

Food Labeling on Ready to Eat Convenience Foods in Jaipur City

Research Article

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Abstract

Food safety is a major concern nowadays, for making food choices. The aim of the study was to examine the food labels and their compliance with the food labeling laws by Codex Alimentarius. A total of 884 ready to eat convenience food products from eight grocery outlets were surveyed and information present on food labels was compared against Codex guidelines to check the compliance of food labeling laws. According to Codex Alimentarius all pre-packaged food should have following mandatory food label information on the products that are name, address, date, origin, ingredient, additives and health claim. It was concluded that in all the products, maximum products had the name visible (91.06%), with logo present (89.14%), and the addresses of the manufacturer (88.57%) on them. Out of the above stated 4 pre packaged food products, the information regarding labeling, address of the manufacturer and origin of country were 100% declared. On the other hand the entire ready to eat meals and snacks displayed the address of manufacturer according to Codex Alimentarius Standard. Maximum products displayed information regarding address of manufacturer, logo, visible product name, vegetarian/non-vegetarian, net content. This suggests that compliance of all food labeling laws by Codex Alimentarius Commission was not found to be satisfactory. The compliance of Indian packaged foods with food labeling requirements is sub-optimal.

Keywords: Food label; Market survey; Convenience foods products

Introduction

Food and health are two interrelated concepts that are or rather should be concerns for the food industry, governments, and consumers alike. Health is purely based on the nourishment the food provides. As a transitional economy India, is facing numerous challenges, among which the health status of the population is the alarming one. The mortality from non communicable diseases has constantly increased and the mortality rates from cancer have almost doubled in India over the past two decades. The health deterioration of the Indian population during transition is thought to be linked to a wide range of lifestyle factors among which diet and sedentary life patterns contribute substantially [1]. Globally, diet-related chronic disease-including obesity, diabetes, cardiovascular disease, cancer, osteoporosis, and dental diseases-are on the rise. According to WHO “consumers require accurate, standardized and comprehensible information on the content of food items” to make healthy food choices [2,3].

There is a need to reduce chronic disease risk, and for that individuals and populations should limit their intake of saturated, trans fat, cholesterol, and simple and added sugars, along with energy balance [3].

According to a recent report by India Brand Equity Foundation “the notable trends in the Indian food processing sector are: higher consumption of horticulture crops, emphasis on healthier ingredients (consumers prefer foods with lower carbohydrate content, low cholesterol edible oils), packaging as a purchase influencer and communicator and a shift from usefulness in processing to usefulness to consumers” [4].

“Food safety is developing into one of the most urgent issues that confront the international community due to increasing globalization of trade in food. While international regulations are available for almost all categories of products, there are variations in regulations followed by individual member nations, including India,

as they are free to adopt, modify or have their own regulations” [5]. “The relationship between food safety and food quality is linked to food choice and consumer demand” [6].

Food labels serve as the tool for making need based food choices. The aim of the study was to examine the food labels and their compliance with the food labeling laws by Codex Alimentarius Commission (CDC).

Methodology

A total of 884 ready to eat food products from eight grocery outlets were surveyed and information present on food labels was compared against CDC guidelines to check the compliance of food labeling laws (Table 1). The study was carried out in Jaipur city which was divided in to four zones east, west, north, and south, respectively (Table 2). There were two criteria for sample selection i.e. inclusion criteria and exclusion criteria. The conditions for inclusion criteria of food products were that products should be labeled, packaged, commonly consumed and available in the grocery stores, whereas food products were excluded from selection which were loosely packed, not labeled, animal infested/spoilt etc.

The selection of shops for the purpose of data collection was done in accordance to the map of Jaipur city.

The following information was checked on the label of pre packaged foods as applicable to the food, in accordance to the codex standards [7].

- The name of the food
- Address of the manufacture
- Date market and the date of minimum durability
- Date of packaging
- Date of minimum durability: (best before)
- Net contents and drained weight for liquid foods, by volume

Table 1: Categorization of ready to eat meals.

Categories	Food Stuff
Ready to Eat Meals	Breakfast cereals, Paranthas, Pulses, Soups, Vegetables, Sweets, Frozen foods, Instant mixes, Semi prepared like noodles, Papad, Poha
Ready to Eat Snacks	Biscuits-Plain/Sweet/Salted/Cream/Wafer Biscuit/ Multigrain biscuit/Granola bar) Savory snacks- Fried namkeen, Dry fruits, Roasted dry fruit and Roasted namkeen Assorted- Whole meal snack, Commeal snacks, Baked snacks, Rice snacks, Sweets Chocolates- Bars, Dry fruit chocolates, Wafer chocolates, Salads
Food Accompaniments	Pickles, Sauces, Jams, Chutneys, Papads, Cheese slices, Cheese spread, Mozzarella cheese, Sandwich spread/ Dressing, Peanut butter, Vegetable puree, Tinned vegetable and fruits, Dry fruits and vegetables
Beverages	Fruit and Vegetable drink, Milk dairy (Full cream/ Single/ Double toned), Flavored milk, Curd (Plain/Flavored), Butter milk, Juices, Shakes and Ice creams, Sherbets, Squashes, Dry mixes, Aerated drinks, Diet or Health drinks, Sport drink
Ice-Creams	Vanilla, Butterscotch, Strawberry, Chocolate, Pineapple Shakes, Sundae

Table 2: Distribution of localities according to zones.

Zone	Localities
North	Rambagh, Banipark, Ajmeri gate, Chaura rasta, Babu bazaar, Johari bazaar
South	Gopalpura, Mahaveer Nagar, Durgapura, Surya nagar, Sanganer, Pratap Nagar, Sitapura Road
East	Gandhi Nagar, Bajaj Nagar, Janta Market, Babu Nagar, Rajapark, Malviya Nagar, Jawahar Nagar, Adarsh Nagar, Jagatpura
West	Civil lines, Vaishali Nagar, Barkat Nagar, Kisan Marg, Mansarovar, 22 Godam, Bagadiya Bhawan.

- For solid foods, by weight
- For semi solids or viscous food either by weight or volume
- Country of origin
- List of ingredients
- Ingredient present or absent
- Descending order of in going weight
- Classes
- **Food allergens:** Labels were checked to find that the ingredients which cause hyper sensitivity were declared.
 - Cereals containing gluten i.e. wheat, rice, barley, oats spell or their hybridized strains and products of these:
 - Crustaceans and products of these
 - Egg and egg products
 - Fish and fish products
 - Peanuts, soybeans and products of these
 - Milk and milk products(lactose included)
 - Tree nuts and nut products, and sulphite in concentration of 10 mg/kg or more.
 - Dehydrated and condensed foods which were intended to be reconstituted by the addition of water only, the ingredients had to be listed in order of proportion (m/m) in the reconstituted product provided that a statement such as “ingredient of the product when prepared in accordance with the directions on the label” had been included.
 - **Food additives:** Food additives falling in the respective classes and appearing in the list of food additives permitted for use in food generally the following class title should have been used together with the specific name or recognized numerical identification as required by national legislation. They are: Acidity Regulator, Acids, Anti caking Agents, Antioxidant, Flavor enhancer, Foaming agents, Gelling agents, Humectants, Bulking agents, Color, Emulsifier, Sweetener, Flour treatment Agent, Preservative, Raising Agent, Stabilizer, Thickener
 - **Instruction for use:** It includes the reconstitution, where applicable, had to be included on the label as necessary, to ensure correct utilization of the food.
 - **Instruction for storage:** The following date marketing shall apply:

- o The date of minimum durability had to be declared.
- o It should consist at least of, the day and the month for the products with a minimum durability of not more than three months.
- o The date has to be declared by the words. “Best before....” Where the day has been indicated.
- o The day month and the year had been declared in encoded numerical sequence except that the month should indicate by letters in these countries where the use does not confuse the consumer.
- **Health claims:** Health claims means any representation that stated, suggested, or implied that a relationship existed between a food or a constituent of that food and health.
- **Percent Daily Value (%DV):** The amounts of protein, total fat, saturated fat, trans fat, cholesterol, carbohydrate, sugar, dietary fiber, Vitamin A, and C and minerals (iron and Calcium) gave general idea of how much of a vitamin or mineral a serving contributed to the total daily requirement.
- **Vegetarian/Non Vegetarian:** All packaged food was labeled with a green and maroon mark for vegetarian and non vegetarian foods respectively.
- Green mark means suitable for the vegetarian
- Maroon mark means suitable for the non vegetarian [7].

Results

Eight retail outlets of 4 zones in Jaipur city were identified and packaged food products available at these outlets were analyzed for the food and nutrition label information available. Table 3 depicts the food labeling information present of different types of food products. Maximum products displayed information regarding address of manufacturer, logo, visible product name, vegetarian/non-vegetarian, net content. This suggests that compliance of all food labeling laws by Codex Alimentarius was not found to be satisfactory.

Codex Alimentarius listed energy, protein, carbohydrate, total fat, saturated fat, sodium and total sugars as mandatory nutrient for which information had to be present on labels. Figure 1 reveals that 100% compliance was reported for energy information on beverages and accompaniments labels. Least reported nutrient was saturated fat in beverages (18.92%).

Discussion

India is experiencing a nutrition transition with the consumption of packaged foods rapidly increasing. Nutrition labels are essential if consumers are to understand the healthiness of these products. In 2011 the Food Safety and Standards Authority of India introduced regulation defining national nutrition labeling requirements and the Codex Alimentarius has recommended a global standard. The compliance of Indian packaged foods with food labeling requirements is sub-optimal. With the Indian population likely to consume much more packaged food over coming years full and effective food labeling will be essential [8].

Table 3: Presence of mandatory food labeling information on various products.

Food Label Details	Snacks (n=461)	RTE (n=238)	Beverages (n=74)	Accompaniments (n=111)	Total (N=884)
Address of manufacturers	99.78 (460)	57.98 (138)	100 (74)	100.00 (111)	88.57 (783)
Country of origin	85.47 (394)	19.33 (46)	100 (74)	100.00 (111)	70.7 (625)
Batch number	85.47 (394)	47.9 (114)	98.65 (73)	98.20 (109)	78.05 (690)
Logo	83.73 (386)	92.44 (220)	98.65 (73)	98.20 (109)	89.14 (788)
Visibility of the name of the product	83.73 (386)	100 (238)	98.65 (73)	97.30 (108)	91.06 (805)
Vegetarian/Non-vegetarian	82.86 (382)	92.44 (220)	93.24 (69)	93.69 (104)	87.67 (775)
Net Content	82.65 (381)	94.12 (224)	91.89 (68)	93.69 (104)	87.9 (777)
Nutrition Facts	81.13 (374)	24.37 (58)	87.84 (65)	91.89 (102)	67.76 (599)
Barcode	78.52 (362)	78.15 (186)	87.84 (65)	88.29 (98)	80.43 (711)
Best before	73.54 (339)	80.25 (191)	79.73 (59)	79.28 (88)	76.58 (677)
Date of packaging	64.43 (297)	93.7 (223)	78.38 (58)	78.38 (87)	75.23 (665)
Date of manufacturing	53.15 (245)	92.02 (219)	63.51 (47)	59.46 (66)	65.27 (577)
Instructions for storage	50.33 (232)	35.29 (84)	50 (37)	45.05 (50)	45.59 (403)
Allergy Advice	42.08 (194)	74.79 (178)	40.54 (30)	42.34 (47)	50.79 (449)
Instructions for use	39.7 (183)	79.41 (189)	39.19 (29)	41.44 (46)	50.57 (447)
Date of marketing	39.26 (181)	10.92 (26)	37.84 (28)	32.43 (36)	30.66 (271)
Declarations	36.01 (166)	83.61 (199)	35.14 (26)	13.51 (15)	45.93 (406)
Food Additives	34.49 (159)	28.99 (69)	29.73 (22)	10.81 (12)	29.64 (262)
Health claim	33.84 (156)	25.63 (61)	25.68 (19)	9.91 (11)	27.94 (247)
Classes	31.24 (144)	86.55 (206)	18.92 (14)	9.01 (10)	42.31 (374)
Expiry Date	16.27 (75)	95.38 (227)	14.86 (11)	4.50 (5)	35.97 (318)
Nutrition claim	6.07 (28)	42.44 (101)	9.46 (7)	2.70 (3)	15.72 (139)

Conclusion

Business houses into packaged foods need to be aware and vigilant regarding food and nutritional labeling. In the coming years consumer awareness is likely to be on rise and stringent government rules regarding providing license and keeping a check on the claims of manufacturer regarding labeling would make it necessary to abide the rules by the manufacturers. Bigger business houses may play as threats to small units of packaged food industry. Therefore, there is an urgent need to educate the small players in this field to make strategies which could be helpful in their survival in the competitive world of packaged and convenience foods.

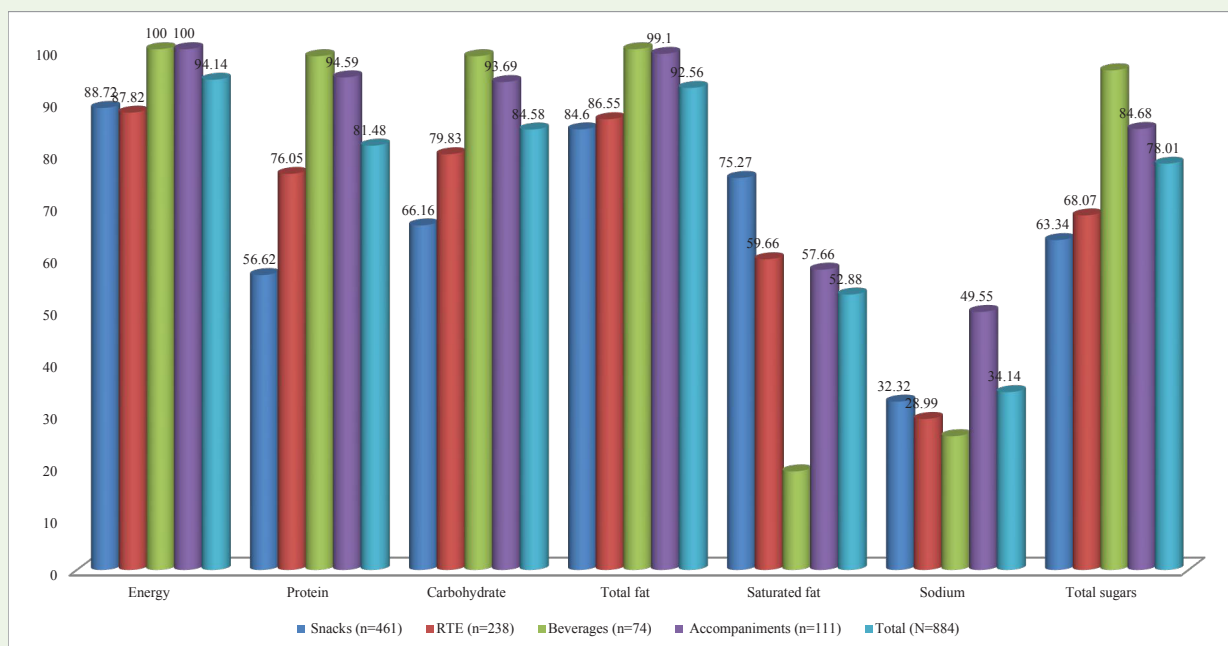


Figure 1: Mandatory nutrition information on lables.

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