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RESEARCH ARTICLE

CONSUMER AWARENESS ON NUTRITION FACT PANEL OF DAIRY FOOD PRODUCTS: A CONTEXT OF URBAN, SEMI-URBAN AND RURAL CONSUMERS IN SRI LANKA

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ABSTRACT

A detailed nutrition fact panel is one of the best ways that can encourage consumers to make good decisions with regard to their eating habits. Nutrition fact communicates the information on nutrients available in a particular food. Past studies mainly focused on common food label information. However, the nutritional information is directly related to the healthy life of humans. Therefore the present study was conducted to analyse consumers' awareness on nutrition fact panel while eliciting major sources and barriers to awareness. Further, the study identifies socio-demographic characteristics of consumers related to nutrition fact panel awareness and thereby develops appropriate suggestions and recommendations to scale up the awareness and fill the nutrition labelling information knowledge gap for the consumer benefit. A semi-structured Google questionnaire was used to collect information from a purposive sample of 135 consumers purchasing packed dairy food products from local supermarkets in Colombo, Matara, and Monaragala districts in a way to represent urban, semi-urban and rural areas respectively. It was found that the consumers in Colombo (P=0.01), Matara (P=0.024), and Monaragala (P=0.030) districts are having a significant awareness of nutritional fact panels and their information. Consumers who purchase dairy products from supermarket outlets in all three districts stated that they always look at the sugar level and fat level when purchasing dairy food items. The selected consumers stated that they face inconveniences in understanding the nutrition fact panel due to the used scientific or technical terms and the unfamiliar language. They reveal that it is important to uplift their knowledge through creating colourful and attractive labels (20.9%), and advertisements (18.7%) via mass media. Consumers stated that indication of fat (P=0.000) and sugar (P=0.000) level with colour code is extremely useful. Results revealed that front of pack nutrition labelling as the best way to increase consumer awareness on food label. The study therefore seeks to address the issue of how consumers use food nutrition label information and its effect on the purchasing decision of consumers. The outcomes of the study are helpful for policy makers in formulating policies for the benefit of both food producers in their marketing strategies and consumers to make healthy food choices.

Keywords: Consumer awareness, Dairy food products, Health claim, Nutrition Fact Panel

INTRODUCTION

Dairy Food is one of the major factors that significantly contribute to the quality of life (Speckmann *et al*. 1981). Having good nutrition throughout the life is essential to be healthy and active. It helps in reducing the risk of non-communicable diseases such as cancer, stroke, type II diabetes, coronary heart diseases (CHD) and chronic respiratory disorders (Engelgau *et al*. 2015), which accounts for 75% of total deaths in Sri Lanka (Registrar Generals data, 2001). Moreover, almost all Sri Lankans used to consume milk and milk products irrespective to their ethnicity, religion, culture or geographical location. Thus, milk and other dairy products are being considered as having a high impact on human health. However, milk fat contains approximately 70% saturated fatty acids (SFAs) that effect on the cardiovascular health of humans (Visioli & Strata, 2014). In that

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context, there is a growing demand for information on healthy eating, safe and nutritious food items in the market. Therefore, a food label is considered as an essential tool that provides details such as nutritional food composition, ingredients, manufacturer details, price, expiration date and specific health claims regarding combined foods (Washi, 2012).

Besides, food label, a nutritional fact panel is another essential instrument which provides related information about the food we consumes. Nutritional fact panel provides consumers with the nutritional information of a particular food product at the time of purchase (Grunert & Wills, 2007).

Consequently, the nutrition fact panel provides an opportunity to educate and inform the consumers on nutritional composition of a food product and subsequently enables the consumers to utilize this information to make healthier food choices (Cruz-góngora & Villalpando, 2012). As a result, to make correct food choices, the consumers must read and understand both the food label and the nutritional fact panel that enables them to get a complete knowledge on the food item they purchase and consume. However, due to lack of awareness, consumers are frequently disregard the importance of reading the information on food label and nutritional fact panel.

Although there is more information on the nutritional fact panel of the food label, it is controversial whether the customers fully understand and are aware of the information available in the nutritional fact panel (Osei *et al*. 2012). Thus, it is essential to reveal whether consumers are aware on this fact panel information when making their food purchasing decisions (Shine *et al*. 1997). Furthermore, it is needed to fill the knowledge gap by developing strategies, and finally, build up a perfect customer in food choices using food fact panel. Therefore, this study examines the consumer awareness on the food fact panel and its contents and the influence of the awareness on their purchasing decisions.

MATERIALS AND METHODS

Colombo is a trendy urbanized area with many kinds of food stores, mainly supermarkets. However, currently, supermarkets are not only confined to urban areas, but also, can be seen in both semi urban and rural areas too. According to statistical data of Re-defining urban areas in Sri Lanka, Sri Lanka was divided as urban, semi urban and rural areas, based on the percentage of urban areas in these districts (Colombo- 90.51%, Matara- 25.1%, Monaragala - 6.2%) (Weeraratne, 2016). Therefore, the most efficient method of ensuring this was to conduct the survey in a food retail outlet environment in Colombo, Matara and Monaragala to represent urban, semi-urban and rural areas respectively, with the objective of generalize the results to the whole country. Consumers who use local supermarkets to purchase packaged dairy food items were the target population. Out of them 135 respondents representing both employed and non-employed sectors were selected as the sample using purposive sampling method. The participants were selected to analyse consumer awareness on nutrition fact panel on food label.

The main goal of purposive sampling is to focus on particular characteristics of a population that are of interest, which will best enable researcher to answer researcher's research questions. The survey was carried through a structured Google questionnaire, which took a series of attitude, knowledge, and behavioural questions to ensure a representative sample of consumers those who visit local supermarkets to purchase dairy food products. A total of 34 questions were included in the questionnaire, research questionnaire was consisted of four sections. General information which focused on the profile of supermarket customers and their family members were under the first section.

The Second section of the questionnaire was developed in a way to study the consumer purchasing behaviour and their general perception towards food label information. Third section was designed in a way to estimate the consumer awareness towards

nutrition fact panel information and health claims, and to get an idea about the sources and barriers on their awareness on nutrition fact panel information. The last section was focused to develop any appropriate suggestions and recommendations to reduce the nutrition fact panel information gap for the benefit of consumers. Obtained data were analysed using SPSS where both descriptive statistics (frequency tables) and inferential statistics (Wilcoxon signed-rank test and Friedman test) were employed.

RESULTS AND DISCUSSION

Consumer awareness of nutrition fact panel on dairy food products

This research mainly focussed to analysis on awareness and familiarization of consumers towards the nutritional fact panel and its content. Accordingly, initially levels of consumer awareness on reading the nutritional fact panel at the time of purchasing dairy products from the market were studied. The table 3 illustrates the consumer awareness of nutrition fact panel on dairy food products. In order to determine the consumer awareness on nutrition fact panel, a five point likert scale where 1 for not at all aware, 2 for slightly aware, 3 for moderately aware, 4 for highly aware, and 5 for extremely aware was used to examine the weightage given to different selection criteria, and the obtained results were analysed using Wilcoxon Signed rank test SPSS version 23.

Reason for reading nutrition fact panel

Further, the reasons for reading the nutritional fact panel at the time of purchasing dairy products from the market were studied, and the respondents were asked to prioritize the reasons based on their own experience (Table 4). According to the results summarized in Table 4, the main reason for reading the nutritional fact panel was reported as to get an idea about the nutritional composition of a particular food product. On the other hand, getting aware about the serving size has become the least important factor in reading the nutritional fact panel. However, getting an idea about the calorie content and the fat content of a food product has also been identified as an important reason for reading the nutritional fact panel which could be due to the rising trend in Non-Communicable Diseases such as cholesterol and diabetes. Nevertheless, according to a study done by Higginson *et al*. (2002), the nutrition label is most commonly used in product comparison, to choose healthy products and making judgments of the amount of a nutrient in a product to assist in purchase decision making.

Reasons for not reading the nutritional fact panel

In the same manner, five major reasons were identified as the causes for the neglecting of reading the nutritional fact panel, and the obtained results are summarized in Table 5.

Table 1: Monthly household income level of respondents

Income category	Frequency	Valid Percent (%)
Below 10000	0	0
10,000-25,000	7	5.3
26,000-35,000	18	13.6
36,1000-50,000	49	37.1
51,000-75,000	29	22.0
Over 75,000	29	22.0
Total	132	100.0
Missing	3	
Total	135	

Source: Field survey, 2021

Table 1 summarised the average monthly income of the respondents, and it shows that the highest numbers of respondents (37.1%) are having an average monthly income of Rs.36,000 – 50,000 and the least number of consumers (5.3 percent) are having an average monthly income of 10,000 – 25,000. 22% consumers are having an average monthly income over 75,000.

Table 2: Occupation categories of selected respondents

Occupation category	Frequency	Percent (%)
Health sector	10	7.7
Agriculture sector	16	12.3
Industrial sector	7	5.4
Educational sector	30	23.1
Business sector	17	13.1
Housewife	15	11.5
Retired	4	3.1
Other	31	23.8
Total	130	100.0

Source: Field survey, 2021

Above table (Table 2) represents the sector of the employment where the respondents used in the current study are belonging to. It classifies the respondents in to eight different employment categories as health sector, agricultural sector, industrial sector, educational sector, business sector, house wives and retired employees.

Table 3: Levels of consumer awareness on nutrition fact panel

Sub variable	District	Mean	P value	Test value	Decision
Awareness on nutrition fact panel	Colombo	3.09	0.001	3.238	Have significant awareness on nutrition fact panel
	Matara	2.76	0.024	2.262	Have significant awareness on nutrition fact panel
	Monaragala	2.74	0.030	2.174	Have significant awareness on nutrition fact panel

Source: Field survey,

2021 Significance level = P = 0.05 *Wilcoxon signed rank test*

The results shown in Table 3 indicate that the respondents in all three districts had a significant awareness of nutrition fact panel on dairy food products.

Table 4: Prioritizing the reasons for reading the nutrition fact panel

Reason	Colombo		Matara		Monaragala	
	Mean rank	Rank	Mean rank	Rank	Mean rank	Rank
To get an idea about the nutritional composition	1.88	1	1.79	1	1.63	1
To know about the fat percentage	2.53	3	2.25	2	2.53	3
To get an idea about calorie content/ intake	2.38	2	2.75	3	2.37	2
To know about the serving size	3.22	4	3.21	4	3.47	4

Source: Field survey, 2021*Friedman test*

When considering the reasons for not reading the nutritional fact panel, respondents from urban and semi-urban areas ranked reading of the nutritional fact panel is not essential as the first, while respondents from the Monaragala district states that they do not read the nutritional fact panel thinking that the given facts are not accurate or reliable. Use of too small letters in the nutritional fact panel has become the second most crucial factor to avoid reading the nutritional fact panel. However, barriers due to the used language has become the least affecting factor for getting away from reading the nutritional fact panel in consumers from Colombo and Matara districts.

Table 5: Prioritizing reasons for not reading food labels

Reason	Colombo		Matara		Monaragala	
	Mean rank	Rank	Mean rank	Rank	Mean rank	Rank
Cannot understand/ too complicated	2.86	2	3.36	4	3.03	4
Language barriers	3.23	4	3.29	5	2.81	2
Not important	2.68	1	2.86	1	3.44	5
Letters are too small to read	2.91	3	2.29	2	3.00	3
Thinking that the given facts are not true/not reliable	3.32	5	3.21	3	2.72	1

Source: Field survey, 2021

Determinants of consumer purchasing behaviour on dairy products

In order to determine the consumer behaviour in purchasing dairy food products, a five point likert scale where 1 for strongly disagree, 2 for somewhat disagree, 3 for neutral, 4 for somewhat agree, and 5 for strongly agree was used, and the weightage given to different selection criteria was recorded. The obtained results were analysed using Wilcoxon Signed rank test SPSS version 23, and the results are given in Table 6.

According to the Table 6, since the P values for 'always looking at the sugar and fat level' were less than 0.05, the null hypothesis (H_0 - Consumers does not always look at the fat, sugar, calorie content and serving size) is rejected in Colombo and Matara and it reveals that consumers always look at the sugar and fat levels when they purchasing dairy food products. Anyhow, in Monaragala district, it reveals that the consumer does not always look at the fat level of the dairy products during purchasing. In addition, since the P values for "always looking at the calorie content" were found to be higher than 0.05 in all three districts, and consequently it means that the consumers does not always look at the calorie content and serving size of a dairy product during purchasing. However, most studies conclude that information on fats and calories is of high interest to the consumers (Hassan & Dimassi, 2017)

Consumer knowledge on components of nutritional fact panel

According to Jacobs *et al.* (2010) in order to ensure effective food choices, it is important to understand the information supplied on the nutrition fact panel. A study conducted by Kaptan and Kayısoglu (2015) stated that food labelling is one of the ways where consumers can acquire knowledge about the food they purchase. Obtained results of the current study noticed that the consumers from all three districts were not aware on the serving size and calories per serving of a particular food product they purchase (Table 7). However, in contrast, they are having a significant knowledge about the fat content, mineral availability and vitamin availability of the dairy products they purchase. Moreover, as they respond, the serving size and calories per serving are not useful for their purchase decisions.

Consumer Awareness on Health Claims

The results summarized in Table 8 reveals that the consumers from all three districts do not have a significant awareness on different types of health claims available in dairy products they purchased. Health claims describe a relation between a food, dietary supplement ingredient or food component, and reducing the risk of a disease or health-related condition (Gezmen-karadağ & Türközü, 2018). The presence of health claims on the front of packages may yield increased use of the nutrition fact panel (Wills *et al.* 2009). Thus, being aware on health claims displayed in a food label may leads to a healthy food choice.

Thereafter, the reasons for consumer unawareness on health claims were also

Table 6: Consumer awareness on sugar, fat, calorie content and serving size level

Sub variable	District	Mean	P value	Test value	Decision
Always look at the sugar level	Colombo	3.33	0.001	3.373	Consumers always look at the sugar level when purchase dairy products
	Matara	3.20	0.008	2.640	Consumers always look at the sugar level when purchase dairy products
	Monaragala	2.96	0.058	1.895	Consumers does not always look at the sugar level when purchase dairy products
Always look at the fat level	Colombo	3.25	0.001	3.203	Consumers always look at the fat level when purchase dairy products
	Matara	2.93	0.046	1.992	Consumers always look at the fat level when purchase dairy products
	Monaragala	2.89	0.141	1.471	Consumers does not always look at the fat level when purchase dairy products
Always look at the calorie content	Colombo	2.70	0.344	0.945	Consumers does not always look at the calorie content when purchase dairy products
	Matara	2.55	0.880	0.152	Consumers does not always look at the calorie content when purchase dairy products
	Monaragala	2.56	0.750	-0.318	Consumers does not always look at the calorie content when purchase dairy products
Always look at the serving size level	Colombo	2.59	0.352	-0. 931	Consumers does not always look at the serving size level when purchase dairy products
	Matara	2.41	0.101	-1.639	Consumers does not always look at the serving size level when purchase dairy products
	Monaragala	2.43	0.253	-1.895	Consumers does not always look at the serving size level when purchase dairy products

Source: Field survey, 2021

examined, and the obtained results are summarised in Table 9. According to the obtained results, majority of the respondents were not aware on the health claims since they have never heard about health claims. Some of them haven't even heard of such a health claims exist. Moreover, a small portion of the respondents were stated that the health claims are not reliable (25.0% from Colombo, 22.2% from Matara and 14.3% from Monaragala). In Monaragala district, barriers due to the used language has become the least affecting factor (8.6%) for getting away from reading the health claim and respondents from Colombo and Matara district stated that language was not a barrier for reading health claim. However, recent evidence suggests that health claims have had limited success and in fact may be misleading to consumers (Gezmen-karadağ & Türközü, 2018).

Furthermore, the respondents were asked to rank several commonly found health claims in a food label according to their perception. According to the results given in Table 10, majority of the respondents from all three districts ranked "Non Fat" as the most important health claim. Also, in a study supporting this fact, it was stated that these findings lead us to think that individuals read

more and pay more attention to those statements in order to control their body mass index and to protect their health (Gezmen-Karadağ & Türközü, 2018). However, other health claims such as "Presence of omega 3, omega 6 fatty acids", "presence of probiotic", "rich in fiber", "lactose free" were taken less consideration from consumers from all three districts.

Constraining factors on consumer awareness of Nutrition Fact Panel

Moreover, the problems encountered by the consumers when dealing with nutrition fact panel were needed to be identified before suggesting any strategies to improve their awareness. Study conducted by (Cowburn & Stockley, 2005) found that although some consumers may understand some of the information on nutrition labelling, in general they reported finding nutrition labelling confusing, especially the use of some technical and numerical information. Accordingly, the Table 11 represents the inconveniences faced by the respondents when reading nutrition fact panel.

As they ranked, usage of unfamiliar language in the nutrition fact panel was the main barrier faced by majority of consumers from Monaragala district, and on the other hand, brand loyalty was the main barrier faced by

Table 7: Level of Knowledge on nutrition fact panel components

Sub variable	District	Mean	P value	Test value	Decision
Serving size	Colombo	2.43	0.032	-2.149	Consumers have a significant knowledge about serving size
	Matara	2.72	0.909	0.114	Consumers does not have a significant knowledge about serving size
	Monaragala	2.22	0.109	-1.603	Consumers does not have a significant knowledge about serving size
Calories per serving	Colombo	2.94	0.942	0.073	Consumers does not have a significant knowledge about calories per serving
	Matara	3.04	0.052	1.942	Consumers does not have a significant knowledge about calories per serving
	Monaragala	2.36	0.238	-1.181	Consumers does not have a significant knowledge about calories per serving
Fat content	Colombo	3.67	0.000	3.973	Consumers have a significant knowledge about fat content
	Matara	3.40	0.001	3.400	Consumers have a significant knowledge about fat content
	Monaragala	3.27	0.004	2.869	Consumers have a significant knowledge about fat content
Vitamin availability	Colombo	3.30	0.001	3.329	Consumers have a significant knowledge about vitamin availability
	Matara	3.45	0.001	3.408	Consumers have a significant knowledge about vitamin availability
	Monaragala	3.08	0.013	2.495	Consumers have a significant knowledge about vitamin availability
Mineral availability	Colombo	3.09	0.050	1.961	Consumers have a significant knowledge about mineral availability
	Matara	3.36	0.000	3.606	Consumers have a significant knowledge about mineral availability
	Monaragala	2.94	0.045	2.001	Consumers have a significant knowledge about mineral availability

Source: Field survey, 2021Significance value 0.05

Table 8: Consumer awareness on health claims

Sub variable	District	Mean	P value	Test value	Decision
Awareness on health claims	Colombo	2.73	0.590	0.538	No significant awareness on health claims
	Matara	2.68	0.871	0.162	No significant awareness on health claims
	Monaragala	2.34	0.417	-0.811	No significant awareness on health claims

Source: Field survey, 2021

Table 9: Reason for consumer's unawareness on health claims

	Colombo		**Matara**		**Monaragala**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
I have never heard about health claim	7	29.2%	6	33.3%	8	22.9%
Not interested on health claims	5	20.8%	5	27.8%	14	40.0%
Language barrier	0	0%	0	0%	3	8.6%
They are not reliable	6	25.0%	4	22.2%	5	14.3%
Other	6	25.0%	3	16.7%	5	14.3%
Total	31	100.0%	28	100.0%	39	100.0%

Source: field survey, 2021

majority of consumers from Colombo. Many consumers stated that they faced difficulty due to use of technical/ scientific language used in the food labels and small fonts within the nutrition fact panel. Other than that, the respondents stated that there are some labels that are not complete and they find some false information on the food label. However, Jacobs *et al*. (2010) have found that consumers face difficulties with understanding the nutritional information provided on food labels, mainly due to the complex terminology and scientific terms that is used in the wording of such labels.

Moreover, different types of sources where the consumers get to know about the importance of reading a nutritional label was examined and the results revealed that they mainly get information through television and magazine advertising, online sources, posters and personal contacts such as friends, neighbours and relatives (Table 12). However, the results highlighted that TV commercials and internet as the main source of getting information in all three districts.

Factors affecting purchase of dairy products without considering nutritional fact panel

In some cases consumers used to buy dairy food products without reading the nutrition fact panel. Majority of respondents from all three districts (35.2% from Colombo. 38.6% from Matara and 28.8% from Monaragala) stated that they do not read the nutrition fact panel when they purchase familiar food products. This is mainly because when they are deciding on what to buy; they rely on previous experiences where they remember some knowledge of the available products. Time constraint is the second reason as they mentioned, and also respondents buy food products without reading nutrition fact panel when they in a hurry/rush and mostly this depends on the brand loyalty of the product.

In support to these findings Khasawneh and Hasouneh (2010), also found that strong brand name provides a strong indication of product quality and conveys an overall positive impression to buy products.

Association between socio-demographic characters and reading of nutrition fact panel

The association between reading of the nutrition fact panel and the socio-demographic characters such as age, household income, occupation and level of education was also analysed, and the obtained results are summarized in Table 14.

According to the obtained results, all P values for the tested demographic factors were found to be higher than 0.05 and this indicates that there is no significant association between reading nutrition fact panel and consumer's socio-demographic characters. However, in Colombo district, a significant association between reading the nutrition fact panel and the educational level of the consumers was observed. Moreover, the obtained results suggested that the respondents with higher level of education possess a higher level of knowledge, and thus, they are familiar with nutritional and health factors than the other educational categories. Moreover, a studies done by Shokrvash *et al.* (2015) and Ricciuto *et al.* (2006) stated that the demographic characteristics are shown to affect consumer preference for dairy products. Studies found that age was also positively correlated with the desire to read nutrition labels. This means that the older one is, the more likely one reads food labels. This is logical, as older individuals might be very careful of what they eat for health reasons (Falola, 2009).

Consumer preference of colour codes for food products

According to Murray-West (2013), the Traffic light system makes it easy to identify healthier food choices by choosing products with green or amber lights, rather than red. According to

Table 10: Most important health claim

Health Claim	Colombo		Matara		Monaragala	
	Mean rank	Rank	Mean rank	Rank	Mean rank	Rank
Non fat	3.00	1	2.86	1	3.65	1
Non Genetically Modified	3.71	5	3.57	2	4.40	4
Lactose free	4.64	3	4.71	5	3.75	2
Cholesterol lowering	3.86	2	3.86	3	4.15	3
Presence of omega 3 and 6	6.00	6	4.50	4	4.40	4
Presence of probiotic	5.07	5	5.43	7	5.05	7
Rich in fiber	4.64	3	4.64	6	4.50	6

Source: Field survey, 2021 *Friedman test*

Table 11: Barriers for awareness of nutrition fact panel

Reason	Colombo		Matara		Monaragala	
	Mean rank	Rank	Mean rank	Rank	Mean rank	Rank
Unfamiliar language	3.17	2	3.42	3	3.00	1
Small fonts	4.56	6	4.92	6	3.77	3
Use of technical/scientific language	4.17	4	3.17	1	3.57	2
Incomplete labelling	4.33	5	4.17	4	4.03	5
Brand loyalty	3.00	1	3.33	2	3.83	4
False information/ information is not true	3.89	3	4.50	5	4.40	6

Source: Field survey, 2021*Friedman test*

a study carried out by Lima *et al.* (2019), traffic light symbol improves consumer's understanding of nutrition information and their ability to identify healthy products.

Thereafter, the preference of consumers on indicating the sugar level and fat level of particular food products using a colour code was examined and the obtained results is summarized in Table 15. Results revealed that the majority of the respondents from all three districts prefer on the traffic light symbol that represent the sugar and fat levels of a particular food product using red, green and yellow colours. Results summarized in Table15, reveals that majority of the respondents in all three districts had a significant awareness on colour codes on dairy food products. Furthermore, almost all the respondents were expressed their preference to see the fat and sugar level of a food product expressed using a colour code.

Nutrition information, including the nutrition information table, list of ingredients, claims and logos, can help consumers to make healthy food choices (Koen *et al*. 2016).

Thereafter, strategies that can be used to improve the knowledge on nutritional fact panel were also questioned, and the results are summarized in the Table 16. According to the obtained results, majority of the respondents suggested to create colourful and attractive labels and to display attractive posters in supermarkets indoor and outdoor premises will enhance the awareness of the consumers on nutritional fact panel. In support to these findings Cowburn and Stockley (2005) and Grunert and Wills (2007) also suggested that front-of-label information should be simple with more complex detailed nutritional information presented on the back. Consumers are able to make a quick decision when purchase as well as being able to

Table 12: Sources of information

	Colombo		**Matara**		**Monaragala**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
TV commercials	30	30.3%	21	27.3%	41	34.2%
Shop displays	14	14.1%	14	18.2%	17	14.2%
Posters	14	14.1%	12	15.6%	17	14.2%
Internet	21	21.2%	21	27.3%	34	28.3%
Word of mouth	19	19.2%	8	10.4%	10	8.3%
Other	1	1 %	1	1.3%	1	0.8%
Total	99	100.0%	77	100.0%	120	100.0%

Source: Field survey, 2021

Table 13: Reasons for purchase food products without reading food label

	Colombo		**Matara**		**Monaragala**	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
When the food is sold at low price	1	1.1%	5	5.7%	13	11.7%
When in a time constraints	26	29.5%	22	25.0%	27	24.3%
Purchase of familiar products	31	35.2%	34	38.6%	32	28.8%
On streets or journey	8	9.1%	8	9.1%	13	11.7%
Brand loyalty	22	25.0%	19	21.6%	26	23.4%
Total	88	100.0%	88	100.0%	111	100.0%

Source: Field survey, 2021

Table 15: Preference of the consumers for the traffic light symbol

Sub variable	District	P value	Test value	Decision
Indicate sugar level with colour code	Colombo	0.000	4.883	Consumers prefer to see the sugar level on the food label through a colour code
	Matara	0.000	5.737	Consumers prefer to see the sugar level on the food label through a colour code
	Monaragala	0.000	5.562	Consumers prefer to see the sugar level on the food label through a colour code
Indicate fat level with colour code	Colombo	0.000	4.713	Consumers prefer to see the fat level on the food label through a colour code
	Matara	0.000	5.511	Consumers prefer to see the fat level on the food label through a colour code
	Monaragala	0.000	5.593	Consumers prefer to see the fat level on the food label through a colour code

Source: Field survey, 2021 Significance level 0.05

Table 14: Relationship between consumer awareness on nutrition fact panel and socio-demographic factors of consumers

District	Socio-demographic character	Significance value	Decision
Colombo	Age	0.463	Consumer's age does not affect to the nutritional fact panel awareness
	Educational level	0.010	Consumer's educational level affect to the nutritional fact panel awareness
	Occupation	0.177	Consumer's occupation does not affect to the nutritional fact panel awareness
	Household income	0.138	Consumer's household income does not affect to the nutritional fact panel awareness
Matara	Age	0.518	Consumer's age does not affect to the nutritional fact panel awareness
	Educational level	0.629	Consumer's educational level does not affect to the nutritional fact panel awareness
	Occupation	0.026	Consumer's occupation affect to the nutritional fact panel awareness
	Household income	0.110	Consumer's household income does not affect to the nutritional fact panel awareness
Monaragala	Age	0.267	Consumer's age does not affect to the nutritional fact panel awareness
	Educational level	0.240	Consumer's age does not affect to the nutritional fact panel awareness
	Occupation	0.177	Consumer's occupation does not affect to the nutritional fact panel awareness
	Household income	0.367	Consumer's household income does not affect to the nutritional fact panel awareness

Source: Field survey, 2021

Table 16: Suggestions to increase consumer awareness

Suggestions to increase the understanding and reading of food labels	Responses		
	N	Percent	Percent of cases
Displaying attractive posters in the supermarket	67	18.7%	51.9%
Creating colourful and attractive labels	75	20.9%	58.1%
Advertisements (Audio, Video)	67	18.7%	51.9%
Leaflets	26	7.3%	20.2%
Nutrition label in front of the pack	64	17.9%	49.6%
Use more symbols	59	16.5%	45.7%
	358	100.0%	277.5%

Source: Field survey, 2021

examine in more detail at the point of purchase by presenting information in this way.

CONCLUSION

Respondents from urban, semi-urban and rural had a significant awareness (P values for the consumer awareness were found to be higher than 0.05) of nutrition fact panel on dairy food products. The main reason for reading the nutritional fact panel was reported as to get an idea about the nutritional composition of a particular food product. On the other hand, getting aware about the serving size has become the least important factor in reading the nutritional fact panel. However, getting an idea about the calorie content and the fat content of a food product has also been identified as an important reason for reading the nutritional fact panel which could be due to the rising trend in Non-Communicable Diseases such as cholesterol and diabetes. Brand loyalty, unfamiliar language and use of technical/scientific terms are as the main barriers for consumer awareness on nutritional fact panel. Education and occupation is another variable which has a significant impact on awareness. Moreover, this study has suggested different means of familiarising nutritional fact panels to the consumers. Displaying attractive posters in the supermarket (18.7%), creating colourful and attractive labels (20.9%), displaying nutrition label in front of pack with simple format (17.9%), use more symbols (16.5%), conduct awareness programmes to school children, were few strategies suggested by respondents to enhance consumer awareness on food label information.

AUTHOR CONTRIBUTION

PABNP conceptualizing the research and critically revising the manuscript, KNNS designing the research and summarizing the manuscript and MHK Collecting, analysing and interpreting data, summarising the manuscript.

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