

# Consumer Perception and Behavioral Patterns on Nutritional Food Consumption of Urban and Suburban Segments of Sri Lanka: A Decisional Analysis to Case –Related Implications

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**Abstract:** There are structural dynamics taking place within the population structure of Sri Lanka with noted trends in demographic dynamics. Further, healthy life style has been largely referred in many national level policies and empirical studies as a key determinant for holistic development of the nation. The behavioral trends towards the nutritional food consumption is one of the critical contexts which is being investigated in the national level priorities. This paper also attempts to investigate the empirical insights of the urban and suburban consumers towards the wholesome food consumption practices addressing to empirical knowledge gaps found within. Accordingly, survey method was employed with a structured questionnaire as the research tool to figure out perceptions and behavioral responses of 280 respondents towards the wholesome food consumption practices. Study follows a random sampling method and descriptive statistical tools were used to analyze the primary data. Findings were discussed by highlighting the needful insights for policy development and managerial implications for the industry players. It has presented the behavioral insights of the protein consumption trends of Sri Lanka addressing to both policy level and industry-related priorities. Finally, paper concludes the future research directions referring to the propositions of consumer behavioral responses pertaining to nutrition industry of Sri Lanka.

**Key Words:** Consumer Perception, Healthy Life Style, Nutritional Food Consumption, Sri Lanka

## 1. BACKGROUND OF THE STUDY

Sri Lanka is thriving towards a service sector driven economy (Central Bank of Sri Lanka, 2015). Moreover, it is leading a nation of many demographic dynamics as it reports in the recently published statistical reviews. One of the critical matters is the health-related issues reported in the national level indexes of Sri Lanka (Department of Census and Statistics, 2013). Accordingly, 48.1% of the population belongs to the age groups of 25-59 years are having any chronically illness whilst it seems very similar distribution amongst males and females. Further, same was 45 % within the above 65 years old population. Moreover, it seems a notable trend in the urban population of Sri Lanka referring higher level of vulnerability of getting exposed to chronic diseases. For instance, prevalence is noticed amongst 21.3% the population in the Colombo district having any chronic illness whereas it is 18% in Gampaha whilst reporting 20% in the Kaluthara district. Further, Jafna and Hambanthota are also seemed critical in this context as it reports 21.2% and 20.1% respectively in those two districts. In overall, 17.8% of Sri Lankan population is reported as having chronic illness. (Department of Census and Statistics, 2013).

However, Sri Lanka is referred as a country having relatively a good health status in the region, and significant dynamics are noticed in the population structure of it including aging population trend (Department of Census and Statistics, 2013). The nutrition intake of Sri Lankan population is one of the indicators to figure out how it moves towards a healthier nation. As per

the information sources report, total mean of the daily carbohydrate intake of adults is nearly 304g whilst it is 45g for the Protein consumption in Sri Lanka (Jayawardena, Thennakoon, Byrne, Soares, Katulanda & Hills, 2013). It has further noticed that Sri Lankan adults tend to consume proportionately more carbohydrates, say 71% of energy is sourced via carbohydrate, whilst it is very less in protein consumption as it records 11% to satisfy the source for energy (Wijesekere, al, 2014). In addition, government sources disclose how the nutritional consumption behavior has affected on different health-related conditions of the population providing a concern on the national level policy needs. The awareness on the nutritional contents of the meal and their repercussions seems a lagging point amongst the Sri Lankan population though it reports successful health indexes against the regional countries (Jayewardene, Byrne, Soares, Katulanda & Hills, 2012; Ministry of Health, 2011; Wijesekara 2015). Besides, those studies highlight the knowledge gaps exist in Sri Lankan with reference to integrated studies to unveil how consumption patterns on foods and their impact to public with reference to different socio-demographic bases. Thus, investigating the awareness level on nutritional contents of the meal consumed and the life style-related matters is a timely needed requirement to assist policy makers of the country whilst it could provide directions for the commercial firms to recognize future business potentials.

## **2. EMPIRICAL REVIEW ON THE NUTRITIONAL ISSUES PREVAIL IN SRI LANKA:**

The influence of the nutritional life style has been critically examined by emphasizing the fact that how pregnancy mothers should be alert on it to avoid low birth weight (Wijesekere, 2010). Thus, the concept of wholesome food consumption is highly noted matter. Meanwhile, it has reported that food-based dietary guidelines to be revised to meet the holistic nutritional progress in Sri Lanka (Ministry of Health, 2011). It has mainly considered the need of a dramatic change of diversified daily diet. Alongside, a notion is specified to eat moderately combined foods representing different food groups to satisfy the wholesome nutritional necessity of the country. Moreover, it has said that per capita daily protein intake must be a minimum of 10-15 per cent of the per capita daily calories (Ministry of Health, 2011). The insights of the food habits and the related nutritional issues had been found within deferent demographic rationales. It has figured out that the diversity in diet among upper socioeconomic groups found as a positive influence to avoid overweight and obese in adults (Jayawardena, et. al., 2012). It has directed the thinking pattern of Sri Lankan towards the sources of nutritional food intake. Adding to the said, the need of the revised dietary guidelines for Sri Lanka specifies 15-30% of calories for a person per day should supply through fat (Ministry of Health, 2011). In addition to that, one of the studies mainly highlighted that Sri Lankan adults take a variety of food products but the quantities of food used were low compared to rice whereas food consumption diversity is highlighted as a notable requirement (Jayawardena et. al. 2012). This point has been further elaborated in the study that focused to rural communities in Sri Lanka (Rathnayake, Madushani, & Silva, 2012). Accordingly, examining different socio-demographic contexts in relation to nutritional life style of the population could be considered as a timely valid scope.

Therefore, a clear notion is noted to investigate the food consumption habits of consumers in line with their knowledge levels, perceptions and life styles in relations to different socio-demographic profiles. Further, benchmarking Sri Lanka against other nations has been highlighted as a critically important matter encouraging the nation towards healthy life style (Wijesekara, 2015). Thus, an argument is there to rationalize the effect of different socioeconomic factors on nutritional life styles in line with internationally accepted standards. Accordingly, the need of future research areas focusing house hold segments has been

verified as an empirical gap in Sri Lanka (Jayawardane, et.al. 2013; Wijesekara, 2015). Thus, a notion could be rationalized saying Sri Lanka as a valid context to examine how the consumers found within diversified socio-demographic profiles behave towards food consumptions patterns. Thus, studies could unveil the consumer behavioral insights to identify the issues and opportunities to be addressed in the empirical studies and managerial implications. Accordingly, this paper addresses the foresaid empirical gap by approaching to the major research question as “to what extent urban and suburban segments of Sri Lanka perceive the knowledge related nutritional food consumption”.

### 3. METHODOLOGY

In line with the content referred foresaid, empirical gaps of studying the food consumption patterns and habits on different nutritional sources, for instance protein and carbohydrate, have been highlighted as further areas to be examined (Jayawardane et.al, 2013; Wijesekara 2015). Therefore, this study attempts to search how the urban segments of the Western province do involve with different food habits alongside their knowledge and perception towards the food consumption experience. Accordingly, this study was carried out as a primary survey along with a structured questionnaire used as the research tool. It has employed 5 point Likert scale to quantify the responses given by the sample units. Sample size was 280 respondents, and sample units were opted via simple random sampling method. It has focused Colombo and suburban areas as the geographical scope of the study. Descriptive analysis was employed to present the findings as a source for the future studies whilst industry-related insights are also presented to navigate future business opportunities within the food and nutritional sector of Sri Lanka.

### 4. DATA ANALYSIS AND DISCUSSIONS

It has presented the descriptive data analysis based on the primary data collected through the survey. Accordingly, this content has been organized with tabulations and descriptive statistical exhibits to present the analyzed data with narrations referring to the key insights.

#### 4.1 Analysis of the Sample Profile

The sample profile consists of few demographic variables. In brief, there were 154 (55%) females and 126 (45%) males in the sample, and 213 (76%) respondents were married. Besides, it has presented the age profile and education profile in the following tables.

**Table 4.1.1: Age profile of the sample**

Age Category	Frequency	Percent
18-25	38	14
25-35	127	45
35-45	88	31

45 Above	27	10
<b>Total</b>	<b>280</b>	<b>100</b>

*Source: Survey Data 2016/2017*

As it denotes in the foresaid table, 45% of highest representation is noticed in the sample aged 25-35 whilst 31% represents the age category of 35-45. Usually, these two segments are highly noted as married and full nest families.

**Table 4.1.2 Education profile of the sample**

Education Level	Frequency	Percentage
O/L	43	15
A/L	109	40
Degree	43	15
Professional Education	78	28
Postgraduate Level	07	02
<b>Total</b>	<b>280</b>	<b>100</b>

*Source: Survey Data 2016/2017*

According to the statistical presentation of the foresaid table, major proportion of the sample is A/L qualified respondents as it reports 40% out of 280 respondents. However, professionally qualified segment of the sample has 28% of contribution indicating a much representative sample with diversified educational exposure.

## 4.2 Shopping Habits for Food and Beverage Products

It has analyzed how frequently customers tend to do buying food and beverage items under four types of time options. The following table exhibits the insights of the shopping habits of the respondents.

**Table 4.2: Shopping habits for food and beverage products**

Time Option	Frequency	Percentage
Daily	26	09
Once a week	95	34
Every 2-3 days	112	40

Once a month	15	06
Unplanned	32	11
<b>Total</b>	<b>280</b>	<b>100</b>

*Source: Survey Data 2016/2017*

It reflects that 40% of the majority in the sample involved with shopping habits to buy food & beverage products in the frequency of every 2-3 days. Meanwhile, another 34% the respondents are involved with the said matter once a week. Thus, collectively 74% of the sample represent those two time options to buy Food & Beverage products. This insight is very important for the commercial entities operate in the Food & Beverage sector to plan their distribution strategies in line with the demand practices noticed in the market.

#### 4.3 Overall Awareness on the Nutritional Content of the Foods & Beverages (F& B)

It has investigated how far consumers know the nutritional content or the nutritional sources found in the food and beverage products (F & B) the frequently buy. Their knowledge level has been categorized under five options as per the Likert scale employed to collect the responses. The scale was distributed from “Strongly Aware” to “Not Aware”. Accordingly, the summarized statistics have been presented in the following table.

**Table 4.3: Overall awareness on the nutritional content of the Foods & Beverages**

Awareness Level	Frequency	Percentage
Strongly Aware	26	09
Aware	56	20
Average Idea	112	40
Know Little	70	25
Not Aware	16	06
<b>Total</b>	<b>280</b>	<b>100</b>

*Source: Survey Data 2016/2017*

This analysis unveils the rationality of the consumers in Sri Lanka in the contexts of informed food consumption behavior. Accordingly, it notices that 40% of majority and another 25% of second majority of the sample do not have above averaged level of awareness referring to the nutritional content found in what they eat. Meanwhile, it has calculated the overall level of awareness of the respondents in the 5 point Likert scale. The overall mean value is found as 3.02 out of the maximum value 5 in the 1-5 scale. Thus, respondents are placed on “Average Idea” segment with regard to the overall awareness on the nutritional content of the Foods & Beverages they consume. This insight unveils a point to argue that the rational knowledge of consumers should be improved to recognize the balance food consumption propositions. Accordingly, it seems consumers do not perfectly involve with planned consumption behavior in terms of wholesome diets for a healthy life style.

#### 4.4. Main Food and Beverage Items Used for Protein Requirements

This study has examined how consumers tend to consume the main food sources which have been referred as high protein sources. The responses were obtained as ranked value option and the summarized statistics have been presented in the following table.

**Table 4.4: Main Food and Beverage Items Used for Protein Requirements**

Food Source	1st Ranked Frequency	Perc centage
Chicken	64	23
Fish	37	13
Milk	34	12
Vegetables	31	11
Yoghurt/Curd	25	09
Eggs	23	08
Nuts & Seeds ( Grams)	22	08
Cheese/Butter	20	07
Beef	13	05
Pork	11	04
<b>Total</b>	<b>280</b>	<b>100</b>

*Source: Survey Data 2016/2017*

As per the analysis presented in the Table 4.4, highest majority of the respondents consume chicken as the major protein source reporting 23% of the total sample whilst fish and milk are found as the 2nd and 3rd options for protein sources respectively. This insight should be evaluated against the accepted food and beverage items recognized as the main protein generating sources to demarcate how the sample respondents are in line with proper protein consumption patterns. However, the food and beverage items given in the foresaid table are in line with the most referred food sources for protein requirement. Policy makers could consider the analyzed finding to figure out how far Sri Lankan consumers in the urban and sub urban segments are in line with the standard protein consumption patterns.

#### **4.5 Main Food and Beverage Items Consumed by Customers**

This study inquired the general trend of consumers towards the main F & B items consumed. Respondents were surveyed asking their most regular F & B items consumed in the daily life and respondents were supposed to disclose proportionate content of the F & B consumed per week. It was asked them to mark the proportionated percentage for the respective F & B items. Accordingly, responses were summarized in the following table.

**Table 4.5: Main Food and Beverage (F& B) Items Consumed by Customers**

F & B Item	Percentage
Rice	38
Vegetables/Green	13
Alternatives for Rice (Bread & others)	11
Meat	10
Fish	08
Dairy Products	07
Fruits	06
Sweets	05
Short-eats	02
<b>Total</b>	<b>100</b>

*Source: Survey Data 2016/2017*

According to the analysis, "Rice" is the main content respondents tend to consume within the total consumption of F & B reporting 38% in the total proportion consumed. Thus, it seems the sample segments are much driven to Carbohydrate sources. Besides the vegetable consumption, it again reflects that consumers are tend to be highly driven to Carbohydrate sources as "Rice Alternatives" are found as the 3rd highest intake they do consume proportionately. Therefore, it notices a significant trend towards Carbohydrate consumption rather protein based consumption pattern. This notion has to be seriously considered with reference to the repercussions of intensive Carbohydrate consumption.

#### 4.6 Awareness Level on the Food Sources for Protein Need

The degree of awareness level of the respondents with reference to different food sources that nourish the protein requirement of the human body was assessed by using a 5 point Likert scale. The respective analysis is given below with descriptive statistical content.

Awareness level	Frequency	Percentage
Know well	25	09
Know	53	19
Average Idea	167	59
Know Little	31	11
Not at All	04	01

<b>Total</b>	<b>280</b>	<b>100</b>
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**Table 4.6:**  
**Awareness level on the**

**food sources for protein need**

<b>Food Category</b>	<b>Frequen</b>	<b>Percen</b>
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**Source: Survey Data 2016/2017**

It reports a significant finding referring consumers are in “Average Idea” on the food sources available for the protein need as it indicates 59% of cases at average level of awareness. The mean value of the overall assessment on awareness level is 3.23. This is out of the maximum of 5 in the given Likert scale ranged 1-5. Thus, it indicates that respondents do not have a significant level of awareness to plan their diet nourished with balance content. This matter needs to be addressed by the authorities to make public awareness programs to educate wholesome food consumption practices as a preventive strategy in mitigating the health issues may occur.

#### **4.7 Perception towards Different Food Categories Available for Protein Need**

Responders were asked to rank the major food clusters which are frequently found in the food menus of Sri Lanka to figure out their knowledge perception on protein based food categories. Accordingly, analysis was carried out on the 1st ranked values marked to each of the given food categories. Accordingly, perception of customers towards the given product categories as protein sources were assessed. The following table reflects the descriptive analysis of the summarized findings.

**Table4.7: Perception towards different food categories for protein need**

	cy	tage
Meats	67	24
Dairy Products	54	19
Fish /Dry Fish	48	17
Grams ( Nuts & Seeds)	36	13
Vegetables	32	11
Eggs	27	10
Fruits	16	06
<b>Total</b>	<b>280</b>	<b>100</b>

Source: Survey

Data 2016/2017

According to the analysis, respondents largely believe that “Meats” as the main source for them to absorb the needful Protein requirement whilst Dairy products and Fish are found as 2nd and 3rd options for the said. This indicates the overall food mix what people used to believe as Protein based options to consume. This is to be further evaluated against the accepted food options recognized by the formal authorities to justify how far they are aligned with the accurate food options for protein requirements. In general, relevant authorities or institutions could extend the public education programs to motivate people consuming wholesome food mix to satisfy the needful Protein content. Meanwhile, food & beverage sector manufacturers could consider this insight to examine the priorities of marketing communications (MARCOM) to educate customers for their respective product mix in relation to nutritional values. Highlighting the essentiality of Protein content for a healthy life could be one of the key brand related messages to motivate customers for the relevant food and beverage products.

#### 4.8 Frequently Exposed Information Sources of Awareness Building on Wholesome Food Consumption practices

General public is exposed to different formal and informal sources to get aware the best food consumption practices to make their lives healthier. This study also investigated the exposure of the respondents towards those sources by providing an open-ended question. Accordingly, responses received were summarized into few major options along with the descriptive statistical analysis. Likewise, following table presents the summarized statistical review on the foresaid matter.

**Table 4.8: Information Sources of Awareness Building on Wholesome Food Consumption practices**

Information Option	Frequency	Percentage
TV /Radio Programs	72	26
Word of Mouth	64	23

Online sources/ Social media	51	18
Opinions of doctors/experts	41	15
Educational Messages/Programs	25	09
News Paper/Magazine Articles	20	07
Others	07	02
<b>Total</b>	<b>280</b>	<b>100</b>

**Source: Survey Data 2016/2017**

It is noted that TV and Radio as the main sources for the public to get exposed for wholesome food consumption-related information as it reports 26% of response rate. Meanwhile, the power of WoM is significantly noticed as the 2nd mostly exposed option for them to aware such information. As it indicates in the analysis, the penetration of online options could be a trendy option to be used in educating consumers for wholesome food consumption practices. Thus, policy makers and industry practitioners could consider the said findings in strategizing the public education programs and MARCOM operations by recognizing tools for an effective communication mix. Moreover, this analysis provides a clue to identify how the current information exposure is geared amongst the general public to get aware on balance foods and healthy life-related matters. Accordingly, it could properly manage strategic communication mix to educate the consumers on healthy life style whilst commercial institutions could plan MARCOM mix to penetrate brand building messages with nutritional value propositions.

## 5. Conclusion

As per the insights found in this empirical survey, it is essential to focus for public health awareness programs as a mechanism to mitigate issues caused by irregular food consumption practices. Specially, consumers in the market economy should be rationalized with the information and knowledge referring to the limits and benefits of different food sources. The role of advertising is an extended commercial application which reinforce general public to consume many branded fast moving consumer goods (FMCG). However, consumers need to be logical in evaluating those messages and make wise consumption decisions, especially for food and beverages. Meanwhile, the notion of balance diet is a critical matter to be educated amongst the general public since people are found to be more carbohydrate –driven consumers. Further, commercial sector organizations could address this matter in line with the socially responsible marketing focus by offering wholesome foods with proper customer education programs. The notion of knowledge driven community communication could be extended via regional centers to make the public awareness on wholesome food consumption practices as a preventive mechanism of chronic diseases. The role of public media and the national level information sources could also be used as formal mechanisms to make the public education as it reports word of mouth (WoM) makes significant influence to make people aware the wholesome food consumption practices. It is suggested to employ more formal channels to lead the public communication rather than WoM to educate the citizens of Sri Lanka. The application of modern technology could be used to penetrate the regional communities for such knowledge dissemination including information communication technology (ICT) as one of the effective tools for community engagement (Dissanayake, 2011). Moreover, food and beverage sector companies could consider this notion as to develop value additions to their products whilst educating the diversity of meal they should consumer for a healthy life.

Moreover, empirical research avenues could be proposed as to investigate the perception of general public or consumers towards nutritional products or brands in relation to different product categories. Further, exploratory studies could be extended to investigate factors effect on consumers or public to adopt nutritional food consumption in relation to different socio-demographic contexts, for instance, urban, urban and rural communities. Likewise, this paper concludes the propositions to be considered in the future empirical studies in line with the empirical research gaps and managerial implications.

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