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Awareness of Nutrition Labels in Health Drinks among Youth of Assam (India)

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Abstract
The study seeks to determine how well-informed young people are about the existence and significance of those nutrition labels. The study's primary goal is to ascertain whether or not young people are aware of the nutritional contents of the various products they use, as well as the differences in selections made by young people according to their income bracket and gender level of education. **T**he author used SPSS and Excel. ANOVA, regression, standard deviation, and mean were used for research analysis. The author used surveys and questionnaires to collect data and randomly sampled the research. The chi-square test indicates a significant association between gender and awareness level, which suggests a potential difference in awareness levels between males and females. A number of policy-level measures can enhance food intake and prevent chronic diseases linked to nutrition. Including thorough data on nutrition on food packaging is one of these.

Keywords- Food Labeling, Health Education, Healthy Diet, Nutrients, Youth.

1. Introduction-:

The National Family Health Surveys (NFHS) in India apply adult cutoffs of nutritional status for the estimation of undernutrition in the 15–19 age group. The World Health Organization (WHO) defines youth as 10–19 years. It is a key decade in the life course with implications on adult health, the socio-economic well-being of a country and even the health of the future children.

By reading nutrition facts labels, shoppers may have a better grasp of what's in the food they buy, make more educated decisions about what to eat based on that knowledge, and compare the nutritional content of different brands. The demand for nutrition data has been on the rise as people get more knowledge about the link between diet and disease. So, food labels are a lifesaver for those on restricted diets (such as diabetics or those with high blood lipids) since they allow them to choose meals that are safe for their health (Robbins, J. 2012).

Several significant public health issues and diseases are associated with diets, including malnutrition, obesity, hypertension, cancer, diabetes, osteoporosis, and cardiovascular disease. According to the World Health Organization (WHO), almost 30% of malignancies in industrialized nations can be traced back to dietary causes. People think they know what to look for on food labels. Calories, fat, sugar, salt, and fiber content were the most read portions of the label. When they buy food, they consider not only the price but also the serving size, list of ingredients, percentage of daily values, health and nutritional claims, and brands. Instead of depending on their knowledge, many customers choose to use food labels because they are confident in their ability to read them.

Finding out how well consumers understand the relationship between their diet and health issues like sugar, fat, and cholesterol, as well as their attitudes towards making better food choices, is crucial. The question of whether or not consumers read and comprehend food labels, as well as whether or not they utilize them, was central to the reviews of consumers' research studies on food labelling. There was a positive correlation between consumers' understanding of topics and their level of education, according to reports. Individuals with a higher level of education tend to be more open to receiving health and nutrition knowledge. While some research has shown that people utilize food labels less as they become older, other studies have shown the exact opposite to be true (Drichoutis, et.al, 2006) It appears that nutritional labels are more commonly used by females than by males.

The adoption of food labels is heavily influenced by demographic characteristics as well as nutritional understanding. While some researchers have suggested a correlation between understanding as well as label use, others have failed to find any proof of this. (Link, B. G. 1987).

In the region, there were minimal efforts to raise consumer awareness of the nutritional implications of food labelling. Despite consumers' awareness of the need of reading food labels (Drichoutis.et.al,2006). The information regarding the manufacturing date, expiration date, and package content was deemed as the most crucial. This might be because many of the nutritional facts, serving sizes, special qualities, health claims, special usage, and health warnings that are required by American standards are absent from the labels of most regionally produced or repackaged foods.

Despite their prevalence, consumers often struggle to decipher the nutrition information tables (NFTs) found on packaged foods. The nutrition facts shown on front-of-package labels (FOPLs) are more straightforward and easier to understand, and they have been adopted by several nations. After reviewing its FOPL rules in October 2020, Mexico decided to switch out the industry-based Guideline Daily Allowance (GDA) FOPLs with 'Warning' FOPLs (Hammond, et. al, 2023) These new labels show stops signs on items that are rich in nutrients that are cause for concern, like sodium and sugar. With a special emphasis on changes occurring before and after Mexico's FOPL warning policy was put into place, the study

analyzed young people's self-reported knowledge, usage, and comprehension of NFTs and FOPLs across six nations with varying FOPLs (Hammond,. et.al,2023). Ensuring that children eat nutritious foods is essential for their well-being, (Hammond.et.al,2023). Nevertheless, a lot of countries have diets that are heavy in calories but low in nutrients. This is partly because people are eating more processed foods that are heavy in sugar, salt, and saturated fat. Consequently, teenage and childhood obesity has become more common in many nations with varying levels of income, from those with low to those with high.

The practice of including nutritional information on food packaging is a tried-and-true method of alerting shoppers about what's in their food. Nutrient facts tables (NFTs) typically list ingredients, calorie counts, and nutrient levels, which are found on the "back" or "side" of packages in almost every country. Consumers, particularly younger and older females, and those with healthier diets, had a significant amount of expressed awareness and usage of nutrition labeling, according to a variety of research. **(**Drichoutis, et. al, 2006)

On the other hand, many customers struggle to interpret and utilize the numerical data presented in NFTs, such as the amounts of nutrients, serving sizes, and percentages daily values (which are meant to show how much of a nutrient quantity of food provides to an everyday diet). One aspect that may worsen socioeconomic gaps in nutritional intake is the fact that comprehension is especially low among people of lower socioeconomic status (Bhawra, J. 2020).

Everyone agrees that nutrition labels should be required to use simpler language so that people of all literacy and numeracy abilities may understand them. Nutrition labels that are visible on the front of the package, or FOPLs, have thus become standard in many nations. Two characteristics distinguish FOPLs:

- They're on the "front" of food packaging, where the main display space is, and
- Unlike NFTs, which just offer numerical values, they instead give basic interpretive information through the use of glyphs and other sum indicators.

Among the earliest FOPLs developed by the food industry were the " The facts Up Before" and Guideline Daily Action (GDA) systems (Bussell, G. 2005). GDAs display the typical recommended allows (RDAs) for sugar, salt, and saturated fat in addition to the suggested intakes for individuals in good health. GDAs are regarded as FOPLs as they display on the front portion of packages (Chimedtseren, N. 2022). They solely offer quantitative nutritional information, in contrast to other FOPL systems. Governments have created a Traffic Light system, a more recent substitute for FOPL systems. It utilizes the hues red, yellow, and green to denote high, medium, and low nutritional levels, respectively. Similar to the popular Nutri score system at Europe, which uses colors and a numerical grading system to classify meals on five levels, the Health Star Ranking Report Phrase System across Australia & New Zealand rates the overall diet of packaged goods from half a star to a maximum of five stars (Wood, A. 2016). The FOPL systems in certain countries are based on the "Warning" idea, which indicates that products over a certain threshold for sugar, saturated fat, salt, or calories must be labeled with an immediate stop or other warn symbols. Several other countries adopted Warning FOPLs after Chile.

2. Review of Literature-:

Martini and Menozzi (2021), said that the purpose of food labeling is to affect consumers' perceptions of food quality and their dietary preferences through marketing strategies.

Dutta and Patel (2017), stated most customers were found to read labels before making a purchase of prepackaged goods in a study on consumer knowledge of food labeling. It was discovered that awareness and perception of food labeling were substantially correlated with gender and educational attainment. Customers were encouraged to read product labels to verify the pricing.

Bandara et al. (2016), stated that the effect of food labeling on customer buying was examined, and it was discovered that most consumers are inclined to read labels to determine whether a product is suitable for vegetarians, health-concerned consumers, people who follow religion, or whether it is organic or not. The consumers believed that information on food labels, such as the expiration date, nutritional value, and regulatory restrictions, was crucial. The name of the item is the most important piece of required labeling information, followed by the minimum durability date, the list and number of components, storage recommendations, usage guidelines, etc.

Madhvapaty and DasGupta (2015), discovered that consumers have low levels of comprehension and clarity when it comes to the information offered on food labels. A lot of false information is spread about the products, and people are tricked by using unsolicited methods.

Shariff and Majid (2015), investigated the significance and knowledge of nutrition labels. The use of labels is significantly influenced by gender. Because they are more conscious than men, women are more likely to buy wholesome food at any price. Consumers with higher levels of education are more conscious and comprehend things better than students in higher secondary schools and below. Consumers in urban areas tend to be better educated than those in rural areas, therefore they are more aware.

Sukhwinder Singh (2014) claimed that every state in India is comparable to a nation with a distinct socioeconomic status. distinct ethnic groups, customs, infrastructure, and means of communication. As a result, the population's nutritional health varies significantly throughout states due to a variety of variables. The patterns of intake have not changed significantly during the past 20 years. In India, cereals continue to be the primary food that supplies the majority of energy. Since then,

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there has been a minor increase in the eating of foods like fats and oils, green leafy vegetables, sugar "jaggery" (unrefined brown sugar), and pulses, roots, and tubers.

Nidhi Vishnoi Sharma (2013), claimed that the concern for healthy living has already grown in today's society. Numerous studies indicate that people are also becoming more health-conscious and open to making dietary adjustments that would improve their health. This shift in behavior opens up new markets for the food and beverage industries, particularly for items that promote healthy drinking. Due to the fierce competition across healthy drink products, consumers have a lot of options. To outperform the competition, companies would benefit from knowing how consumers feel about the packaging for healthy drinks.

Aw Yoke Cheng (2013) claimed that food labels serve as the primary means of communication between food manufacturers and distributors and that the WHO's food labels are crucial in providing customers with critical nutritional information. At first, the information on food labels could only include the name of the product, its quantity, price, and the manufacturer's identification.

Feng Tian (2013) declared such in a setting of competition. It's getting harder for marketers to attract and keep consumers for their goods. Healthy food drink items have been available on the international market for a few years now, and their market share has grown quickly. This study paper's main goal is to determine the different elements that influence consumers' preference for particular brands. The paper additionally endeavors to ascertain the consumers' level of happiness and source knowledge. Explanatory and descriptive methodologies are used to formulate findings. Questionnaires are used to gather primary data, which is then evaluated using a variety of statistical methods.

Shopiya (2009) assessed the degree of satisfaction among Gobichettipalayam town's users of malted health drinks. Horlicks was the brand of choice for a sample of health drink users surveyed in the town of Gobichettipalayam. Customers identify Horlicks with attributes such as being reasonably priced, well-balanced, or high in vitamins and minerals, and having the perfect amount of quality and quantity in a hygienic package. According to the report, manufacturers of malted health drinks with competing brands should concentrate more on developing stronger marketing strategies to draw in more customers and keep them as devoted supporters of their brand.

Kumar (2010) claimed that because consumers of health drinks are more aware of the need to purchase dietary supplements that are high in protein and nutrition, factors such as gender, marital status, age, level of education, job, and income have no bearing on how satisfied they are. According to the study's findings, most Coimbatorians choose to purchase Boost and Horlicks. To increase brand recognition among prospective customers, the study recommended that producers of other well-known health drinks raise consumer knowledge of the advantages of purchasing branded products.

Harikaran (2014), evaluated the satisfaction level of Coimbatorians with a selection of branded health drinks. According to the survey, convenience factors play a major role in influencing the choice of health drinks among consumers. The survey categorized and enumerated the consumers' level of satisfaction with various brands. For example, customers of the Horlicks brand are satisfied in the product quality, customers of Complan are impacted by the product's energy feature, and customers of other companies are impacted by the reputation and trust attributes of the brand.

3. Objective of the study-:

- To determine whether young people are cognizant of the nutritional components of various products they use.
- To investigate the disparity in the decisions made by young people based on their gender and level of education.
- To investigate the disparity in the decisions made by young people based on their income bracket.

4. Hypothesis of the study-:

H1 There is a significant impact on nutritional facts of different products used by youth.
H0 There is no significant impact on nutritional facts of different products used by youth.
H2 There is a significant impact on youth's choice as per gender and educational qualification.
H0 There is no significant impact on youth's choice as per gender and educational qualification.
H3 There is a significant impact on youth's choice as per their income bracket.
H0 There is no significant impact on youth's choice as per their income bracket.

5. Methodology-:

5.1. Variables of the study

Many things can affect how healthy drink-conscious young people in Assam, India. Some factors that may influence self-awareness are as follows:

- **Youth- "**The term "Youth" describes a demographic that is transitioning from childhood to adulthood. Depending on cultural, social, and scientific factors, the precise definition of this period can vary slightly, although it usually covers the years 10–19. As they grow from childhood into adulthood, people go through a period of profound physical, mental, emotional, and social transformation known as youth. Youth go through the physical changes of puberty, which include changes in hormone levels, growth spurts, and the emergence of secondary sexual traits. Improving one's capacity for abstract thought, problem-solving, and decision-making are all hallmarks of maturing brain capacity. While navigating issues of self-discovery, peer relationships, and growing autonomy from parents or guardians, many Youths undergo

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emotional upheaval. Environmental and social variables, such as schooling, mediums, cliques, and cultural standards, have a growing impact on Youth. Habits and behaviors concerning one's well-being, academic achievement, relationships, and personal beliefs are mostly formed throughout this life stage.

- **Food labeling-** A scientific field devoted to the prevention of food-borne illnesses, food safety describes the proper preparation, storage, and handling of food. To prevent serious health risks, this includes a variety of procedures to be followed. Thus, food defense and food safety frequently work hand in hand to protect customers from potential harm. Within this school of thinking, the tracks are consumer-market security and industry-market safety. Included in the scope of food safety considerations in industry-to-market practices are rules regarding biotechnology in food, standards for the administration of government food import/export inspection and certification systems, and practices about food hygiene, additives, and pesticide residues. The common assumption when thinking about business-to-consumer operations is that all food sold in the market should be safe to eat, and then the next step is to ensure that the food is properly prepared and delivered to the consumer.
- **Health education-** The scientific field of food safety explains how to prepare, store, and handle food in a way that doesn't cause food poisoning. This involves a variety of protocols that need to be adhered to to prevent serious health risks. This is how food defense and food safety work together to keep people safe. The underlying tenets of this school of thinking are consumer-market and industry-market safety nets. When thinking about food safety from the industry to the consumer, it's important to think about where food comes from, how it's handled during processing, any additives or pesticide residues, how it's labelled, any regulations regarding biotechnology in food, and how the government handles food certification and import inspections. Most people think that food sold in stores should be safe to eat, and then they worry about how the food will be prepared and delivered to their homes.
- **Healthy diet-** For the body to function properly, it needs a variety of nutrients, and a balanced diet provides just the right amounts of each. A healthy diet is tailored to each person. It changes from person to person based on factors like age, gender, and occupation. When author talk about eating in a way that promotes health and wellness and lessens the likelihood of chronic diseases, we're talking about a healthy diet. To achieve nutritional requirements, it entails eating a wide range of meals from various dietary groups in the right amounts.
- **Nutrients-** Food is a great source of nutrients, which are components necessary for proper growth, development, and health maintenance. In addition to regulating several biochemical processes, they supply energy to the body and ensure that all systems and organs are working properly. Carbohydrates, proteins, lipids, vitamins, and minerals are the six primary types of nutrition.

5.2. Study Area

In the study, the author selected the southern region of Assam i.e., Cachar, Hailakandi, and Karimganj districts of Assam, India for research. There were many cases of nutrition labels on health drinks among the youth.

5.3. Targeted Population

The study focused on the demographic most impacted by nutrition labels on health drinks: young adults in Assam, India, whose ages range from fifteen to twenty-nine (according to the National Youth Policy), and who are either full-time students or full-time employees in the education sector (MS, PhD, etc.).

5.4. Sample size of the study

The ideal sample size and circumstances can be found by entering the targeted precision, confidence level, and projected population ratio of food labels into Cochran's Formula. Large populations are thought to be especially well-suited for Cochran's formula. There is a "correction" that enables one to overcome the no given by Cochran's formula since conclusions drawn from smaller samples are more informative than those drawn from larger ones.

$$n = \frac{n0}{1 + \frac{(n0 - 1)}{n}}$$

$$((1.96)^2(0.5)\ (0.5))/(0.05)_2 = 384.$$

6.7. Sample of the study

The study was conducted in different districts of Assam namely, Cachar, Hailakandi, and Karimganj. The author conducted the study in the selected areas of Assam state and analyzed data from a large sample of male and female students at all levels of education, including high school, college, graduate, postgraduate, master's, and doctoral.

6.7. Sampling Technique

Simple random sampling

Using this sampling strategy, there is a perfect chance of choosing for each individual in the population. Of all potential sampling approaches, this one requires the least amount of prior data on the population and only requires a single random selection. Random ordinary selection is used to get statistical findings about a population. Every single person in the world is on an exhaustive list.

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- the ability to reach out to or access any individual in the population if they desire.
- the means to get information from an enough number of people.

6.8. Collection of Data

The goal of this study was to better understand the level of nutrition-label literacy among young people in Assam. The author relied on quantitative methods of data collection for his research. And used Google Forms to create a questionnaire for this quantitative method, which collects primary data. Online surveys are a tried-and-true method of gathering information; participants are contacted via send with a link for the survey, and they are asked to fill it out. In the surveys, participants to rate their level of satisfaction and whether they agreed with those in the targeted area. The five review options provided in the surveys are as follows:

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly agree

6.9. Statistical Tools

- **SPSS** (Statistical Package for the Social Sciences)

SPSS, often known as IBM SPSS Statistics, is one tool that can be used to analyze statistical data. Despite having its roots in social science, as suggested by its name, SPSS has found fresh life in a range of data industries. A tool for data analysis, SPSS can be used for group identification prediction, numerical outcome prediction, and descriptive and multidimensional statistics.

- **Excel**

Microsoft Excel is an application for spreadsheets that is part of the Office suite of products designed for use in commercial settings. Spreadsheet data can be formatted, organized, and calculated with the help of Microsoft Excel.

6.10. Statistical Technique

- ***Mean***

One of the three metrics of central tendency in statistics (the others being the mode and the median) is the mean. Simply said, the mean is the sum of the data provided. It indicates that the values in a particular data set are distributed evenly.

- ***Standard Deviation***

Using the standard deviation to find outliers is routine procedure. The most common ways to express the mean deviation, which is also abbreviated as SD, are the symbols for mathematics σ (sigma) for several persons that vary and the Greek letter s for the sample deviation. The square root of the entire variance of a distribution of likelihood, data set, quantitative humanity, sample, or random element is the value of its standard deviation.

- ***Regression***

Regression analysis is a statistical tool that's used in various domains, such as finance, economics, and investing, to determine the kind and strength of a relationship between one dependent component (Y) and a group of independent variables. The most popular approach is linear regression, also referred to as easy regression or conventional least squares (OLS). In linear regression, the best-fitting line can be utilized to assess if there is a linear relationship between two variables.

- ***Anova***

One statistical method for comparing the means of many groups is analysis of variance (ANOVA). When looking for statistically significant variations in group means, analysis of variance (ANOVA) tests compares the variance within and between groups. Factorial, repeated measures, and one-way analyses of variance are only a few of the many variants of analysis of variance. While analysis of variance (ANOVA) can show if there is a difference in group means, In contrast to ANOVA, which allows comparisons across several groups with only one test, such tests could only compare two groups. After appearing in Fisher's seminal work, Statistical Techniques for Research Workers, the approach became widely used.

6. Data Analysis and Findings:

The table illustrates the reliability of the questionnaire designed to gauge young people's knowledge of nutrition labels on healthy drinks.

Table 1. Reliability Statistics

Cronbach's Alpha	**N of Items**
.812	29

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With 29 items and a Cronbach's Alpha of 0.812, the questionnaire indicates to have an acceptable level of internal reliability. This shows that the questionnaire's items are sufficiently rational and reliable to gauge young people's knowledge of nutrition labels on health drinks.

Demographic distribution

According to the study's demographic distribution, 50.8% of the sample's respondents were men and 49.2% were women ($p < 0.001$). The sample was split nearly evenly by gender. The distribution of age groups revealed that the largest proportion was in the 15-20 years range (39.84%), followed by 21-25 years (31.51%) and 26-29 years (28.64%) ($p < 0.001$). The gender distribution is nearly equal, while age groups show a higher proportion of respondents aged 15-20. Education qualification varies, with the highest frequency in higher secondary education, and monthly income distribution shows a diverse spread across different income brackets. Regarding education, the majority of respondents had completed Higher Secondary education, accounting for 27.1% of the total. This was closely followed by Graduation (25.8%), Matriculation (24.2%), and post-Graduation or above (22.9%), with a statistically significant difference ($p < 0.001$). The monthly income data revealed that 28.6% of the respondents earned between Rs. 30,001 and Rs. 60,000. Additionally, 26% of the respondents earned above Rs. 90,000. Equal proportions of the respondents, 22.7% each, earned below Rs. 30,000 and between Rs. 60,001 and Rs. 90,000. These findings were statistically significant with a p-value of less than 0.001.

Table 1. Demographic distribution of the respondents

Parameters		**Frequency (%)**	**Sig. (2-tailed)**
Gender	**Male**	195 (50.8%)	<0.001
	Female	189 (49.2%)	
Age Group	**15-20**	153 (39.84%)	<0.001
	21-25	121 (31.51%)	
	26-29	110 (28.64%)	
Education Qualification	**Matriculation**	93 (24.2%)	<0.001
	Higher Secondary	104 (27.1%)	
	Graduation	99 (25.8%)	
	Post-Graduation or above	88 (22.9%)	
Monthly Income	**Below Rs. 30,000**	87 (22.7%)	<0.001
	Rs. 30,001 - 60,000	110 (28.6%)	
	Rs. 60,001 - 90,000	87 (22.7%)	
	Above Rs. 90,000	100 (26%)	

The average score of respondents as per awareness domains

The awareness levels of nutrition labels are shown in a survey concerning different categories. The category "Awareness and Use of Nutrition Labels" has a maximum score of 50. The mean total score for this category is 34.28±6.71, indicating a statistically significant level of awareness ($p < 0.001$). The two factors, "Factors Influencing Awareness" and "Perceived Importance of Nutrition Labels," have maximum values of 25 each. The mean score for "Factors Influencing Awareness" is 15.83±4.03 ($p = 0.005$), while the mean score for "Perceived Importance of Nutrition Labels" is 15.15±3.24 ($p = 0.002$). The category "Behaviors and Attitudes Towards Health Drinks" has a score of 25, with a mean of 15.34±3.39 ($p < 0.001$). Finally, the assessment titled "Knowledge and Understanding of Nutrition Labels" also has a mean score of 14.89±3.18 out of 25, with a high level of statistical significance ($p < 0.001$). The comparison reveals statistically significant differences (p-values < 0.05) in the levels of awareness, factors influencing awareness, perceived importance, behaviors and attitudes towards health drinks, and knowledge and understanding of nutrition labels, with all mean scores being notably lower than the maximum possible scores.

Table 2. All category awareness level

Domain	**Maximum score**	**Total score (Mean±SD)**	**Sig. (2-tailed)**
Awareness and Use of Nutrition Labels	**50**	34.28±6.71	<0.001
Factors Influencing Awareness	**25**	15.83±4.03	0.005
Perceived Importance of Nutrition Labels	**25**	15.15±3.24	0.002
Behaviour and Attitudes Towards Health Drinks	**25**	15.34±3.39	<0.001
Knowledge and Understanding of Nutrition Labels	**25**	14.89±3.18	<0.001

Total level of awareness

The levels of awareness in study are classified based on their scores and the related frequencies. The group with the lowest level of awareness, consisting of 25 persons (6.5% of respondents), has scores below 80. The average score for this group

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is 77.84±2.59, and the 2-tailed value is statistically significant at 0.000. The bulk of people, comprising 64.3% (247 individuals), belong to the moderately poor awareness group, scoring between 81 and 100. This group has an average score of 91.58±5.23. Individuals with a moderate level of awareness, scoring between 101 and 120, make up 26.3% of the total (101 individuals), with an average score of 106.32±4.41. A tiny subset, comprising 2.9% (11 persons), exhibits a high level of awareness, with scores ranging from 121 to 135 and an average score of 124.45±2.94. None of the respondents had scores suggesting very high awareness (over 135) (Figure 1.).

Table 3. Awareness level of the studied respondents

	Score	Frequency (%)	Awareness level	Sig. (2-tailed)
Low Awareness	<80	25 (6.5%)	77.84±2.59	0.000
Moderately Low Awareness	81-100	247 (64.3%)	91.58±5.23	
Moderate Awareness	101-120	101 (26.3%)	106.32±4.41	
High Awareness	121-135	11 (2.9%)	124.45±2.94	
Too High Awareness	>135	0	0	

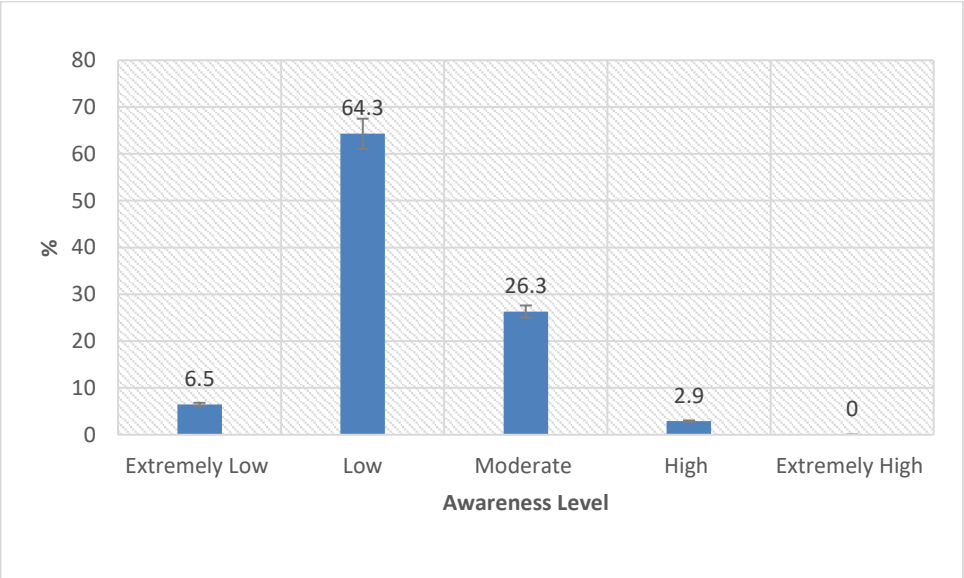

Figure 1. Awareness level of the studied respondents

Awareness of respondents based on their demographics

This table provides a comparison of awareness levels among respondents based on different demographic variables such as gender, age, education qualification, and monthly income. Here's a detailed interpretation.

Table 4. Comparison of awareness level of the respondents based on their demographics

Variable		Awareness level	$\chi 2$	Sig. (2-tailed)
Gender	**Male**	96.53±10.84	42.207a	0.057
	Female	94.51±9.91		
Age	**15-20**	85.66±10.50	782.441a	0.116
	21-25	94.14±9.97		
	26-29	96.79±10.69		
Education Qualification	**Matriculation**	84.48±9.83	160.261a	0.085
	Higher Secondary	96.26±11.32		
	Graduation	97.47±10.21		
	Post-Graduation or above	95.72±9.21		
Monthly Income	**Below Rs. 30,000**	94.72±10.19	144.329a	0.650
	Rs. 30,001 - 60,000	95.38±10.57		
	Rs. 60,001 - 90,000	95.42±10.89		
	Above Rs. 90,000	96.65±10.07		

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The mean awareness level for males is 96.53 with a standard deviation of 10.84. For females, the mean awareness level is slightly lower at 94.51 with a standard deviation of 9.91. The chi-square test ($\chi 2$) indicates a significant association between gender and awareness level with a p-value of 0.057, which suggests a potential difference in awareness levels between males and females, though not statistically significant at the conventional threshold of 0.05. Awareness levels increase with age. For respondents aged 15-20, the mean awareness level is 85.66. For those aged 21-25, it's 94.14. And for those aged 26-29, it further increases to 96.79. The chi-square test indicates a significant association between age and awareness level ($p < 0.05$), suggesting that age might play a role in determining the level of awareness among respondents. There is a noticeable increase in awareness levels with higher education qualifications. Respondents with Matriculation education have the lowest mean awareness level at 84.48. Those with Higher Secondary education have a mean awareness level of 96.26. Graduates show a mean awareness level of 97.47. Respondents with post-graduation or above have a mean awareness level of 95.72. The chi-square test indicates a significant association between education qualification and awareness level ($p < 0.05$), implying that higher education levels are associated with higher awareness levels. There seems to be a slight increase in awareness levels with higher monthly income, although the differences are not very pronounced. Respondents with a monthly income below Rs. 30,000 have a mean awareness level of 94.72. Those earning between Rs. 30,001 and Rs. 60,000 have a mean awareness level of 95.38. For the income brackets of Rs. 60,001 - 90,000 and above Rs. 90,000, the mean awareness levels are 95.42 and 96.65, respectively. The chi-square test does not show a significant association between monthly income and awareness level ($p > 0.05$), suggesting that there might not be a strong relationship between these two variables. In summary, this table suggests that age and education qualification might have a significant influence on awareness levels, while gender and monthly income may have a less pronounced effect.

7. Conclusion

Several policy-level initiatives can improve dietary intake and avoid nutrition-related chronic diseases. One of these is the inclusion of comprehensive nutrition information on food packaging. Using a novel natural experiment methodology, the results of this massive study give crucial "real world" information on FOPL policy at the population level. This study's findings corroborate those of other qualitative and randomized controlled experiments, which have shown that plain, easy-to-understand FOPLs supplement the numerical nutrient data offered by NFTs. All FOPL methods were supported by evidence, with the significant exception of GDA-based systems; nonetheless, Warning FOPLs might be more effective because of how easy they are to grasp. Several nations are currently enacting FOPL policies, and the results could have significant policy implications for them. One such issue is the relative merits of mandatory and voluntary FOPL standards; the former are linked to more awareness and use, while the latter protect against the possibility that the food industry would apply the regulations selectively to healthier pre-packaged items.

Opportunities and difficulties for future public health are highlighted by the fact that young people in Assam are aware of nutrition labels when it comes to health drinks. Findings indicate that many young adults (15–29 years old) do not fully comprehend the information provided on nutrition labels for health drinks. Because of this ignorance, they may make poor food choices, which could have an effect on their health over time. The National Youth Policy states that encouraging healthy lives among this generation requires a significant increase in nutritional literacy. In the future, it will be crucial to launch specific educational initiatives to raise consciousness regarding nutrition labels. Workshops in educational institutions, outreach initiatives to the community, and targeted digital media campaigns aimed squarely at youth could all be part of these endeavors. Working together with dietitians and other medical experts could also yield reliable recommendations for making good use of nutritional data.

Additionally, pupils may develop an early knowledge and comprehension of the importance of proper nutrition if it were a required part of the school curriculum. By being proactive, we can help foster an atmosphere of health awareness from an early age and equip young people to make educated decisions. Assam has an opportunity to reduce the likelihood of future health problems caused by unhealthy eating habits among its young people if it makes nutritional literacy a top priority.

Ultimately, there are both obstacles and opportunities for proactive measures brought about by the present-day understanding of nutrition labels among Assam's youth. The state can help its kids and the public's health in the long run by integrating policies and implementing smart educational activities that encourage healthy eating.

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References

1. Ab Hamid, N. R., Akhir, R. M., & Cheng, A. Y. (2013). Social media: an emerging dimension of marketing communication. *Journal of Management and Marketing Research*, *12*, 1.
2. Abd Majid, H. A. M., Shariff, S. N. F. A., Majid, M. A. A., Aszahar, N. F. F. C., & Omar, N. S. (2015). Nutritional labelling: awareness and its effects towards consumer behaviour in purchasing product. *J. Appl. Environ. Biol. Sci*, *5*(6S), 62-68.

3. Bablani, L., Ni Mhurchu, C., Neal, B., Skeels, C. L., Staub, K. E., & Blakely, T. (2020). The impact of voluntary front-of-pack nutrition labelling on packaged food reformulation: A difference-in-differences analysis of the Australasian Health Star Rating scheme. *PLoS Medicine*, *17*(11), e1003427.
4. Bandara, B. E. S., De Silva, D. A. M., Maduwanthi, B. C. H., & Warunasinghe, W. A. A. I. (2016). Impact of food labeling information on consumer purchasing decision: with special reference to faculty of Agricultural Sciences. *Procedia Food Science*, *6*, 309-313.
5. Bhargava, M., Bhargava, A., Ghate, S. D., & Rao, R. S. P. (2020). Nutritional status of Indian Youth (15-19 years) from National Family Health Surveys 3 and 4: Revised estimates using WHO 2007 Growth reference. *PloS one*, *15*(6), e0234570.
6. Borgmeier, I., & Westenhoefer, J. (2009). Impact of different food label formats on healthiness evaluation and food choice of consumers: a randomized-controlled study. *BMC public health*, *9*, 1-12.
7. Cena, H., & Calder, P. C. (2020). Defining a healthy diet: evidence for the role of contemporary dietary patterns in health and disease. *Nutrients*, *12*(2), 334.
8. Cowburn, G., & Stockley, L. (2005). Consumer understanding and use of nutrition labelling: a systematic review. *Public health nutrition*, *8*(1), 21-28.
9. Drichoutis, A. C., Lazaridis, P., & Nayga Jr, R. M. (2006). Consumers' use of nutritional labels: a review of research studies and issues. *Academy of marketing science review*, *2006*, 1.
10. Dutta, S., & Patel, D. (2017). Study of consumer awareness on food labelling and use of pack information for purchase of pre-packaged food products. *International Journal of Indian Psychology*, *4*(4), 63-74.
11. Hammond, D., Acton, R. B., Rynard, V. L., White, C. M., Vanderlee, L., Bhawra, J., ... & Thrasher, J. F. (2023). Awareness, use and understanding of nutrition labels among children and youth from six countries: Findings from the 2019–2020 International Food Policy Study. *International Journal of Behavioral Nutrition and Physical Activity*, *20*(1), 55.
12. Kapur, S. (2015). Youth: the stage of transition. *Horizons of holistic education*, *2*(3), 233-50.
13. Key, T. J., Schatzkin, A., Willett, W. C., Allen, N. E., Spencer, E. A., & Travis, R. C. (2004). Diet, nutrition and the prevention of cancer. *Public health nutrition*, *7*(1a), 187-200.
14. Key, T. J., Schatzkin, A., Willett, W. C., Allen, N. E., Spencer, E. A., & Travis, R. C. (2004). Diet, nutrition and the prevention of cancer. *Public health nutrition*, *7*(1a), 187-200.
15. Kumar, K. R., Kumar, P. P., & Rao, N. M. (2011). Development and validation of RP-HPLC method for the estimation of ascorbic acid in health drinks. *J Chem Pharm Res*, *3*(3), 363-74.
16. Laraia, B. A., Leak, T. M., Tester, J. M., & Leung, C. W. (2017). Biobehavioral factors that shape nutrition in low-income populations: a narrative review. *American journal of preventive medicine*, *52*(2), S118-S126.
17. Levy, A. S., Schucker, R. E., Tenney, J. E., & Mathews, O. (1988). Consumer demand for detailed nutrition information: A case study. *Journal of Nutrition Education*, *20*(4), 161-166.
18. Link, B. G. (1987). Understanding labeling effects in the area of mental disorders: An assessment of the effects of expectations of rejection. *American sociological review*, 96-112.
19. Madhvapaty, H., & DasGupta, A. (2015). A study of food product labelling for products aimed at children. *Journal of Business and Management*, *17*(3), 88-96.
20. Martini, D., & Menozzi, D. (2021). Food Labeling: Analysis, Understanding, and Perception. Nutrients 2021, 13, 268. *Food Labeling*, 1.
21. Motarjemi, Y. (2013). *Encyclopedia of food safety*. Academic Press.
22. Ogundijo, D. A., Tas, A. A., & Onarinde, B. A. (2021). An assessment of nutrition information on front of pack labels and healthiness of foods in the United Kingdom retail market. *BMC Public Health*, *21*, 1-10.
23. Qi, S. F., Cao, Y. J., Wang, H. J., Zhang, B., Yan, J., & Tian, Q. B. (2022). Associations of carbohydrate intake with new-onset hypertension subtypes: results from the China Health and Nutrition Survey (2000–2011). *Frontiers in Nutrition*, *8*, 728774.
24. Shophiya, R., & Shopiya, R. (2009). A study on consumers' satisfaction towards various brands of Malted Milk Food in Gobichettipalaym Town. *Unpublished Thesis. Gobi Arts College, India*.
25. Singh, S., & Singh, D. (2014). Problems and prospects of small and medium enterprises in India. *International Journal of Multi-Disciplinary Engineering and Business Management*, *2*(1), 18-23.
26. Treacy, M., & Wiersema, F. (2007). *The discipline of market leaders: Choose your customers, narrow your focus, dominate your market*. Hachette UK.
27. Warning FOPLs were first implemented in Chile, followed by several other countries including Mexico, which replaced its mandatory GDA system in 2020 with the more interpretive Warning FOPLs
28. Webb, G. P. (2019). *Nutrition: maintaining and improving health*. CRC Press.
29. Willett, W. A. L. T. E. R., & Sampson, L. A. U. R. A. (2013). Foods and nutrients. *Nutritional epidemiology*, 34-49.
30. World Health Organization. (2002). *The world health report 2002: reducing risks, promoting healthy life*. World Health Organization.
31. YOUNG, A. (1968). Review of research and studies related to health education practice (1961–1966): School health education. *Health Education Monographs*, (28), 1-97.

32. Zelazo, P. D., Carter, A., Reznick, J. S., & Frye, D. (1997). Early development of executive function: A problem-solving framework. *Review of general psychology*, *1*(2), 198-226.
33. Robbins, J. (2012). *Diet for a New America: How Your Food Choices Affect Your Health*. HJ Kramer.
34. Bhawra, J. (2020). A five-country evaluation of nutrition labelling policies: consumer use, understanding, and knowledge of processed foods.
35. Bussell, G. (2005). Nutritional profiling vs guideline daily amounts as a means of helping consumers make appropriate food choices. *Nutrition & Food Science*, *35*(5), 337-343.
36. Chimedtseren, N. (2022). Consumer perspectives on food and nutrition labelling and use of food label information in Mongolia to inform food labelling policy.
37. Wood, A. (2016). *A comparison of front-of-pack food labelling policy development processes in Australia, New Zealand and the United Kingdom* (Doctoral dissertation, ResearchSpace@ Auckland).