terms of snacks, there are many traditional snacks such as *pukhleið*, *pumaloi*, *putharo*, *pudoh*, *putyndong*, *punei*, *pusyep*, *puriewhadem*, *pusaw*, *ja shawlia*, *sweet potato*, *tapioca*, *yam*, etc. These traditional snacks have been assessed for their high nutritive content (4). It was observed that beverages and modern snacks such as juices and soft drinks, potato chips, chocolates and sweets, ready to eat noodles such as Wai Wai, Maggi, bread and biscuits and other salted snacks were sold in village shops. In local markets, shops selling foreign fast food such as noodles, momo (dumpling) and prepared sweets and snacks were observed. It was found that people do not consume their own traditional snacks on a daily basis but the consumption of traditional snacks ranged from weekly to even once a month or during occasions. People do not consume the traditional snacks on a regular basis as these are not prepared/cooked in every household. It was found that the households in Pynursla Block rarely prepared these snacks at home. Across the other districts of Ri Bhoi, Jaintia Hills and West Khasi Hills districts, 76% of households prepared *putharo*, 38% of households prepared *pusyep*, 48% of households prepared *pusla*, 91% of households prepared *puriewhadem* and 67% of households in Jaintia Hills and Ri Bhoi prepared *putyndong*. The other traditional snacks are purchased from the local markets. It was found that commonly, for morning

and afternoon snack, children are served tea with biscuits or bread or plain rice. The consumption of the soft drinks, potato chips and other ready to eat snacks ranged from daily to weekly consumption and was higher in households having children and adolescents. Children and adolescents preferred the modern snacks and beverages due to the favourable taste, easy access and availability and affordability. The consumption of prepared sweets, noodles etc. is usually on a monthly basis in local markets. All the parents across the districts stated that the traditional snacks and food have more nutritive value; “*our traditional food gives us strength and makes us healthy*” (male/80 years/married/East Khasi Hills district). Another woman stated “*traditional food is better for us as it is clean, fresh and has less fats*” (female/40 years/married/farmer/Ri Bhoi district). Kuhnlein & Receveur (1996) have documented the negative effects of the change in traditional food systems on health of indigenous people of North America (22). Similarly, it was documented that 50% of all Tohono O’odham adults have adult-onset diabetes, the highest rate in the world (23). Such similar changes has also been documented in the tribes of Apatani, Adi, Galo, Monpa of Arunachal Pradesh (24), a state in the North Eastern region of India.

In a study conducted by Kshatriya (2014), it was found that as a result of modernization, indigenous people in India are facing changes in lifestyles and food habits. One important factor that influences dietary changes is the process of globalization. Globalization processes has led to vast shifts in food production, processing, and distribution systems as well as food shopping and eating options (26). In India, the year 1991 marked the opening of the economy and privatized part of the public sector, removed subsidies and import duty on several items, lowered the barriers and encouraged foreign direct investment (10, 27-29). Post 1991, there was a marked change in the rural markets; they were flooded with a variety of foreign products including food products. Coca Cola India for instance focused its marketing strategy on availability, affordability, acceptability of its products. Other companies producing ready to eat snacks and beverages also implemented the same strategy (27, 28). In a report, the Wai Wai noodle (a ready to eat snack) has its largest market share in North East India (32). It was observed that there was an increase in the monthly per capita consumption expenditure of beverages, refreshments, and processed food from 11.6% in 1983 to 16.1% in 2007-2008 in urban areas and from 5% to 10.6% in rural areas for the same period (33).

Coupled with globalization, the access to cable television and Direct To Home (DTH) services increased (34). This access to cable television or DTH has enhanced the influence of the global culture on the eating habits of especially children and youth. Television advertisements of modern snacks and beverages have had a powerful influence on the decision to purchase such food items (35, 36).

At the macro level, globalization influences the introduction of dominant food culture through public health programmes or boarding schools and nutrition education programs. This has taken place across America, Australia and Africa for more than 100 years (22). This trend is also witnessed in India in supplementary nutrition programmes of the Government such as the Integrated Child Development Services (ICDS) or Mid Day Meal schemes. Children are provided with food items that are not indigenous to the Khasi and Jaintia people. These food items are more or less standardized food items across the country. Moreover, formal health programmes promotes balanced diets consisting of vegetables such as carrot, beet root etc. Such programmes influence the mindset of people into thinking that only the well known vegetables are nutritious. People tend to feel shy and awkward to say that they consume wild edibles. It was found that in the Western Ghats of India, foraging and consumption of wild edibles are increasingly stigmatized as symbols of poverty and “tribalness” (equivalent to “backwardness”) (37).

CONCLUSION

There are changes in the consumption of traditional food among the Khasi people in rural areas. White polished rice has become the staple food for a large proportion of the indigenous community. The consumption of wild edibles which was an integral part of the traditional food is decreasing. Modern snacks are more frequently consumed than traditional snacks. The poor health conditions of children and women could be associated with these dietary changes.

There are multiple factors that have brought about these changes; one of which is globalization. It has had a large influence; at the micro level, modern snacks are made available, accessible and affordable and television further influences food preferences of children and youth. At the macro level, globalization influences food production systems and brings with its systems and processes, the dominant global food culture. The need therefore is to

educate mothers, youth and children of the nutritional benefits of traditional food and snacks. Consumption of traditional food and snacks need to be introduced through the nutrition programmes such as ICDS and Mid Day Meal so that the knowledge about one’s own traditional food is enhanced and continuity of knowledge will be maintained. This in effect will enhance the consumption of traditional food and snacks in spite of globalization processes at play.

ETHICAL APPROVAL

The research study was approved by the University Projects Committee. Permission was taken from the village authority before the data collection and informed consent was sought from each research participant while engaging them in the research.

REFERENCES

1. Kuhnlein H V, Erasmus B and Spigelski D (2009), “Indigenous Peoples’ Food Systems: The Many Dimensions of Culture, Diversity and Environment for Nutrition and Health”, Rome: Food and Agriculture Organization of the United Nations and Centre for Indigenous People’s Nutrition and Environment, pp. 1-381.
2. Okeke E C, Eneobong H N, Uzuegbunam A O, Ozioko A O, Kuhnlein H and State E (2008), “Igbo Traditional Food System: Documentation, Uses and Research Needs”, *Pakistan J Nutr.*, Vol. 7, No. 2, pp. 365-376.
3. Agrahar-Murugkar D and Subbulakshmi G (2005), “Food Chemistry Nutritional Value of Edible Wild Mushrooms Collected from the Khasi Hills of Meghalaya”, *Food Chem.*, Vol. 89, pp. 599-603.
4. Blah M M and Joshi S R (2013), “Nutritional Content Evaluation of Traditional Recipes Consumed by Ethnic Communities of Meghalaya, India”, *Indian J Tradit Knowl.*, Vol. 12 (July), pp. 498-505.
5. Seal T (2012), “Evaluation of Nutritional Potential of Wild Edible Plants Traditionally Used by the Tribal People of Meghalaya State in India”, *Am J Plant Nutr Fertil Technol.*
6. Singh B, Sinha B, Phukan S, Borthakur S and Singh V (2012), “Wild Edible Plants Used by Garo Tribes of Nokrek Biosphere Reserve in Meghalaya, India”, *Indian J Tradit Knowl.*, Vol. 11, pp. 166-171.

7. Umdor M, Kyndiah E and Mawlong H (2016), "Indigenous Knowledge in Preparing Rice Based Foods by the Tribes of Meghalaya", *Int J Innov Res Adv Stud.*, Vol. 3, No. 7, pp. 234-241.
8. Sheehy T, Roache C and Sharma S (2013), "Eating Habits of a Population Undergoing a Rapid Dietary Transition: Portion Sizes of Traditional and Non-Traditional Foods and Beverages Consumed by Inuit Adults in Nunavut, Canada", *Nutr J [Internet], Nutrition Journal*, Vol. 12, No. 70, p. 1, available from: Nutrition Journal.
9. Gilbert P A and Khokhar S (2008), "Changing Dietary Habits of Ethnic Groups in Europe and Implications for Health", *Nutr Rev.*, Vol. 66, No. 4, pp. 203-215.
10. Vepa S S (2004), "Impact of Globalization on the Food Consumption of Urban India", in: *Globalization of Food Systems in Deveoping Countries: Impact on Food Security and Nutrition*, pp. 215-305.
11. IIPS (2015), National Family Health Survey-4.
12. Census of India (2011), *Meghalaya Profile [Internet]*, available from: http://censusindia.gov.in/2011census/censusinfodashboard/stock/profiles/en/IND017_Meghalaya.pdf
13. Singh H and Arora R (1972), "Raishan (*Digitaria* sp.): A Minor Millet of the Khasi Hills, India", *Econ Bot.*, Vol. 26, No. 4, pp. 376-380.
14. Nongkynrih A K (2002), "Khasi Society of Meghalaya a Sociological Understanding", Indus Publishing Company.
15. Roy S, Bernhart A, Mijatovic D and Hodgkin T (2015), "Rice: North East India as a Centre for Rice Diversity", p. 1.
16. Bounphanousay C (2007), "Use of Phenotypic Characters and DNA Profiling for Classification of the Genetic Diversity in Black Glutinous Rice in the Lao PDR", Khon Kaen University.
17. Food and Nutrition Division: FAO (2004), *Rice and Human Nutrition*, pp. 1-2.
18. Albert S (2017), "Indigenous Peoples, Food and the Environment in Northeast India", in: *The Routledge Handbook of Food Ethics*, pp. 113-1123.
19. Seal T (2011), "Determination of the Nutritive Value of Some Wild Edibles Plants from Meghalaya, India", *Asian J Appl Sci.*, Vol. 4, No. 3, pp. 238-246.
20. Roche M L, Creed-Kanashiro H M, Tuesta I and Kuhnlein H V (2008), "Traditional Food Diversity Predicts Dietary Quality for the Awajún in the Peruvian Amazon", *Public Health Nutr.*, Vol. 11, No. 5, pp. 457-465.
21. Nongrum M S and Kharkongor G C (2015), "High Prevalence of Vitamin A Deficiency Among Children in Meghalaya and the Underlying Social Factors", *Indian J Child Health*, pp. 1-5.
22. Kuhnlein H V and Receveur O (1996), "Dietary Change and Traditional Food Systems of Indigenous Peoples", *Annu Rev Nutr [Internet]*, Vol. 16, No. 1, pp. 417-442, Annual Reviews 4139 El Camino Way, P.O. Box 10139, Palo Alto, CA 94303-0139, USA, available from: <http://www.ncbi.nlm.nih.gov/pubmed/8839933>
23. Lopez D, Reader T and Buseck P (2002), "Community Attitudes Towards Traditional Tohono O'odham Foods [Internet]", pp. 1-30, available from: <http://www.safs.msu.edu/culturaldiv/TohonoO'odhamFoods.pdf>
24. Rinya P (2017), "Food Transition Among Tribal and Globalization", *J Soc Work Educ Pract.*, Vol. 2, No. 1, pp. 1-6.
25. Kshatriya G (2014), "Changing Perspectives of Tribal Health in the Context of Increasing Lifestyle Diseases in India", *J Environ Soc Sci.*, Vol. 1, No. 1, pp. 1-7.
26. Popkin B M, Duffey K and Gordon-Larsen P (2005), "Environmental Influences on Food Choice, Physical Activity and Energy Balance", *Physiol Behav.*, Vol. 86, pp. 603-613.
27. Gupta V and Qiu R (2013), "The Rise of the Indian Multinational Corporations and the Development of Firm-Specific Capabilities", *J Bus Theory Pract.*, Vol. 1, No. 1, pp. 45-65.
28. Nayak A K J R, Chakravarti K and Rajib P (2004), "Globalization Process in India: A Historical Perspective Since Independence, 1947", *South Asian J Manag.*, p. 12.
29. Emde M (1999), "An Analysis of the Effects of MNCs on India Since Liberalization", pp. 1-14.
30. Subhadra K (2004), "Coca-Cola India's Thirst for the Rural Market".

31. Kumar S R and Xavier M J (1996), "Entry Strategies of Multi Nationals-Indian Context", pp. 1-20.
32. Bapna A and Balakrishnan R (2016), "Underground No More".
33. Nandakumar T, Ganguly K, Sharma P and Gulati A (2010), "Food and Nutrition Security Status in India Opportunities for Investment Partnerships", Report No. 16.
34. Times of India (2015), "More DTH Dishes Sprouting Across Rural India than Antennas", *Times of India*.
35. Harris J, Bargh J and Brownell K (2009), "Priming Effects of Television Food Advertising on Eating Behavior", *Health Psychol.*, Vol. 28, No. 4, pp. 404-413.
36. Lucia A, Reisch L, Gwozdz W, Barba G, Henauw S, Lascorz N and Pigeot I (2013), "Experimental Evidence on the Impact of Food Advertising on Children's Knowledge about and Preferences for Healthful Food", *J Obes.*
37. Garcia G S C (2006), "The Mother-Child Nexus: Knowledge and Valuation of Wild Food Plants in Wayanad, Western Ghats, India", *J Ethnobiol Ethnomed*, January, Vol. 2, No. 39.

