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SNACK CONSUMPTION PATTERN BY THE KHASI TRIBE

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The study examined the snack consumption pattern of the ethnic tribe-*khasi*. A well framed questionnaire developed was used for the consumer survey. A total of 300 participants representing from market, organization and hospital setup were selected randomly to determine the snacking pattern among the *khasi* population. It can be inferred from the survey that the first and foremost characteristic relied on the selection of snacks was the 'quality' of the snack. The eating episode followed by majority of the respondents (78%) was three main meals and two snacks per day. The traditional rice based snacks were the mostly consumed snacks among the different snacks sold. Snacks also play a role in contributing to total energy intake which must be taken into account in computation of nutrient intake of an individual for accuracy of the data. Hence there is a need to define the snacking pattern of the *khasi*.

Keywords: Snacking pattern, *Khasi*, Eating episodes

INTRODUCTION

Snacks are consumed by all populace from all walks of life, irrespective of the diverse eating cultures observed round the world. Snacks contribute to the nutrient intake and energy balance in the daily diet. Snacking is a complex, poorly understood and under-researched phenomenon (Bilman *et al.*, 2010). Ambiguity is reported by many studies in the distinction between a meal, a snack and a drink. According to Graaf (2006), the term 'snack' refers to other eating episodes and includes all foods and drinks consumed outside the context of the three main meals, in which meals is referred to the three main eating episodes of the day, including breakfast (in the morning), lunch (at the beginning of the afternoon) and dinner (at the beginning of the evening). In the present research, the investigator describes snacks as food item consumed outside the context of the three main meals. Snacking has long been a part of Indian

culture, but a gradual transformation in Indian consumer's overall dietary patterns and preferences has resulted in changing snacking habits. Globalization, liberalization, mall culture and urbanization have brought about radical changes in the snacking pattern of the people across the nation (Uma Iyer *et al.*, 2011). The New Product Development Group evinced that snacks have officially become the fourth meal of the day. There are approximately 1,000 types of snacks and another 300 types of savories being sold in the Indian market today (www.ibef.org). Presently, there is no data on the snacking pattern of the *khasis*' hence the aim of this study was to provide a contemporary information on the snack pattern by conducting a consumer survey.

MATERIALS AND METHODS

Study area

The study was conducted in Shillong city, which is the

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capital of Meghalaya. Among all the areas in the city, three set-up viz., market, organization and hospital area were purposely chosen for the study. It is in these setup that the food service outlet (tea stalls) were colonized, hence the researcher selected them. Two of the markets namely Iewduh and Laithumkhrah market, food service outlets around the three organizations concerned with the office of District Council, Bar association and Bharat Sanchar Nigam Limited and three hospitals namely Civil hospital, Nazareth hospital and Bethany hospital were opted for undertaking consumer survey.

Data Collection

The survey instrument consisted of a questionnaire, encompassing the details on demographic characteristics, dietary pattern and the snack consumption pattern. A total of 300 respondents aged 16 years to 60 years and above constituting 100 each from market, organization and hospitals were selected for the survey. Respondents with difficulty in understanding English were given the local dialect (*khasi*) translated questionnaire.

Statistical Analysis

The data was analyzed using Microsoft Excel package and only descriptive statistics were calculated.

RESULTS AND DISCUSSION

Demographic Characteristics

Among the selected 300 respondents majority (62%) were females and 38% were males. It is noticed that respondents in the age range of 31-40 years were predominating with 43%. This age group demonstrated more willingness and curiosity to participate in the survey. There were no illiterates and 67% of respondents were graduates. Professionals in their field accounted for 34% while the officer comprised of 24%. As for the monthly income, 56% respondents had drawn a salary of >10,000 and the 23% respondents with no income belonging either to the homemaker, retired, student or unemployed category. Eighty percent of the respondents have no health problems and the 20% were either diabetics or hypertensives or experiencing cardiac problems. The Demographic characteristic of respondents is depicted in Table 1.

Dietary Pattern

Type of Diet

Agrahar and Pal (2004) stated the *khasis'* followed no food taboos and their typical meal consisted of a plateful of rice,

Table 1: Demographic Characteristics of Respondents

| Characteristics | Total (N = 300) | Percent (%) |
|-------------------------------|-----------------|-------------|
| Gender | | |
| Males | 114 | 38 |
| Females | 186 | 62 |
| Age (in years) | | |
| 19-20 | 17 | 6 |
| 21-30 | 83 | 27 |
| 31-40 | 129 | 43 |
| 41-50 | 39 | 13 |
| 51-60 | 21 | 7 |
| >60 | 11 | 4 |
| Academic qualification | | |
| Illiterates | - | - |
| Primary school | 2 | 0.7 |
| High school | 3 | 1 |
| Higher Secondary school | 36 | 12 |
| Graduates | 202 | 67 |
| Post graduates | 57 | 19 |
| Employment status | | |
| Professional | 101 | 34 |
| Official | 72 | 24 |
| Clerical | 12 | 4 |
| Skilled worker | 5 | 2 |
| Business | 39 | 13 |
| Home maker | 9 | 3 |
| Retired | 11 | 4 |
| Student | 48 | 16 |
| Unemployed | 3 | 1 |
| * Monthly income ₹ | | |
| <3000 | - | - |
| 3001-7000 | 10 | 3 |
| 7001-10,000 | 52 | 17 |
| >10,000 | 168 | 56 |
| No salary | 70 | 23 |
| Health problem | | |
| Not Healthy | 60 | 20 |
| Healthy | 240 | 80 |

Note: *Hudco classification of income (2004).

one to two pieces of meat, vegetables and potato and this meal was eaten twice or thrice a day. Table 2 depicts the dietary pattern of the selected respondents. It is noted from the survey, a clear cut that the non-vegetarians dominated which constituted 99%.

Eating Behaviour

A *khasi* household follows a customary eating behaviour – Breakfast, lunch, evening tea with snack and dinner – confirming a frequency of four eating episodes in a day. However the researcher got a mixed response. The survey showed 47% followed a four eating episodes; simultaneously 47% followed three eating episodes. There is an uncertainty by the respondent if “evening tea with snack” should be considered as well. Eating episodes or routine has been shaped by the environment and cultural context (Gallimore and Lopez, 2002). The eating routine is accustomed as a result of their life-course experiences and a variety of influence that may be cultural, personal, social, contextual and resource related (Furst *et al.*, 1996).

Eating Habit

Irregular eating habits were observed among 40% of the respondents. In this, most of them are the respondents from the market setup. This irregularity is driven by the fact that

| Table 2: Dietary Pattern of the Respondents | | |
|--|------------------------|--------------------|
| Attributes | Total (N = 300) | Percent (%) |
| <i>Diet pattern</i> | | |
| Vegetarian | 3 | 1 |
| Non Vegetarian | 297 | 99 |
| Ovo Vegetarian | - | - |
| <i>Eating episode per day</i> | | |
| 2 | 7 | 2 |
| 3 | 142 | 47 |
| 4 | 142 | 47 |
| >5 | 9 | 3 |
| <i>Eating habit</i> | | |
| Regular | 181 | 60 |
| Irregular | 119 | 40 |

they chose to eat when there are few or no customers or less workload. Work roles, family, environment and lifestyle changes are causing food intake to become more irregular, often without fixed meal times, away from home, and between meals (Mestdag, 2005)

Snack Consumption Pattern

A wide-range of snacks are for sale, ranging from the indigenous traditional rice-based snacks to sweets, bakery and savory items. Under these main categories, they are further subdivided into the specifics snacks. One can eat a particular snack on each day throughout the week without the need to repeat. The presentation of the snacks to the consumer differs in the various set-ups. In the Organization setup, majority of the food outlets presents the snacks in a bamboo woven basket, where the assorted snacks are neatly and smartly arranged. Few outlets use a plastic basket. An interesting note is the size of the snack basket and the variety of snacks increases from smaller offices to higher rank and important offices. In the Hospital setup, the food outlet displays the specific variety of snacks in a transparent airtight glass jar and this is position above a food cupboard (which showcases the day’s menu). While in the Market setup, a combination of either one or both of the mentioned system is followed.

Snack Consumption Time

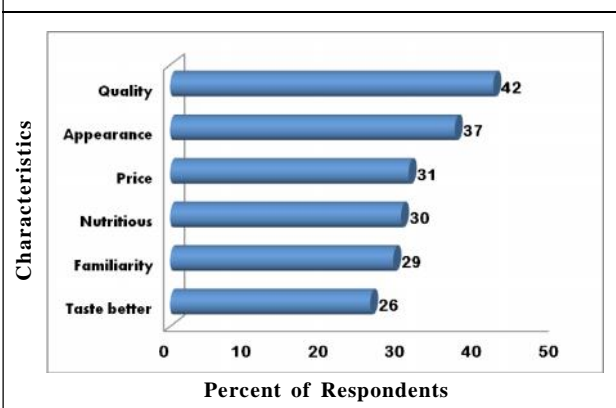
The *khasi* natives are also habituated to sip an average of 4-6 cups of tea in a day (either black or milk tea), along with some snacks depending on the time of the day. This is highly noted in the Organization set-up where a tea distributor and an assistant, in their daily rounds, cater to the employees at their respective sitting space. It is observed that 22% of the respondents consumed snacks in the evening while a majority of 78% consumed in the mid morning as well as in the evening and only one respondent consumed snacks in the morning.

Determinants for Snacks Selection

Certain notion takes place in people’s mind that directs them in their decision of selecting a particular snack for consumption. In relation to the decision making with regard to this, following characteristics shown in Figure 1 were listed out and the respondents were asked to rank the characteristics in the order of their preferences.

It is evident from the figure that quality of the snacks appeals to 42% of the respondents indicating that ‘quality’ of the product is the first preference and consider it prior

Figure 1: Determinants for Snacks Selection

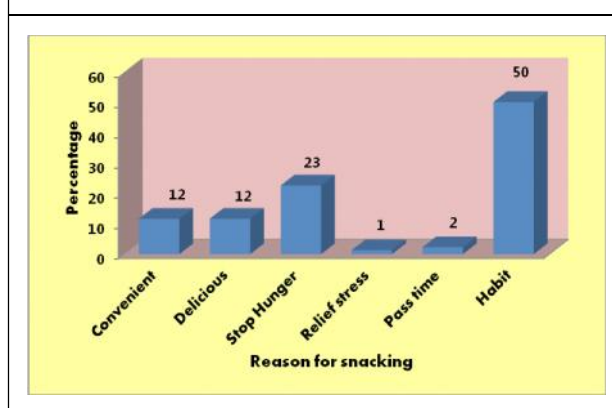


selection of any snacks for consumption. This is followed by appearance of the snacks (32%). Through appearance, one can distinguish the freshness and staleness of the product. Characteristics namely price, nutritious and familiarity rank third (31%), fourth (30%) and fifth (29%) respectively and differed by a mere 1% each. After everything else, the respondents opted for taste (26%) which indicated either the taste of the snack does not hold an important factor or that the respondents are accustomed to the taste of the various snacks eaten almost on a daily basis.

Reason for Snacking

Snacking behavior is initiated by feelings of hunger or at least a desire to eat (Bilman *et al.*, 2010), also many snacks are consumed when people are not hungry. What guides

Figure 2: Reason for Snacking by the Respondents



the establishment of one's snacking behavior will eventually make them potentially habitual in nature. Consumers are more likely to base their snacking decisions on lay beliefs based on perceived appropriateness for the situation than on nutritional knowledge (Wansink *et al.*, 2010). Figure 2 depicts the reasons for snacking by the respondent. The graph reveals that "habit" is the main reason for snacking which constituted half of the respondents; this is followed by stop hunger (23%), convenient (12%), delicious (12%), time pass (2%) and relief stress (1%).

Snack Consumption Pattern of the Respondent

The consumer survey yielded information on the frequency of snack consumption which is shown in Table 3. The snack

Table 3: Snack Consumption Pattern of the Respondents

| Snack Consumption Frequency | Name of the Snacks | | | | | | | | | | |
|-----------------------------|--------------------|------------------|------------------|-------------------|----------------|-----------------|----------|--------|---------------|---------------|----|
| | <i>Samosa</i> % | <i>Putharo</i> % | <i>Pumaloi</i> % | <i>Pukhlien</i> % | <i>Pudoh</i> % | <i>Atta</i> * % | Sweets % | Cake % | Bakery Item % | Any Other** % | |
| Weekly | Once | 36 | 44 | 33 | 39 | 29 | 15 | 22 | 19 | 8 | 19 |
| | Twice | 7 | 14 | 14 | 15 | 8 | 6 | 10 | 8 | 9 | 9 |
| | Thrice | 4 | 4 | 1 | 2 | 0.3 | 5 | 4 | 5 | 7 | 6 |
| | Four | 0 | 0 | 1 | 1 | 1 | 1 | 3 | 4 | 11 | 3 |
| | Five | 0.3 | 0 | 0 | 1 | 0 | 1 | 1 | 0 | 10 | 2 |
| | Six | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 | 0 |
| | Seven | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13 | 2 |
| Occasionally | 23 | 19 | 23 | 20 | 29 | 33 | 28 | 49 | 20 | 8 | |
| Never | 30 | 20 | 28 | 22 | 33 | 39 | 33 | 16 | 15 | 51 | |

Note: * unleavened flat bread made of wheat flour which are pan fried. ** aloo chop, cutlets, dumpling, chat items, mixtures.

consumption pattern of the respondents varies with their food preferences and suitable setting where one is.

Not all the listed snacks are consumed on a daily basis, as the respondents had ample option to choose from. The table illustrates that bakery items were consumed on a daily basis by 13% of the respondents. However, “once-in-a-week” category, *putharo* was opted by most of the respondents which constituted 44%, the frequency of consumption is then followed by *pukhlein* (39%), *samosa* (36%), *pumaloi* (33%), *pudoh* (29%), sweets (22%), cakes and any other snacks are at par (19% each) and *atta* (15%). *Putharo*, *pukhlien*, *pumaloi* and *pudoh* are traditional rice based snacks of the *khasis*’ prepared solely in the small cottage industry. The main ingredients are rice and water and to add variation and enhance the taste, jaggery and pork lard are also added (Passah and Ramadas, 2014). *Atta* is a common term used by the *khasis*’ for unleavened flat bread made of wheat flour and are pan fried which to the other parts of India is called as *chapati/roti*.

Certain snacks are not a favorite and are never consumed by the respondents and some are occasionally consumed. Cakes were occasionally consumed by 49% of the respondent on certain functions, birthdays and anniversary of their near and near ones. Thirty percent of the respondents occasionally consumed *atta* as a snack. This finding is in line with Agrahar and Pal (2004) where they affirmed that wheat flour to make *rotis* was used once in a while as a snack.

Frequency of Eating Snacks Outside

Majority of the respondent (71%) inculcate the habit of consuming snacks outside their home. This again is due to their occupation setups whereby it is convenient for them to easily obtain the snack foods hence are accustomed to such eating episode. Consumption outside the home is on the rise (Le Francios *et al.*, 1996; Lin and Frazao, 1997; Kant and Graubard, 2004; Ribas-Barba *et al.*, 2007; and Orfanos *et al.*, 2007), not only in terms of actual meals but also in terms of snacking (Vandevijvere *et al.*, 2009). The frequency of eating outside is projected in Table 4.

Weekly Expenses on Snacks

The present study also shows a disperse data on the weekly expenses on snacks by the respondents. No clear majority can be derived from Table 5. The amount spent varies due to wide range pricing of various snacks available in the market and the frequency of snack consumption.

Table 4: Frequency of Eating Snacks Outside

| Frequency | Total (N = 300) | Percent (%) |
|----------------|-----------------|-------------|
| Daily | 213 | 71 |
| Alternate days | 31 | 10 |
| Weekly once | 24 | 8 |
| Monthly once | 12 | 4 |
| Occasionally | 20 | 7 |

Table 5: Weekly Expenses on Snacks by the Respondent

| Amount | Total (N = 300) | Percent (%) |
|---------|-----------------|-------------|
| 0-50 | 60 | 20 |
| 51-100 | 75 | 25 |
| 101-150 | 63 | 21 |
| 151-200 | 88 | 29 |
| 201-250 | 14 | 5 |

CONCLUSION

This study is an important first step in determining the snack consumption pattern of the *khasi* tribe. It presented a contemporary data on the snack selection and consumption pattern and frequency by the *khasi* community in the chosen three set-ups. The findings illustrates that individualized eating episode is becoming widespread. A deviation is seen from the traditional “proper meal” which implies an increasing trend of snack consumption in between main meals. The *khasis*’ are now pursuing to follow a 5 eating episode consisting of three meals plus two snacks although the three meals plus one snack is still adhered. This distinction could be observed in employed group and their counterpart, however, there is no such data available to support this assumption. The traditional rice based snacks were the most widely consumed snacks; however, the non-traditional snacks were consumed as well. This study helps in characterizing eating episodes and recognizes the role of snacks as a contributor to total energy intake leading to accurate computation of nutrient intake particularly in relation to snack while assessing the daily food intake of an individual. Nutrition professionals are acutely aware of the importance of eating patterns in assessing diet as it relates

to chronic disease and behavior change (Snetselaar, 1997) and further to a larger health-related behavior.

LIMITATION

A limitation in this study is that an extensive list of snacks and a larger sample size should have been employed in assessing the snack consumption pattern which will give a descriptive data. As for future research directions, under the same umbrella, the rural and urban setting can be surveyed which shall encompass the low and high socio economic group or comparison between employed and unemployed group can be carried out.

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