Labelling on Pre-Packaged Health Drinks and its Usage among the Youths of Assam

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Abstract

The paper intended to explore the current efforts in food labelling research and study the usage of labelling by the youth health drink consumers of Assam. The research is exploratory and based on primary data. A structured questionnaire is used to gather data from 267 youths. The data were analysed using MS Excel 2013 and IBM SPSS version 26 software. The descriptive tools of analysis such as frequency, percentage, mean and inferential statistical tools such as chi square, Mann Whitney U test, and Kruskal Wallis H test were performed to test the hypotheses considered for the study. The study reveals Maximum Retail Price and Date of expiry are the highest food label attributes read by the consumers. There is no association found between knowledge of food labels and gender while an association was established with the age group. Meanwhile, statistically significant differences were found between the usage of labels with respect to gender, age group, and education level. The females, higher age groups, and highly educated youths are more likely to use the food labels prior purchase of health drinks.

Keywords: Consumers, Food labels, Health drinks, Usage, Youths.

1. Introduction

In the current lifestyle, being fit and healthy is a duty towards our body. If we consider this task the lowest one on the priority list, it will make us fall into a trap and suffer in the next few days. In our busy schedule, when all are putting extra effort on life to achieve the success ladder in minimum time, our ignorance towards health will bound us to pay off even more. To fill our nutritional needs, consuming healthy drinks daily is highly beneficial towards health. As we are heading for a better tomorrow, we become careless about our health care and overlook the requirements for pure nutrition. In that case, health drinks can make up for the need for sufficient nutritional value accompanied by perfect taste.

Health drinks are commonly consumed beyond a normal healthy diet in every stage of a human life cycle i.e. Infant, Childhood, Adolescence, Adulthood and Elderly Person. Every purchaser considers the best nutritional drinks for themselves and their kids to add the most to their dietary supplements. While purchasing, the buyers with health claims are generally influenced by various factors such as personal beliefs, personal pertinent, familiarity, nutrition knowledge, format of claims, functional ingredients, sensory attributes etc. Food labels in health drinks are quite vital for the consumers; as the information's provided are to be checked by the consumers.

Food labelling is a medium that assists the producers to convey the nourishing properties of the food to the purchasers. It is a tool to foster and safeguard public health by giving nourishing information to the buyers while it acts as an instrument of showcasing and product promotion for the producers (Madhvapaty and DasGupta, 2015). In other words, Food Labelling is written, printed, or graphic matter that is displayed on the label of the food or near the food aiming for sales promotion or disposal.

Food labels on pre-packaged products includes Data Marking i.e. 'Use By', and 'Best Use Before' date is written, Product Name, Net Weight, Ingredients, Nutrition Information, Usage Instruction, and Manufacturer details. This informs consumers about the ingredients and nutritional information of packaged food meant for sale. The Food Safety and Standards Authority of India established in the year 2006 under the Ministry of Health and Family Welfare, Government of India have issued a notification highlighting regulations for the food labelling to be followed in India. As per the notification, all pre-packaged products marketed in India are mandatory to act under the Food Safety and Standards (Packaging and Labelling) Regulations, 2011.

2. Review of Literature

Martini and Menozzi (2021) states that food labelling is used as a marketing tool in influencing the perception of the consumers related to food quality, as well dietary choices of the consumers. Gomathi and Kar (2018) reported high consumer awareness of food labelling but understanding level found to be less. The high reason for checking labels is health consciousness. Dutta and Patel (2017) studied consumer awareness on food labelling and majority of the consumers were reported to read label information prior purchase of pre-packaged items. Gender and education level were found significantly associated with awareness and perception related to food labelling. Consumers were motivated to read labels to check mainly the price of the product. Bandara et al. (2016) assessed the impact of food labelling on consuming purchasing and found most of the consumers are likely to check labels to evaluate the product suitability for vegetarians, health consciousness, religious reasons, and organic or non-organic. The consumers felt food labels are important to know the date of expiry, nutritional composition, and legal requirement. The high rated mandatory labelling information is Name of the food, followed by date of minimum durability, list and quantity of ingredients, storage information, and instruction for use etc. Madhvapaty and DasGupta (2015) found the ease of understanding level and clarity of information provided related to food labels is low among the consumers. There is a high involvement of misinformation provided about the products and mislead the consumers by involving unwanted tactics. Shariff and Majid (2015) studied the awareness and importance of nutrition labelling. Gender plays a significant role in terms of usage of labelling. Females are more aware than males and tend to purchase nutritious food irrespective of the cost. Highly educated consumers are more aware and have better understanding than the higher secondary students and below. Urban people are more aware than the rural consumers as they are mostly educated.

3. Objectives and Hypotheses of the Study

The objectives of the study are to determine the demographic profile of the health drinks consumers and assess the usage of food labels on health drinks and to fulfil the same following hypotheses are constructed:
(i) There is no significant association between the knowledge of food labels with respect to the gender and age of the health drink consumers.
(ii) There is no significant difference between the usages of labels with respect to the demographic characteristics of the health drinks consumers.

4. Research Methodology

The paper is exploratory in nature and based on primary data collected from 267 'Youths' (As per National Youth Policy, 2014, person in between the age group of 15-29 years are considered as Youths) of Barak

Valley of Assam particularly the health drink consumers. Barak Valley is situated in the southern region of Assam covering 22,244 sq. km with population of 47, 91,390 (Census 2011) and consists of three districts of Assam namely- Cachar, Hailakandi and Karimganj. The sample size were determined using Cochran's sample size calculator at Precision level of ±6% and Confidence level of 95%. The respondents were chosen based on purposive sampling. A structured questionnaire finalised after pilot survey is used to gather data from the respondents on various variables including demographic characteristics and usage of food labelling by the respondents through hybrid mode i.e. both online and offline method. Data acquired were processed using MS Excel 2013 and SPSS version 26. Data obtained does not fulfil normality distribution and hence Non-Parametric tests were performed to test the hypothesis. Tools such as frequency, mean and bar graphs and hypotheses testing were carried out using Chi square test, Mann Whitney U test, Kruskal Wallis H test. Chi-square test is performed to identify the association between knowledge of food labels with respect to respondents' gender and age. Moreover, Mann Whitney U test and Kruskal Wallis H test are performed to measure the significant difference between the usages of labels with respect to gender, age, monthly income and educational level.

5. Data Analysis and Findings

5.1. Overview of the respondents' demographic profile

**Table 1:** Demographic Characteristics of the Respondents

Variables		n	%
Gender	Male	156	58.4
	Female	111	41.6
Age	15-19	39	14.6
	20-24	89	33.3
	25-29	139	52.1
Educational Level	Higher Secondary	39	14.6
	Graduation	49	18.4
	Post-Graduation	111	41.6
	M.Phil/ Ph.D	68	25.5
Marital Status	Unmarried	194	72.7
	Married	73	27.3
Household type	Nuclear	243	91
	Joint	24	9
Work Status	Student	43	16.1
	Self-employed	94	35.2
	Employed	78	29.2
	Unemployed	52	19.5
Average Monthly Income	<30000	158	59.2
	30001-60000	66	24.7
	60001-90000	37	13.9
	>90000	6	2.2
Health Status	Excellent	99	37.1
	Good	168	62.9
	Fair	0	0
	Poor	0	0

Source: Survey data collected by the Researchers

The above table indicates the demographic profile of the respondents. Out of 267 respondents, 58.4 percent of the respondents are male and 41.6 percent of them are female. Maximum of the respondents (52.1 percent) belong to the age group of 25-29 years, and most of the respondents (41.6 percent) were Post-Graduate. Majority (72.7 percent) were unmarried and 91 percent belongs to Nuclear Family. 35.2 percent are Self-employed; 29.2 percent are employed and 19.5 percent are Unemployed. Maximum consumers (59.2 percent) are having average monthly income below Rs. 30000. 37.1 percent of youths claims there health status is excellent and 62.9 percent are good.
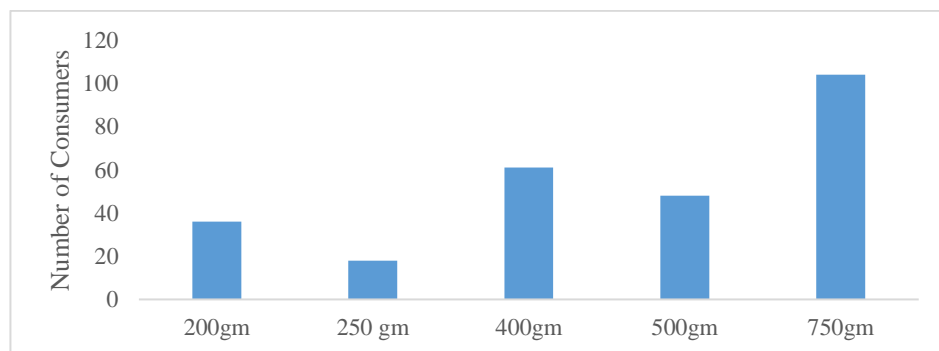
5.2. Consumption of health drinks

Graph 1: Frequency of Consuming Health Drinks by the Consumers
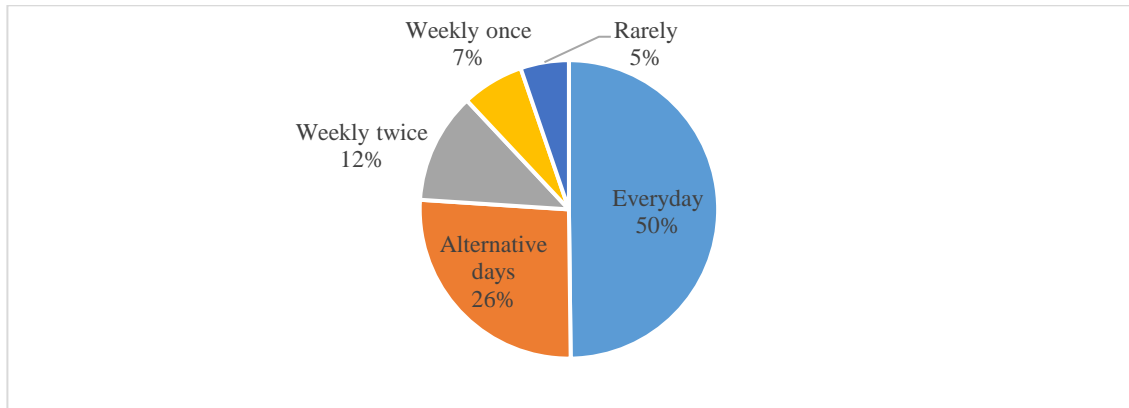
Source: Survey data collected by the Researchers

The above graph represents the consumption pattern of health drinks by the youths highlighting 50 percent are the regular consumers; 26 percent consume in alternative days basis; 12 percent consumes weekly twice; 7 percent consume weekly once and 5 percent are the rarest.
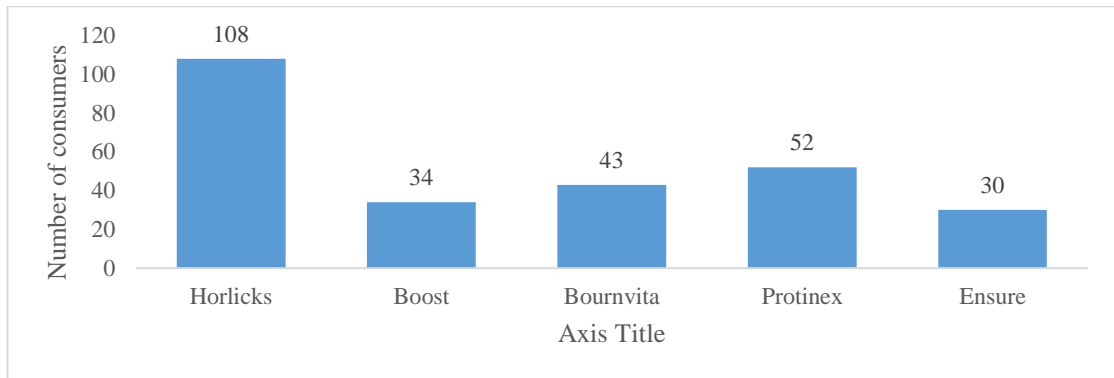
Graph 2: Quantity Bottle/Pouch of Health Drinks Consumed

Source: Survey data collected by the Researchers

Most of the consumers demand net quantity 750 gm cans/packets for consumption of health drinks while the rarest demanded net quantity is 250 gm.

Graph 3: Brand of Health Drink Mostly Consumed by the Consumers

Source: Survey data collected by the Researchers

Most popular drink consumed by the youths is Horlicks followed by Protinex i.e. 20 percent and 18 percent respectively. The least consumed drinks is the Ensure drink. Most of the consumers tend to be brand loyal. Further, it is also found that 83 percent of them does not change the brand and are loyal towards the brand they consume while 17 percent frequently change their drinks.

Graph 4: Source of Choosing Particular Health Drinks
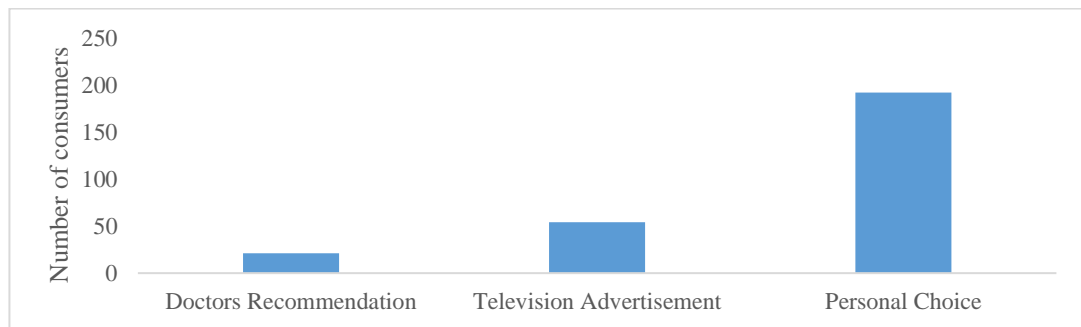
Source: Survey data collected by the Researchers

As per the data gathered, Personal choice of the consumers plays an important role while choosing particular health drinks, followed by Television Advertisement and the least source is the Doctors Recommendation/Nutritionist.

5.3. Usage of food labels

84 percent of the health drinks buyers refer the food label when buying while 16 percent do not refer to it. Personal Knowledge is the main source of knowing about it and 5 percent of the respondents gained knowledge from their family members. The most common reason found those referring food labels is Health conscious (Mean=3.72) followed by the detection of ingredients that could cause any harmful reactions (Mean=2.97). Those not referring found labels are hard to understand and difficult to read. They suggested the labels must be simple and easy to understand with bigger font size.

5.4. Checking of product attributes

Product Attributes	Highly Agree (in %)	Agree (in %)	Neutral (in %)	Disagree (in %)	Highly Disagree (in %)	Mean	SD
Product brand & Flavour	166	83	18	0	0	4.55	.63
MRP	222	45	0	0	0	4.83	.38
Date of Packaging (PKD)	0	165	61	41	0	3.47	.74
Date of expiry	179	64	24	0	0	4.58	.65
Allergen Information	5	18	0	57	187	1.50	.96
Storage conditions	34	26	0	52	155	2.19	1.58
Manufacturers Name	0	24	0	3	240	1.28	.87
Instructions for use/serving information	0	171	0	0	96	4.32	.47
Instructions for storage	85	182	0	0	0	2.92	1.45
Warnings	0	0	45	115	107	1.77	.72
Recommendations	0	0	0	88	179	1.33	.47
Ingredients List	72	93	0	0	102	3.13	1.72
Nutritional Information	0	150	0	75	42	2.96	1.22
Net weight/quantity	128	0	0	56	83	3.13	1.84
Batch Code	0	0	0	107	160	1.40	.49
Declaration regarding Vegeterian or Non-vegeterian	130	0	0	88	49	3.33	1.71
Country of origin	0	0	0	61	206	1.23	.42

Source: Survey data collected by the Researchers

The above listed product attributes are commonly found in food labels. The study attempts to study the consumers' behaviour towards checking the product attributes mentioned in food labels. As per findings of the study, the mean score of Maximum Retail Price (MRP) is maximum followed by Date of expiry that means most of the consumers generally check MRP on food labels while buying health drinks. The minimum checked attributes by the consumers are the Country of Origin and Manufacturers name.

5.5. Results of hypothesis testing

I.   To identify the association between knowledge of food labels and gender

H$_{01}$: There is no significant association between the knowledge of food labels and gender of the health drink consumers

Variable		Male	Female	df	p-value	Result
Knowledge of food label	**Yes**	139	106	1	.479	Insignificant
	No	12	10			

Pearson Chi square test is performed to test the significant association between gender and the knowledge of food labelling. The result indicates insignificant association between the knowledge of food labels with

respect to gender (p=.479) that means the gender of the health drinks consumers does not affect the knowledge of food labels**.**

II. To identify the association between knowledge of food labels and age group

H_{02}**:** There is no significant association between the knowledge of food labels and various age group of the health drink consumers

Variable		15-19	20-24	25-29	df	p-value	Result
Knowledge of food label	**Yes**	5	29	52	2	.000	Significant
	No	8	6	0			

Chi square test is performed to test the significant association between age groups and the knowledge of food labelling. The result indicates significant association between the knowledge of food labels with respect to age level (p=.000) that means the age of the health drinks consumers affect the knowledge of food labels.

III. To measure the significant difference between the usages of labels with respect to gender

H_{03}**:** There is no significant difference between the usages of labels with respect to gender of the health drinks consumers.

Statement	Gender	Mean Rank	U-value	p-value	Result
Labels are checked while buying health drinks	Male	129.12	7896.000	.037	Significant
	Female	140.86			

Mann Whitney U test is conducted to test the insignificant difference between the usages of labels with respect to the gender and result obtained is null hypothesis is rejected (p=.057) that means the checking of labels is getting effected by the gender of the health drink consumers. Moreover, many researches (Shariff and Majid, 2015; Nayga, 1996 & 1999) including this study concluded that the females tend to check labels more than the males.

IV. To measure the significant difference between the usages of labels with respect to age group

H_{04}: There is no significant difference in the usage of labels with respect to age of the health drinks consumers.

Statement	Age group	Mean Rank	H-value	df	p-value	Result
Labels are checked while buying health drinks	15-19	218.12	139.169	2	.000	Significant
	20-24	131.50				
	24-29	112.00				

Kruskal Wallis H test is performed to know whether there is any significant difference between the usages of labels by the consumers with respect to their age group. The result indicates significant differences (p=.000) that means the age group plays critical role in the usage of food labels by the health drinks consumers.

V. To measure the significant difference between the usages of labels with respect to monthly income

H_{05}: There is no significant difference in the usage of labels with respect to monthly income of the health drinks consumers.

Statement	Monthly Income	Mean Rank	H-value	p-value	Result
Labels are checked while buying health drinks	<30000	147.49	28.767	.000	Significant
	30001-60000	116.05			
	60001-90000	112.00			
	>90000	112.00			

The above test result reveals existence of substantial difference between the usage of labels and monthly income of the health drinks consumers (p=.000) that means the monthly income of the consumers play a vital role while usage of food labels.

VI. To measure the significant difference between the usages of labels with respect to educational level

H_{06}: There is no significant difference in the usage of labels with respect to educational level of the health drinks consumers.

Statement	Educational Level	Mean Rank	H-value	p-value	Result
Labels are checked while buying health drinks	Higher Secondary	218.12	134.388	.003	Significant
	Graduation	128.35			
	Post-Graduation	120.42			
	M.Phil/PhD	112.00			

The above test result reveals no significant difference between the usage of labels and educational level of the health drinks consumers (p=.003) that means the educational qualification of the consumers affect significantly the food labels usage.

6. Conclusions

Nowadays consumers tend to be more health conscious and choose intake of nutritious food resulting to the increase in the usage of food labelling. Consumers are giving more attention to the food labels that are associated to their health. Knowledge of food labels is highly essential to check the labels while purchasing any product. It is found that there is no association between knowledge of food labels and gender of the health drinks consumers. Gender plays a substantial role in the usage of labelling and the checking of labels is getting effected by the gender of the health drinks consumers. Females were found to be more health conscious than males. It is expected that females are willing to pay more for consuming nutritious foods and are more concerned to maintain their body shape and fitness.

The knowledge of food labels are getting affected by the age groups. It is found that higher groups are more likely to have knowledge about labelling than the younger groups. Moreover, significant differences is found between the usage of labels and age group of the health drinks consumers. The higher age group consumers are more concerned regarding their health compared to the other younger age groups. The younger groups seems to be least health caring and thereby tend to refer labels less. However, the researchers have found that the youngsters are also sensitive to the usage of labelling those are concerned on their diet to maintain excellent body fitness.

In terms of monthly income, no significant difference found in case of usage of food labels. Meanwhile, in terms of education consumers with different education level pertains to labelling. The higher educated

consumers i.e. at least the Graduates are more likely to use the labelling rather than those have attained secondary education. They have the ability to understand labelling and are able to interpret the information more.

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