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Importance of Neglected Traditional Food to Ensure Health and Well-Being

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Abstract

Globalization of the human diet has resulted in a shrinkage of the number of food crops. Most of the traditional native staples have been replaced with a few commercial crops of often less nutritional merit. As a result, the burden of non-communicable disorders has increased and cases of so-called 'hidden hunger' have become more prevalent. In this paper we hold that preserving traditional food habits is imperative for the maintenance of health and well-being. The paper, however, does not advocate the wild harvesting of just any bioresource, but instead wishes to promote the development of 'systematic farming'. This can be achieved through basic regional mapping of traditional foods in a given area in connection with modern scientific approaches and interviews of the eldery to share their traditional knowledge.

Keywords: Hidden hunger; traditional knowledge; Nutrition; Disease burden, Biodiversity conservation

Introduction

Food is a basic necessity of life and even our earliest human ancestors needed to be concerned to obtain sufficient nutrition. It has been suggested that foraging efficiency, i.e. calories captured per unit foraging time and post-ingestive fitness mostly governed food selection [1]. People would have asserted themselves on the surrounding ecosystems as sources of their food needs and this interaction would then have become the basis of humankind's cultures and traditional ways of life. To cite an example as to how the archaeological evidence demonstrated a dietary transition; the shift from a plant-based diet of archaic Homo sapiens to a diet dominated by foods of animal origin presumably helped humans to move into more temperate zones. Later, hunting was not only the major contributor to the physiological adaptation but played a very critical role in social functions like verbal communications, the division of work between sexes and development of the family concept [2]. Therefore, food needs to be regarded not just as a mere source of nutrition but an indispensable part of the way the society organizes itself. Thus, the understanding of any food systems will remain incomplete unless one also includes the broad societal processes such as symbolic value-creation [3], the social construction of memory [4], and political-economic value-creation [5]. In this context, food avoidance has its own importance relative to cultural and biological evolution [6]. Since the first appearance of 'Homo', it took almost 2.4 million years to arrive at the present Homo sapiens genome. Although the genetic setup today is not at all much different from that which served our Palaeolithic human ancestors, a number of adaptations did occur and led to the establishment of different communities capable surviving under variable new environmental conditions. To cite a few examples: the capability of lactose digestion throughout the life among pastoralist communities in Europe and Africa [7,8], lighter skin in order to more efficiently activate vitamin D synthesis among northern Europeans [9], small stature in forest-dwelling peoples, etc.

However, in the era of globalization like all other aspects of life diet has also been globalized. The globalization of diet results in the shrinkage of the number of food crops. According to one study of International Plant Genetic Resource Institute (IPGRI) out of 7000 potential cultivable food plant species only about 150 species are being used or commercially cultivated as primary food crops [10,11]. These few crops receive attention and lots of scientific and technical advancement like yield increase, enhancement of nutritional quality, improvement of different variety etc. happen for them but the other remain neglected. However, the food selection does not only depend on the nutritional merit of the food rather depends on a complex of several factors including economy, ecology and societal factors [12]. Besides the loss of gene pool, biodiversity and

traditional wisdom, malnutrition and especially micronutrient deficiencies (often referred to as 'hidden hunger') have become increasingly common as a result of the intensive farming practices. Despite the scientific advancement and economic growth, nutritional security, particularly those living in the developing and underdeveloped regions of the world, is still to be achieved. The 'globalization' of food items on offer has become a growing concern as people of numerous communities are ignoring traditional food items that are seen as unfashionable and not sufficiently 'modern'.

As a consequence, widespread negative effects on the state of health of members of various communities have been reported and nutrition-related diseases and a deterioration of pathogen resistance has been observed [13,14]. The Pima Amerindian tribals are one example. The increasing prevalence of non-insulin dependent diabetes (NIDDM) was found to be correlated with the abandonment of traditions [15]. Pima tribals mainly depended on foods like lima and tepary beans, mesquite, corn, and acorn, all of which known to possess lower glycaemic indices in comparison with their present diet consisting of wheat flour, lard, sugar, coffee and processed cereal products. As a consequence, 38% of the Pima in Arizona are diabetic even though they did not have a history of the metabolic disease until they began to disregard and abandon their traditional food [15,16]. In the Andes of South America people relied on the production of quinoa (*Chenopodium quinoa*) and amaranth (*Amaranthus caudatus*), both of which rich in protein and iron. However, across the Andes and especially Ecuador people have included nonnative staples like noodles and rice, which are of lower nutritional value than that the traditional staple [17]. Likewise, several indigenous minorities the world over are becoming vulnerable as their cultures, especially with regard to traditional foods, are threatened and they undergo urbanization, industrialization and westernization. The traditional practice of entomophagy (i.e., consuming insects as food) is part and parcel of this. Across Africa especially Sub-Saharan region traditional leafy vegetables and fruits which are rich is micronutrients has already been replaced with *Brassica* genus including cabbage, kale and other species [18-20]. However, realizing the importance of nutritional merits of African leafy vegetables IPGRI in partnership with Dutch government took lead in the promotion of leafy vegetables [19].

The ethnic population of the Kolli Hills in southern India used to grow millet as their staple food, which has been replaced by sweet cassava and sago palm in the last 25 years. Sweet cassava is cultivated for the sale in the sago-starch agroindustry in the low land. Millet as a staple has already been replaced by rice by the population, although the nutrients especially the micronutrient content of millet is significantly higher than that of rice [21]. A similar case exists in the Balia village of Orissa. However, promotion of nutrious millets might be expected to improve nutritional profile and economical status of the local communities [22].

Examples do not only exist with regard to plant crops but also in connection with animals. Many indigenous communities, until recently, strongly relied on using insects as food and planned part of their diet to contain insects. Now they do not appreciate the practice of entomophagy anymore and may even feel inferior to admit consuming insects and see the practice unfashionable. The use of insects as food receives priority because many communities have a historical link with a habit of eating insects or using insects for therapeutic purposes [23]. Stable carbon isotope analyses demonstrated that South African Australopiths were not exclusively frugivores but also consumed significant amount of C4 foods which presumably included termites in addition to grasses and sedges [24]. Even, the bone tools and wear pattern suggested insectivorous behavior like termite foraging among early hominids especially by southern African Australopithecus robustus [25].

Even today in many ethnic communities insects are an accepted component of their diet. Approximately 2 billion people consume insects either regularly or at least sometimes. Examination of the existing literature shows that great differences exist between those that regard certain insects as tasty and edible, worthy of collecting and others that would reject these species, considering them unfit for human consumption but accepting species avoided by the former community [26,27]. As numerous scientific reports have demonstrated to date, the nutritional value of insects is no longer in doubt and the latter, therefore, appear to possess all the features one wishes an alternative food source to have [28-38]. Also, insects chosen as food items usually use only a meagre amount of natural resources and often, in fact, waste can be used by them to produce an equal amount of animal protein present for example by comparison in beef, veal, pork or chicken. That there is a negligible methane emission with insects is an extra advantage satisfying sustainability [39]. Keeping the nutritional potential and ecological benefits of insect in mind, it is the developed countries that proceed towards small scale industrialization and establishing the legal framework deemed necessary to reduce the environmental pressure to generate animal protein [38,40]. Often social pressure from outside like the increased exposure to western lifestyle, availability, and promotion of western food, absence of governmental initiatives and of course lack of awareness all contribute to the dietary shift away from traditional foods in the developing world and as of late, towards more traditional foods, often referred to as 'ethnic', in many western countries. In addition to the fact that the nutritional transition from traditional to non-traditional, modern," western" foods often goes hand in hand with an increase of the disease burden, there can be numerous ecological and economic drawbacks.

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Conclusion

Thus, culture and tradition are intertwined with food and the genetic makeup of a population, which is why we advocate that preserving cultural characteristics is positively correlated to health and wellbeing. Bringing back the 'neglected crops' is of the utmost importance for ensuring the nutritional status of many a community. However, this paper does not encourage uncontrolled wild harvesting of just any bioresource but hopes that systematic farming based on traditional food items will reclaim its importance and become more widespread. This can be achieved through basic regional mapping of traditional foods in a given area in connection with interviews of the eldery to share their traditional knowledge and the help of modern scientific approaches and documentation.

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