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Cultural and Social Enigmas: Missing Pieces of Food Security

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ABSTRACT

The growing attention in food security has suggested many approaches to develop a society free from hunger and malnutrition. Methodological approaches are mostly used to overcome the challenges of food security, but food insecurity is more than mere availability and access to food. Cultural and social dimensions and their intricacies to achieve food security are mostly missing from the literature. The culture matters, but to what extent and in what ways? The question still stands. So, 'how different cultural and social factors shape the food plate in different communities' has to be integrated with these approaches to understand the local food system as it has direct implications on improving food and nutritional security. This study provided a glimpse into how diversity in culture and social heritage contributes to food and nutritional security.

Keywords: *Food security; Nutritional security; Culture; Social changes*

Introduction

The world is transforming, fetching new challenges, which we must overcome to live in a world free from hunger, food insecurity, and malnutrition. World hunger showed a declining trend but this trend has reverted since 2015. It reached back to levels observed in 2010 in the past three years (FAO *et al.*, 2019). The global scale of the prevalence of undernourishment has remained virtually unchanged at a level slightly below 11 percent, while the total number of undernourished has been slowly increasing for several years. More than 820 million people in the world, corresponding to one in every nine people are still hungry, as confirmed by Prevalence of Undernourishment and food insecurity experience scale (FIES) (FAO *et al.*, 2019). It challenges the sustainable development goals (SDG) target 2.1 of ending hunger and ensuring year-round access to nutritious and sufficient food for all by 2030. Analyzing food security (beyond hunger) showed that 17.2 percent of the world population, equivalent to 1.3 billion people, have experienced food insecurity at moderate levels (FAO *et al.*, 2019). Combining these two facts, 2 billion people are experiencing threats of food security in either way (FAO *et al.*, 2019).

Food security focusses on the macro intake of food; whereas, nutritional security focusses on micronutrient intake, health, and sanitation. Multidimensional nature of the subject matter has grabbed the attention of many sectors like agriculture, health, economics, public

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administration, sociology, and international development, but received key attention in the agriculture sector (Reddy and Anitha, 2015). The health sector primarily dealt with nutrition, while agriculture focused on increasing production and consumption.

Curerntly, the situation has changed and the linkage between food and nutritional security is gaining concern worldwide (Noack and Pouw, 2015). However, insecurity may not be merely due to the unavailability or lack of access to food but occurs due to a combination of factors such as food quality, utilization, and access (Olum *et al.*, 2017). The approaches to address food securities are lagging in embedding the social and cultural aspects (Noack and Pouw, 2015). Many well-intended food security interventions have failed as they disregard the cultural dimensions of food security (Alonso *et al.*, 2018).

The relationship between humans and food is an extraordinary social and cultural epic (Barilla Center For Food & Nutrition). Food is a way to express the culture, traditions, and identity of a group (Nemeth *et al.*, 2019). Social, cultural, and economic settings of a particular group govern the choosing, sharing, and feeding food (Gittelsohn and Vastine, 2003). The proscriptions and prescriptions set by the culture influence food choices and utilization in that society and determine the extent of food security.

The available literature lacks information on how a particular social or cultural setting affects utilization of food. Food quantities and categories, quality of food produced, taste and color preferences, traditional food preservation techniques, and processing methods as well as how decisions are made were not investigated by previous studies. The governmental and non-governmental agencies have failed to address the cultural and social aspects of the food security. These factors are often simplified as socioeconomic and demographic causes. There is a risk of overlooking the local culture due to simplifying diet to one or two staple crops, removing traditional but nutritious foods, and increasing the chance of food wastage (Noack and Pouw, 2015). Recognition and understanding of the cultural dimension of the food drive individuals towards sustainable healthier diets and happy living (Keding *et al.*, 2013).

Integration of cultural and social dimension in food security concept

In 1974, the World Food Conference in Rome defined food security in terms of food supply: “Availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices” (Shaw 1974). World Food Summit (1996) defined food security as “when all people, at all times, have physical and economic access to sufficient, safe, and nutritious food to meet their dietary needs and food preferences for a healthy and active life.” ((FAO., 1996). The “social” access dimension was added to the definition stating that food security exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets dietary needs and food preferences for an active and healthy life (FAO, 2002). The cultural dimension has been increasingly recognized as a driver of food security and becom a part of the food security debate and conceptual framework of organizations such as (Programme., 2012) and (news, 2013). The context identifies culture as an essential part but does not specify its importance compared to other factors and how it affects the food security (Alonso *et al.*, 2018). The culture has often remained on the bounds of discussion in fighting against hunger and malnutrition.

The current food security definition holds four themes/pillars according to (FAO and SAARC, 2008):

1. Food availability: Food availability means availability of the sufficient quantities of good quality food, supplied through domestic or national production, and food aids. Our experiences guide what we grow in our backyard, what we cook, and what we eat. Social norms govern ideas of what is edible. They may differ between classes in the society and between the nations (Nordström *et al.*, 2013), which thereby influence the

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composition of local food production, sales, and trade (Alonso *et al.*, 2018).

2. Access to food: This dimension explains an individual's access to resources for acquiring appropriate foods for a nutritious diet and a healthy life. Though healthy foods are available sufficiently, food and nutrition security depend upon the household's ability to acquire that food, which can be analyzed through economic and social perspectives. Income level of families determines financial access; whereas, social inclusion or exclusion shapes social access to food (Alonso *et al.*, 2018).

3. Utilization: This focuses on non-food inputs of food security. Food intake is related to the ability of the human body to ingest and metabolize it. A combination of the nutritional diet, clean water, sanitation, and health fulfill an individual's wellbeing and physiological needs.

4. Stability: A stable supply of food is necessary to have all-time access to food. Any unforeseen or foreseen circumstances should not restrict the right to access food. This dimension of the food security address both access and availability of the food to household.

Of the four pillars, food availability, accessibility, and utilization are among the physical dimensions, while stability is in the temporal dimension (Napoli *et al.*, 2011). The third pillar of food security explains that food security is not just about access to or availability of food. Cultivation, collection, and utilization also matter, which which are affected by the culture and faith of the community. Malnutrition and hunger can occur even when food is perceived as an unsuitable kind by a society or an ethnic group (Jehn and Brewis, 2009).

Food is a choice

Food acceptance is a composite phenomenon guided by biochemical, psychological, physiological, social, and educational factors that fit within the framework of tradition, economic status, and environmental condition. Culture is defined as 'a complex whole including knowledge, belief, art, morals, law, customs, and any other capabilities and habits acquired by man as a member of the society' (Fieldhouse, 2013). Social values, tradition, culture, and norms are intricately woven with human behavior and way of living. Many of these factors are not taught but experienced by individuals. So, they act as they have been perceived and most of them act unconsciously (Riddick Lynch, 1969).

Food is the most fundamental and oldest part of any culture. Food habits and their significance, once established, can be stable and resistant to change (Beardsworth and Keil, 1997). Food revolves around people's life; so, they construct their identity and relationship with others in this regard. In most societies, food creates emotional associations, as a medium of communication, love, discrimination, or disapproval. Each culture has a value system designed around these associations which values on food more than others. These values are central drivers of consumption (Furst *et al.*, 1996).

Culture guides food preparation (Kittler *et al.*, 2011). The importance of taste, presence of cultural customs, and influence of religion generate eating habit, which passes through generations (Johnston *et al.*, 2014). Food can establish an interpersonal relationship, show the degree of attachment to a person, and indiacte the socioeconomic status, which can differentiate one culture from another (Guansheng, 2015). The combination and way of processing have implications for nutrient intake and the safety of food (Ruiz-Rodriguez *et al.*, 2008).

In the Chinese community, expensive food show respect; for example, chestnut and oranges mean good-luck (Guansheng, 2015). *Daal- Bhaat* combination is preferred in Nepal, whereas Americans prefer bread and butter. Mexican Americans prefer growing maize and would not change that for any other crops (Reddy and Anitha, 2015). In Mediterranean countries, most diets constitute olive oil, fruits, cereals, legumes, and nuts. Fish and meat are found in smaller proportions or are not included at all. These food habits are not only nutritional but also a lifestyle for people. They promote health, lower burden on

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the environment, enrich biodiversity, and enhance socio-cultural values of food (Nemeth *et al.*, 2019).

Many ethnic communities have taboos in food preparation and consumption. In the Karamoja sub-region of Uganda, ethnicity influences cultural practices directly and these practices dictate the foods that can be utilized by specific groups of the society, which affects food security subsequently (Olum *et al.*, 2017) The cultural norms also place restrictions on the consumption of nutritious foods, specifically organ meat and highly nutritious vegetables, affecting women, children, and adolescent males especially. The difference in calcium and phosphorous levels in the bone of African–American and White–American, between Gambian and the UK as well as China and the UK were mainly due to the differences in dietary intake, food availability, and cultural preferences (Redmond *et al.*, 2014). The social norms regarding who consumes what foods and in what quantity affect the food and nutritional security of the household (Hoddinott, 2012).

Religious beliefs influence the dietary practices of a person and affect food selection in turn. In general, Eastern religions do not suit the consumption of meat. Judaism provides the most precise and detailed instructions about foods that must be avoid. The Bible prohibits eating all predatory animals. However, certain foods are thought to be inedible primarily due to the cultural reasons with no precise basis in the religion. For example, eating dogs is generally not acceptable in the West, while there is no particular problem with eating dogs in Korea, Vietnam, and China (Barilla Center For Food & Nutrition).

Methods and standards set for assessing the food and nutritional security devised in an industrialized society cannot justify the needs and wants of food in other diverse communities. Food habits in Southeast Asia show that the diets are nutrient deficient and sufficient in different countries; in other words, the available data are contradictory. Habits like consuming nutritious vary in different parts of the world, but the western diets are more prevalent today (Reddy and Anitha, 2015).

It is a difficult task to determine the food system embedded in a society. Globalization, urbanization, and modernization have transformed and complicated the food consumption pattern. The human diet has been altered in composition and quality corresponding to the changing lifestyles and environmental, demographic changes, technological advancement, transportation, and epidemiological transition (Hawkes, 2006, Johns *et al.*, 2004, Popkin, 1993).

Shift in Culture

Indigenous peoples' food security has been undermined by the loss of bio-cultural resources as foundations of their diet. The diet of North American and European societies has shifted to low nutrient and high energy diet (Alonso *et al.*, 2018, Popkin, 1993). As a result, people are facing an increased risk of diabetes, heart-related problems, obesity, and other non-communicable diseases (NCDs). Lairon specified NCDs as the causes of ignoring traditional ways of life and culture (Lairon, 2012). Dental caries, immature, and poorly aligned teeth are results of the soft food requiring low chewing and sophisticated preparation (Klatsky, 1947). Loss of traditional food in supermarkets and prevalence of fast-foods have improved the food security but increased the prevalence of diseases among the native Alaskan people (Loring and Gerlach, 2009). This hindered the physiological and cognitive development as well as the sustainable agricultural development (Johns *et al.*, 2004).

Availability and accessibility of "culturally adapted food" have consequences in achieving food and nutritional securityThis process requires a collective knowledge of how the culture defines food and what shapes people's food plate. In the rural Luchululo and Samia community of Kenya, Maize (white) and sweet potato replaced Millet, sorghum, cassava, and milk in preparing Ugali, a traditional porridge (Noack and Pouw (2015). Urban foods, including sugar, meat, and white carbohydrates, especially maize, are increasingly valued as foods that convey social status (Conelly and Chaiken, 2000). Therefore, these are cultivated

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and purchased over other foods demonstrating importance of the social function of food over nutritive intake. This change was stated as "Food wants has taken priority over food needs" by Noack and Pouw (2015).

In Nepalese society, crops like stinging nettle, Amaranthus, and garlic pear have grown wildly as inferior crops. So, the people neglected crops rich in Vitamin A, protein, and antioxidants (Adhikari *et al.*, 2016, Khadka, 2006, Maurya and Arya, 2018). Currently, these crops are gaining attention as a source of fiber and alternative medicines (Rutto *et al.*, 2013).

The culture influences food choice by determining the consumers' acceptance level of new food technologies and innovations. Fr instance, France rejected consuming genetic-modified foods based on the US fast food culture by (Finucane and Holup, 2005). The low consumer acceptance of biofortified maize in the low–income countries (Meenakshi *et al.*, 2012) shows that the cultural drivers of food acceptance affect food security. So, food is a culture and influences the diet (Sorokowska *et al.*, 2017).

Social changes

Hunger and food insecurity are no longer a phenomenon related to food production and distribution. It is more than a technical failure in the agriculture system that has grown as a political issue. So, there should be consideration of the socio-political aspect of hunger and resource politics, while formulating food security policies. Though chronic hunger as outcomes of availability and calorie intake are addressed, issues generated due to sociopolitical and macroeconomic changes in the form of acute hunger goes unnoticed. It influences the physiological condition of people. Change in the production system, food habit and food basket, capture of the food supply chain by private corporate sectors leading to privatization of resources can decrease the general public access to resources (Upreti *et al.*, 2016). It reduces the purchasing capacity of people and limits the choice of what to grow and what to eat.

Migration

In this era of globalization, people are migrating from their native area to a new region with entirely different cultures. Domestic conflicts in many countries have increased the number of refugees. Many immigrants and refugees experience household food insecurity (Moffat *et al.*, 2017). Traditional food and ways of eating are the product of ecology, customs, and traditions that are tied to ethnocultural identity (McElroyand and Townsend, 2015). With the migration, foodways may change, but when familiar foods are not available in the new setting, there can be disruption of migrants' ethnocultural identity. It can bring different forms of food nostalgia among the migrants (Moffat *et al.*, 2017). The confrontation with unacquainted cultural models of eating can present significant barriers to food security among resettled refugees, in the form of difficulties in navigating the new food environment and preparing unfamiliar foods (Hadley *et al.*, 2007).

Foreign employment has been a good source of income for the Nepalese household. An increasing rate of youth migration to Gulf countries has caused the change in the social structure. During the period of 2008/09-2018/19, 83.9% of the migrants were men (International organization for migration (IOM), 2019), leaving their female counterparts. A woman's position has changed from an agricultural coworker to household decision-makers. The burden on women has increased as they have to manage agriculture alongside their traditional domestic chores (Adhikari and Hobley, 2015). This overload on women due to the increasing involvement of men in non-agricultural activities has an impact on agricultural productions. Their perception of food, land, and agriculture as resources, plays a vital role in achieving food security and wellbeing.

Gender

Gender issues are complex in the agriculture system (Agarwal (2014). The delinquencies faced by women farmers are structural and cannot be changed by increase of their decision making power or space (Rao, 2006). Women do not consider farming as a choice of livelihood unless

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there is equal redistribution of productive assets as land and agriculture inputs. The role of rural women as coworkers and decision-maker needs to be studied to frame the food security approaches (Gartaula *et al.*, 2017).

Hierarchy in food distribution within a household has importance in women's intake of food in male-dominated Nepalese society. Food availability in the family does not mean that women and children get enough nutrients through adequate consumption due to hierarchy. In rural hills of Mid-western Nepal, no difference was obsereved in food distribution among men and women regarding the serving method (Gittelsohn (1991). On the contrary, studies revealed that adult women often do not meet their nutritional requirements in rural communities in terms of energy, beta carotene, riboflavin, and vitamin C intake. Their late position in the household, serving order, and lower consumption of food were the reasons. Children engaged in share-plate eating were likely to consume more grains, vegetables, pulses, fruits, meat, and dairy products compared to those who eat alone. In this regard, the method of serving a child and eating behavior influence the nutrient intake (Shankar *et al.* (1998).

Land distribution

The landholding is an indicator of socio-cultural and economic capability in Nepalese society. Differences in land distribution exist among different ethnic and caste groups, such as Dalits had small landholdings than Brahmin-Chhetri and *Janajati (*Gartaula *et al.* (2017). An increase in the economic situation of Dalit due to foreign employment has created opportunities for empowering those communities. (Adhikari and Hobley, 2015) reported an increased propensity of *Dalit* to buy land in the village with money from Remittance; they moved from wage labor to sharecropper. However, the high caste landowners perceived land as the indicator of high social status and were reluctant to let go of it (Gartaula *et al.*, 2012). Such perception of landowners creates difficulties in gaining ownership of land by *Dalit* sharecroppers despite their commitment towards the agricultural activities. It risks the food sovereignty approach, which seeks to strengthen small farmers and peasantry by increasing access to resources and agriculture input (Holt Giménez and Shattuck, 2011).

Health and social problems

Food security interventions that only target the drivers of caloric and nutritive stress may be capable of hunger mitigation in short term. They run the risk of institutionalizing food-system inadequacies and health problems in the long-run (Loring and Gerlach, 2009). They can synergistically interact with the socioeconomic and political settings to challenge local food production and procurement. In terms of food security, evaluation of these impacts shows the importance of recognizing that food contributes far more to health than just calories and nutrition. Food and food culture are associated with health in a great variety of ways with many possible social and cultural dimensions of participation at all steps of the food chain. However, the relationships and the outcomes may not all be obvious. Many possible faces of food insecurity exists. For instance, when the quality of life is affected as a matter of chronic hunger in sub-Saharan Africa or causes chronic obesity, diabetes, alcoholism, and depression in sub-Arctic Alaska; each represents some failure of a food system (Loring and Gerlach, 2009).

Conflict in a nation negatively affects the food security situation leading to hunger and reduced food production, which impede the economic growth of a country (Cohen and Pinstrup-Andersen, 1999). Ten-year long Maoist insurgency in Nepal can thoroughly explain the damage in the food system that led to chronic hunger. Political powerlessness prevents households from accessing food even when there are no issues of availability (Gartaula *et al.*, 2017). High food-insecure conditions and deprivation can lead to conflict (Seddon and Adhikari (2003). Social and political changes can have a substantial impact on food security.

Banerjee and Duflo (2011) argue that starvation exists in today's world, but only as the way food

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gets distributed among us; in other words, there is no absolute scarcity. Even the most deprived people earn enough to afford the calories needed because calories come cheap. Getting more calories in the poor urban household is not a priority, rather getting better-tasting ones is of importance (Moss *et al.*, 2006). When staple crops (rice and wheat) were made cheaper to a poor household in two regions of China, most families spent less on buying those staple grains. Neither availability nor increased access improved nutrition and calorie intake in those communities. The subsidy on staple food grains reduced the share of people's income on food. It developed the perceived richness among them. Consuming staples made them feel inferior and feeling rich might have made them spend and consume less and less on staples (Jensen and Miller, 2007).

Nepal: cultural diversity and food security

Nepal is the home for more than 100 ethnic groups and 120 languages (Ministry of law, 2015). Diverse traditions and ecological situations have led to many food systems, beliefs, and customs (Adhikari, 2010). Although food insecurity condition has improved, it has not got better. Nepal is becoming food insecure due to the environmental, social, cultural, political, and economic factors (Gaire *et al.*, 2015). Weak governance, poor resource distribution, institutional arrangements, and internal conflict have led to poor food systems (Upreti *et al.*, 2016). Nutrition Assessment and Gap Analysis (NAGA) conducted by USAID and the Ministry of Health and Population (MoHP) indicate that there is a knowledge gap. Gaps exist in various food behavior, intra-household use of food, food quality and quantity, diverse and complementary feeding practices including food handling, hygiene practice, and emergency preparedness (Adhikari, 2010). Thus, Nepal requires a unique approach to meet the aspiration of different communities.

Nepal has aimed to eradicate poverty, hunger, and all forms of malnutrition, ensuring safe and nutritious food (2nd, 3rd, and 6th goal of SDGs) by 2030. Nepal passed the Constitution of Nepal in 2072 that granted the right to food as a fundamental right of every Nepalese citizen. However. Nepal falls in the serious category of global hunger index (GHI) with a score of 20.8 and ranks 73rd out of 117 countries (Global Hunger Index, 2019).

The cultural diversity affects the choice of food and consumption pattern. Brahman community kept buffalos for the secondary products; whereas, Magar ate their meat. Pigs are not raised by the Magar community but are interested in consuming pork ((Oestigaard and Chhetri RBG, 1999). Gurung community preferred eating porridge of Millet and maize. In most parts of millet production, homemade wine was produced and consumed frequently (Gallagher, 1987).

There is an association between culture, religion, and food-seeking behavior (Acharya, 2018). Women in Kathmandu and Patan believed in pure or impure food; hot, cold, and neutral food; beneficial, harmful, or curative food (Shakya, 2006). Women in the Terai region, have a belief that the child gets heavier if the mother eats more that causes problems during the delivery; so, the pregnant mothers should avoid eating leafy vegetables, fruits, and dairy products ((Christian *et al.*, 2006). Nepalese mother has a misconception about breastfeeding; they believe that long-term breastfeeding leads to breast cancer, ugliness, etc. (Zepro, 2015). Diet-related suggestions from their traditional healers is embedded in the religious and cultural practices of many marginalized and poor communities (Meyer-Rochow, 2009). Practices about feeding and method of food preparation, affected by socio-cultural behavior are strongly related to the childhood undernutrition.

Nutritional security has no relationship with agriculture productions in Nepal. Similarly, the Terai region has the highest agriculture production rate in the country with a high level of undernutrition rate (Adhikari, 2010). Kathmandu, the capital of this region, has a low-calorie intake despite easy access and high availability of food (Adhikari, 2010). Food habits of Nepalese, traditionally based on the locally grown country

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foods, are transitioning to the rice-based or western food habits with higher calories and less nutrients.

Subsistence production, rising food prices, poverty, and inequality of food resources resulted in food and nutritional insecurity in Nepal (Bhandari, 2018, Joshi *et al.*, 2010, Pandey and Bardsley, 2019). One-third of Nepalese spend 75 percent of their income, and two-third of them spend 50 percent of their income on food (Central Bureau of Statistics (CBS), 2013). Inflationary food prices may be the reason for such high expenditure. However, the people's choice of purchasing food, method of preparation, distribution, and consumption affects their spending. May be a household spends more on costly fruits and meat products rather than grains and pulses. The low-income families prefer to spend on tasty food rather than nutrient-rich food ((Banerjee and Duflo, 2011), suggesting that food intake is governed by many factors other than food availability and access.

Composition of local food plate, i.e., the proportion of vegetables, cereals, meat, and other commodities as well as food preparation and selection as governed by the cultural factors have a remarkable effect on the nutritional security. Thus, Nepal needs a unique approach to understand the food behaviors. It should acknowledge intra-household food use, diversity of diet, food quality and quantity, breastfeeding, complementary feeding practices, food handling, hygiene practices, emergency preparedness, and their impact on the nutritional status of each individual. In developing the public nutrition and food security programs, there is a need to change our cultural interpretations of guidelines such as 'choosing foods low in salt and using salt sparingly.' We need to see foods through the eyes of a population for whom food is a way of living. It can be inappropriate to say avoid using salt for those grew with salt as their culinary essential (Smith *et al.*, 2006).

Conclusion

Different cultures, socioeconomic settings, and their associated norms, beliefs, and taboos have broader implications on what someone acquires, processes, stores, preserves, shares, and eats. There is an immense need to address the future demand for food by protecting local, territorial variety, transferring knowledge, and know-how as the extraordinary cultural wealth. A need exists for recovering the ancient flavors and renewing them in the modern taste, rediscovering the value of food as a means to achieve a better relationship across the generations.

Failure to safeguard the availability of and access to culturally and socially appropriate foods is a setback for food security interventions. So, in developing food-based strategies, we need to explore the traditional diets and gather nutrition information. A large number of traditional foods have been recognized as highly nutritious food and are essential contributors to nutrition security for different communities in the world. Traditional food cultures along with the countervailing spread of fast food and processed foods offer benefits like natural availability, cultural acceptance, higher resilience, and a source of micronutrients. Thus, with increased understanding and recognition of the cultural and social aspects of the food security, lagging progress should be addressed in terms of integrating policies and subsequent intervention.

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Authors' contribution

Thapa, Bharati, and GC designed researched. Thapa and Bharati conducted research and wrote the manuscript. GC had primarily responsibility for

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final content. All authors read and approved the final manuscript.

Conflic of interest

All authors declare that they have no competing interests: no support from any organization for the submitted work. The views expressed are entirely those of the authors.

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