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Food Consumption Pattern and Its Implications on Health of Tibetan Refugee Monks in South India

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ABSTRACT

Food is an important aspect of human life for healthy body and mind. The main objective of the study is to understand the food consumption pattern and its implication on health of Tibetan refugee monks in South India. The health status of Tibetan refugee monks in India manifested that Tibetan monks suffer mainly from hypertension, gastritis, tuberculosis, diabetes (type 1 and type 2), and heart disease at an alarming rate. This could be linked to dietary habits contributing for the rising illnesses. The study uses quantitative and qualitative approach for gathering information on demographic and eating pattern using structured questionnaire. Simultaneously, an in-depth interview with monastery meal procurers were collected. 136 individual data were obtained from two majorly populated settlements in Bylakuppe and Mundgod, South India. The result indicated that monks are consuming food rich in carbohydrates, animal fats and less amount of fruits and vegetables. 73% of monks are consuming high amount of aerated drinks on a daily and weekly basis (Coke, Pepsi, mountain dew). 28.7 % of monks are having problem of poor vision which can be attributed to their poor diet. The study also revealed that monks are food insecure and rely on food provided by the monastery which is lacking in nutrients. Also, one of the main contributing factors for unhealthy consumption pattern is due to lack of knowledge and awareness on healthy eating. Therefore, an immediate intervention from Tibetan government, NGOs or primary healthcare centres is necessary for bringing awareness on healthy eating and reducing the negative health implications.

Keywords: Food consumption, Tibetan refugee monks, Health, India

INTRODUCTION

Food insecurity is one of the biggest challenges faced by migrants especially by the refugee community whose changing food habit causes a change in their cultural aspect (Surjyajeevan & Sachdeva, 2019). Maintaining cultural food is important for one's identity, health, and survival (Power, 1996). The strong relation between food and culture primarily influences individual eating behavior (Vatika Sibal, 2018). It was also found that immigrants who maintained a strong cultural identity in the host country have healthier dietary habits (Moffat et al., 2017a). The various social determinants that affect refugees' diet and health are socio-economic positions, housing conditions, cultural, language barriers, and political factors (Amstutz et al., 2020). The importance of recognizing cultural food security is explored by researchers for improving refugees' overall health (Atoloye et al., 2021). Unavailability of cultural food may destabilize their cultural identity which may impact psychologically and instill a sense of social isolation (Moffat et al., 2017b). Refugees are faced with the problem of overweight and obesity to an extent that in the USA, it was termed as a health epidemic (Sogari et al., 2018). A study on African refugees in Geneva indicated that there is decreased consumption of vegetables and fruits while an increased amount of energy-dense food leading to obesity (Kruseman et al., 2005). Refugees are more affected by food

insecurity and chronic diseases compared to the general population of the host country (Atoloye et al., 2021). There is a plethora of research carried out on changing food consumption patterns of refugees and its implications on health in the developed country yet there is a dearth of research on dietary practices especially on refugee monks in developing countries. Culture, communication, and cuisine connect people and help in building identity and reflecting about one's religion (Cohen, 2021). At the same time, it is important to understand the dietary practices of monks due to the rising non-communicable diseases. A study on 138 Buddhist monks in Bhutan revealed that 10.2 % of the respondents has hypertension (Tshering & Somrongthong, 2011). Another study on the relationship between dietary pattern and retinal vessel in nuns concluded that nuns who follow unhealthy diets consuming sweets, chips, high-fat dairy products, and French fries were highly associated with eye problems (Neville et al., 2018). A study on the lifestyle and health status of Buddhist monks in Bengaluru manifested that half of the monk respondents were obese or overweight. More than half the sample respondents consumed packaged fruit juices and carbonated drinks. Beverage consumption has shown serious health implications in terms of non-communicable diseases. A systematic review concluded that soft drink consumption has been strongly associated with body weight including diseases such as diabetes (Vartanian et al., 2007). A similar study suggests that soft drink consumption has higher risk of obesity (Hattersley et al., 2009). Preventive care, control, and self-management skills were found to be lacking especially among developing and underdeveloped countries (R & Asha, 2020). India stands at 93rd rank in global hunger index and providing sufficient nutrition to the refugee population is not feasible. Thus, it was found necessary to understand the food consumption pattern of Tibetan refugee monks from various regions of Tibet. The regions were taken into consideration due to diversity in diet between regions. Meanwhile, it was also felt necessary to analyze the correlation between aerated drinks and diseases for the prevention and promotion of healthy eating practices.

The objective of the study

1. To understand the food consumption pattern of Tibetan refugee monks.
2. To examine the association between food items and their country of origin.
3. To analyze the correlation between aerated drinks and diseases afflicted by monks.

MATERIALS & METHODS

The study examines the consumption pattern of Tibetan refugee monks in South India. There are 134 monasteries in India and 75 % are in south India (Bhatia et al., 2002). The main goal of the study is to conduct a base study on Tibetan monks' food consumption patterns. Since the majority of the monks resides in South India, a simple random sample was applied to collect data from monks belonging to various regions of Tibet. A structured questionnaire was used to collect the data on socio-demographic, type of food, food frequency and various diseases afflicted by them. The study was carried in February 2019 during the Losar (Tibetan new year) so that maximum data can be collected. Bylakuppe and Mundgod settlements were selected with a goal of collecting 100 questionnaires each. Out of which, 76 samples responded from Mundgod settlement and 60 samples from Bylakuppe settlement. A total of 136 samples were collected. SPSS 20 version was used for analyzing the data using food frequency to understand the consumption pattern. One-way ANOVA was run to see the influence of regions on different food consumption patterns among Tibetan refugee monks in India. In order to understand monk's consumption in depth, in-depth interviews were conducted with a monastery meal procurer in Mundgod and Bylakuppe.

STATISTICAL ANALYSIS

SPSS 20 version was used for analysing the data using food frequency to understand the consumption pattern. One-way ANOVA was run to see the influence of regions on different food consumption patterns among Tibetan refugee monks in India. In order to understand monk's consumption in depth, in-depth interviews were conducted with a monastery meal procurer in Mundgod and Bylakuppe.

RESULT

Based on the objectives, the results were presented with socio-demographic characteristics and food consumption frequency followed by various test to examine the association between different type of food and diseases. Finally, a qualitative result was presented to supplement the quantitative results.

Quantitative Results

Table 1 Socio-Demographic Characteristics

Characteristics	Category	Frequency	Percentage
Age group (years)	<20	26	19
	21-40	67	49.3
	41-60	27	19.9
	61 & above	16	11.8
Region	U-tsang (Central)	32	23.5
	Dotoe (Kham)	64	47.1
	Domae (Amdo)	40	29.4

Source: Primary Data

The maximum age category of monk respondents is below 40 years with 69.3%. 47.1% consist of the Dotoe region, 29.4% from Domae, and 23.5% from U-Tsang.

Table 2 Type of Diet

Type of food	Category	Frequency	Percentage
	Veg	28	20.6
	Non-veg	108	79.4
Cooking oil	Refined	105	77.2
	Ordinary	30	22.1
	others	1	.7
Nature of food	Spicy	27	19.9
	Medium spicy	85	62.5
	Bland	24	17.6
Number of full meals per day	1	1	7
	2	11	8.1
	3	107	78.7
	4	17	12.5

Source: Primary Data

From table 2, 79.4% of the monk respondents are non-veg and 20.6% are vegetarian. Cooking oil used for cooking is mostly refined oil and the majority of monks indulge three times of full meals in a day.

Table 3 Consumption Pattern of the Tibetan refugee Monks in India

	Daily	Weekly	Fortnightly	Monthly	Occasionally	Never	Total
Millet	1	28	11	5	6	85	136
Wheat	83	50	1	2	0	0	136
Rice	93	39	3	0	0	1	136
Potato	37	91	4	1	1	2	136
Milk	92	35	4	1	0	3	136
Fruits	25	99	6	6	0	0	136
Dry fruits	10	78	7	13	20	8	136
Lentils	46	77	6	2	1	4	136
Green Leafy Vegetables	80	51	1	1	0	3	136
Other Veg	30	86	10	6	2	2	136
Meat (Beef)	6	52	19	22	9	28	136
Chicken	8	37	13	29	11	38	136
Pork	1	9	7	15	35	69	136
Fish	1	6	5	20	31	73	136
Carbonated Drinks	22	77	7	11	7	12	136

Source: Primary Data

It is clear from the above table that monks consume a diet rich in carbohydrates, animal fats, and fish is rarely consumed by the monk population due to their religious beliefs. It is alarming that monks consume aerated drinks such as Coke, Pepsi, mountain dew in high quantity which may impede their health.

Tibetan population belongs to one of the three regions of Tibet that of U-Tsang, Dotoe and Domae. To see the differences in consumption pattern of various food items by monks of different regions, ANOVA was conducted and post hoc was run to see which region consume more of each food items. The significant result was presented in the table below.

Table 4 One-Way ANOVA (Welch's)

	F	df1	df2	p
Millet	3.84	2	70.7	0.026
Dal	6.82	2	59.2	0.002
Fruits	3.35	2	66.1	0.041

Since the data was not normal, welch's test was run. Millet, dal, and fruits were found to be significant which indicates that there are significant differences in consumption of these food items.

Table 5 Games-Howell Post-Hoc Test – Millet

		U-tsang	Dotoe	Domae	
U-tsang	Mean difference	—	0.740	-0.133	
	p-value	—	0.077	0.935	
Dotoe	Mean difference		—	-0.874	*
	p-value		—	0.046	
Domae	Mean difference			—	
	p-value			—	

Note. * p < .05, ** p < .01, *** p < .001

A post hoc test was applied for millet consumption and it was found that Domae (Amdo) consumes more of millet than Dotoe (Kham) region. Similarly, a post hoc test was run for dal and fruit consumption.

Table 6 Games-Howell Post-Hoc Test – lentils

		u-tsang	dotoe	domae	
U-tsang	Mean difference	—	0.499 *	-0.231	
	p-value	—	0.011	0.689	
Dotoe	Mean difference		—	-0.731	*
	p-value		—	0.022	
Domae	Mean difference			—	
	p-value			—	

Note. * p < .05, ** p < .01, *** p < .001

Dal was consumed more by Domae compared to Dotoe region. However, fruits are consumed more by Dotoe region compared to Domae.

Table 7 Games-Howell Post-Hoc Test – Fruits

		u-tsang	dotoe	domae	
u-tsang	Mean difference	—	-0.163	0.136	
	p-value	—	0.508	0.675	
dotoe	Mean difference		—	0.299	*
	p-value		—	0.034	
domae	Mean difference			—	
	p-value			—	

Note. * p < .05, ** p < .01, *** p < .001

The correlation was conducted to see the relationship between consumption of carbonated drinks and various diseases afflicted by Tibetan monks and mouth

ulcers was found to be correlated with carbonated drink consumption.

Table 8 Correlation between aerated drinks and mouth ulcer

		Aerated drinks		Mouth ulcer	
Aerated drinks	Pearson's r	—			
	p-value	—			
Mouth ulcer	Pearson's r	-0.237	**	—	
	p-value	0.005		—	

Note. * p < .05, ** p < .01, *** p < .001

Table 9 Type of disease afflicted by Tibetan monks

Diseases	Category	Frequency	Percentage
Poor vision	Yes	39	28.7
	No	97	71.3
Mouth ulcer	Yes	16	11.8
	No	120	88.2
Acne	Yes	17	12.5
	No	119	87.5
Hair loosing	Yes	6	4.4
	No	130	95.6
Stretch marks	Yes	9	6.6
	No	127	93.4
Dry skin	Yes	9	6.6
	No	127	93.4
Stomach pain	Yes	54	39.7
	No	82	60.3
Loss of appetite	Yes	9	5.9
	No	127	94.1

Source: Primary data

Qualitative results

An in-depth interview with head of the meal procurer was conducted in both Mundgod and Bylakuppe monasteries which lasted for 60 minutes each. Food insecurity was the major concern and the meal procurer expressed that "We try hard in getting fresh produce as we need 300kgs of fresh vegetables" (Mundgod meal procurer head). It was found that the covid situation has affected the monks and reported "During the lockdown, it was challenging as the police won't allow for movement during the day time. So, we have to work extensively during the wee hours to get the required materials".

The findings also reveal a scope for health promotion among the monks as the meal procurer stated that there has been a drastic improvement in the diet. "Years back, when the financial situations were not stable, we couldn't provide proper nutritious food to the monks. Now the situation has changed and we could afford more nutritious food for the monks. The diets have improved drastically as per HHDL's vision". They consume mixed vegetables cooked with dry fruits, rice, dal, chapatti, bottle gourd, ladies' finger and tea. Every Wednesday they consume fruits depending on the availability.

It was also observed that proper health education is lacking as the decision of buying food was decided based on personal opinions rather than consulting from proper dietitians. The meal procurer is of the view that eating potatoes lead to disease and said "We have reduced potato so as to avoid cold disorders in monks".

During the interview, the meal procurer is concerned about the younger monks who are into junk food consumption and said "The younger monks are consuming more Chinese style food and fermented items, Bonda (fried), Idli, Gobi Manchurian and also Chicken Kabab from nearby food stalls which I think is very harmful. They will continue to eat until they realize it is not healthy and they should be given more advice on this. But this kind of eating habit is lesser in senior monks". (Mundgod meal procurer head).

However, an in-depth interview with head of meal procurer from Bylakuppe monastery indicated that they are food secured. Type of food consumed by monks (Kague

monastery) in Bylakuppe are similar to Mundgod monks. They consume bread, boiled egg, veg-fried rice, rice, dal (lentil), Thukpa and Tingmo and maggie. It was interesting to find that younger monks in Kague monastery prefer rice over thukpa or tingmo (both made of refined white flour). This is due to the fact that most of the monk population in Bylakuppe are from Northern part of India. "We need to cook 20 kgs of rice per week. This shows how much the younger monks in our monastery like rice". (Bylakuppe meal procurer head).

It was interesting to find that Mundgod monastery provide meat once a month whereas Kague monastery in Bylakuppe refrains from giving non-veg food to the monks with an exception for a few monks due to health reasons. This may be due to majority of monks in Mundgod belong to Tibet. The food menu in Kague monastery in Bylakuppe was introduced and guided by monk head (Rinpoche) in order to maintain the health of monks. There was also lack of dietitian in Bylakuppe monastery. It was also observed that soft drinks are not allowed in the monastery campus but monks consume them from outside.

DISCUSSION

The present study on the food consumption pattern of Tibetan monk refugees in India is the first kind of study that reflects their dietary acculturation in the host country. Tibetan refugee monks are deprived of nutritious food and reported frequent nostalgia due to lack of cultural food. The prolong deprivation of traditional food has a serious implication on health. Monks from Tibet prefer food such as red meat and animal fats in high amount due to low availability of vegetables and fruits in Tibet. The sudden change in food habit has negatively impacted health of Tibetan refugee monks with number of non-communicable diseases. As per the data from Primary health care centre in Bylakuppe and Mundgod, monks suffers mainly from gastrointestinal, diabetes and high blood pressure. This is an important area to explore since monks spent decades in learning Bhuddhist text and practices. However, Tibetan refugee monks and high intellectual scholars suffers from serious illnesses. One of the major concerns among the Bhuddhist monk is the rising obesity. This is due to high consumption of non-veg, oily food, junk food and specially aerated drinks in high quantity. Fish having a rich source of OMEGA 3 fatty acid are rarely consumed by the monks due to their religious factors. Qualitative results show that they consume food rich in carbohydrates and eat less fruits except in case of Bylakuppe Monk. Millet consumption is not new in both population group and therefore must be promoted for its various health benefits. At the same time, red meat consumption needs to be reduced by promoting healthy eating habits specially for those arriving from Tibet. As mentioned earlier, majority of the Tibetan monk population consumes carbonated and energy drinks such as Red Bull, Pepsi, Coke, mountain dew, and Fanta on a daily and weekly basis. This may have major health implications as a research study conducted on university students in Zambia concluded that consumption of energy drinks leads to poor sleep quality (Mwape & Mulenga, 2019). Tibetan refugee monks follow a hectic lifestyle and their daily routine consist of meditation, debates, prayers, learning scriptures, monastery duties, etc from 5 am to 11.30 pm. Consumption of aerated drinks must be stopped immediately and other monasteries can follow the guidelines of Kague monastery in Bylakuppe in controlling junk food although few monks consume but in limited quantity as compared to monks in Mundgod. The study purposefully classified monks' countries of origin to see the difference in their food consumption patterns. However, there was not much difference found except in millet and lentils which are consumed more by Domae (Amdo) origin and fruits by Dotoe (Kham) region. The correlation result indicated that monks who consume carbonated and energy drinks are prone to

mouth ulcers. The main diseases reported by Tibetan monks are poor vision, mouth ulcers, acne, and stomach pain. There are two aspects to be found in terms of Tibetan refugee monk consumption pattern. On the one hand, there is a section of monk with better economic condition and the less privileged. Monks with higher economic condition cooks food of their choices at rooms (red meat, maggie) and the other group had to have food provided by the monasteries. This shows that there is not much control over their dietary habits. However, the present study showcased that there is a scope for behaviour change in this monk population through proper communication in following healthy dietary practices. The present study brought an insight for future researchers in exploring Tibetan monks' dietary practices. It also added knowledge on the food consumption pattern of Tibetan refugee monks and their level of nutritional intake. This may further help policymakers for nutritional intervention and health professionals to improve health literacy in this vulnerable group.

CONCLUSION

In livelihood model, an additional component was added that of spiritual well-being. Monks are an important asset not only to the Tibetan people but for maintaining peace and harmony in the world. The uniqueness of Tibetan identity lies in the Buddhism and essence of Buddhism was kept alive by monks in various Tibetan settlements in India. Tibetans managed to face difficulties and became resilient in times of trauma when they fled Tibet to seek refuge in India. Tibetan refugees irrespective of age groups are in consensus that the Buddhism ideology is the main coping mechanism they have adopted when faced with difficulty. The vast expansion of 134 monasteries across India not only helping the local Indian people economically but also for tourist who visit these places for rejuvenation and spiritual retreats. Therefore, the health and well-being of the monks has become all more important issues for long term well-being of Tibetans and for peace in the world.

Limitations

The study was conducted in monasteries of South India only. The sample of the in-depth survey in Bylakuppe was collected from Kague monastery despite having less population compared to Namdrolling monastery. This was due to covid situation wherein other monasteries do not allow outsiders. Future research can also focus on other monasteries in the North, Central, and East. Also, nuns are excluded from the present study due to time and resource constraints. Future research can build on this study by exploring the dietary patterns of monks and nuns across India in relation to their health status.

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