

NUTRITION LABELING: AN UNCHARTED SECTION OF READY TO EAT FOODS

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ABSTRACT

Introduction: Nutrition Labeling is the most unexplored section of the food industry. The aim of the study was to investigate the food labels of the ready to eat food with a special emphasis on nutrition labeling.

Methodology: The ready to eat food products were classified into four categories snacks, accompaniments, beverages, and the ready to eat meals. Ready to eat food products from grocery outlets were selected and a market survey was carried out for information on food labels as compared to Codex guidelines to check the compliance of food labeling laws.

Results: Codex alimentarius has given guidelines for nutrition label with mandatory, semi optional and the optional list of the nutrients. The results of the study indicate that only 67.6% of the food items displayed the nutrition fact table and none had hundred percent information regarding nutrition facts.

Keywords- *Nutrition Label, Product, Health Claim and Snacks*

Introduction- In our modern fast-paced lives, preparation and cooking fresh meals has taken a back seat. Consequently, the demand for convenient foods, ready to eat foods (frozen, instant, and ready to cook) is on the rise, especially in the metropolitan cities in India (Alam, 2016; Jain and Jain, 2013). In the present times the consumption of convenience meals, categorized as ready-to-heat pre-packaged foods at grocery stores and fast-food restaurant items, has increased (Monteiro *et al.*, 2010). The working is especially dependent on the processed foods (Murthy and Yogesh, 2013). Lachet *et al.* (2012) has observed that the concept of convenience meals is on the rise, the intake of these foods is associated with high energy and fat and lower micronutrient levels. It has now been demonstrated that eating out or consuming fast foods is associated with

weight gain and obesity (Rosenheck, 2008). Therefore, nourishment has lost its importance (Karuppusamy and Arjunan, 2012) and is replaced by convenience.

The food choices and behaviour of people can be modified by providing appropriate nutrition information. Food labeling can be used as a valuable and potential tool to help consumers make informed decisions about their lifestyle including diet (Wills *et al.*, 2009).

All pre- packaged foods usually have standardized, mandatory nutrition labels at the back of the packet all around the world (Grunert, 2013). The claims that describe the nutrients in a food or the additional information regarding impact of nutrients in food on health or health claims on a product permit the prescribed conditions in many countries (Scott and Worsley, 2013).

In the recent years nutrition labeling has been made mandatory for the food industry for making the general public aware about what they are eating and at the same time helping them, to make informed choices. The present study is planned to investigate the labels on the ready to eat food with an emphasis on labeling regarding nutrients.

Objectives - The study was undertaken with the objective to compare the ready to eat food items with Codex guidelines for mandatory and semi- optional and optional nutrients.

Methodology- Jaipur city was selected for study and the stores from four zones namely north, south, east and west respectively were taken for sample collection. All big retail stores with pre packaged foods like easy day, reliance fresh were approached for collection of samples of packaged ready to eat foods. On the basis of their willingness to be included in the study, two stores from each zone were selected. A two hour slot was given by the store keepers for collecting sample. All labeled food products (884) that were packaged, commonly consumed and available in the grocery stores, were included and their labels were read and compared with Codex guidelines for display of information regarding mandatory, semi- optional and optional nutrients.

Results- The results of the study are presented to assess the nutritional facts given on the food label of selected ready to eat foods. In all 884 products were take up. Food products (n=884) were classified as the following:

- Snacks(461)

- Beverages(74)
- Ready –to – eat meals(238)
- Accompaniments(111)

Nutritional facts on the label of snacks

Snacks - Mandatory nutrients like energy, carbohydrates, protein, and total fat and total sugar were displayed on ninety percent of the snacks. Saturated fat was displayed on 65.61% of snacks whereas display of important nutrient as sodium was least (55.12%, Fig- 1). The nutrition facts that can be displayed are known as semi optional like- MUFA, PUFA, cholesterol, trans fat and fiber. The display of information regarding trans fat was found in 65.12% snacks, regarding cholesterol and fiber was found on 55.61% and 53.17% snack products respectively. MUFA and, PUFA were 32.93% and 36.83% respectively (Fig- 2). Among the optimal nutrition facts information on labels was found for calcium and iron (24.39% and 23.17%) of the total snacks (Fig- 3).

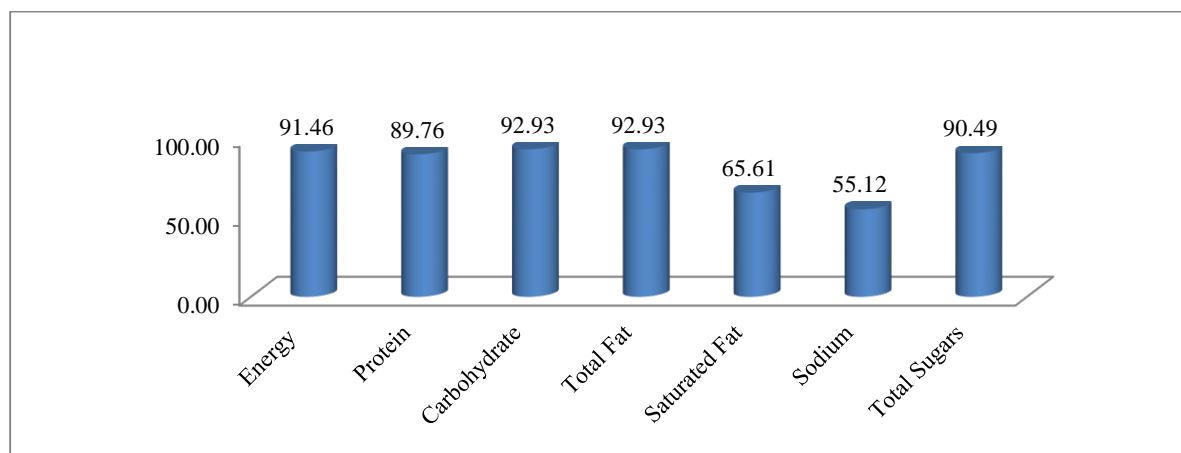


Figure 1- Percent distribution of mandatory nutrition facts on snack labels

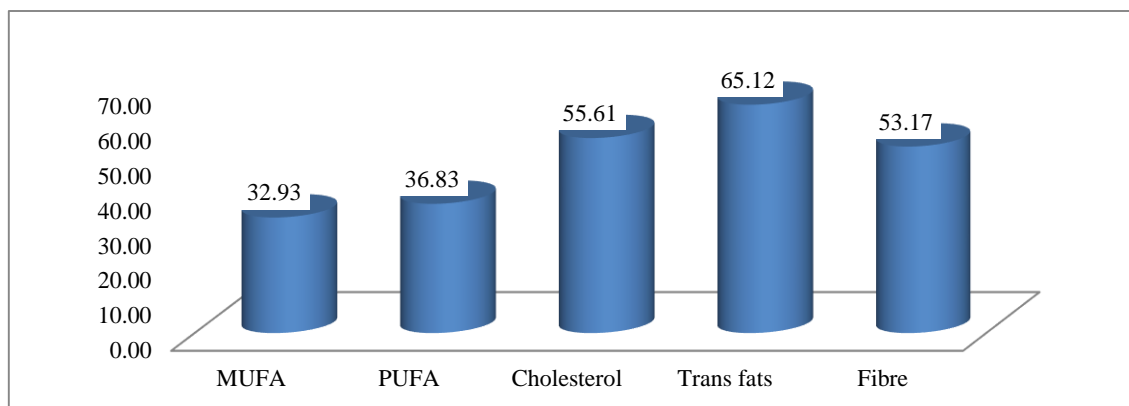


Figure 2- Percentage distribution of semi-optional nutrition facts on snack labels

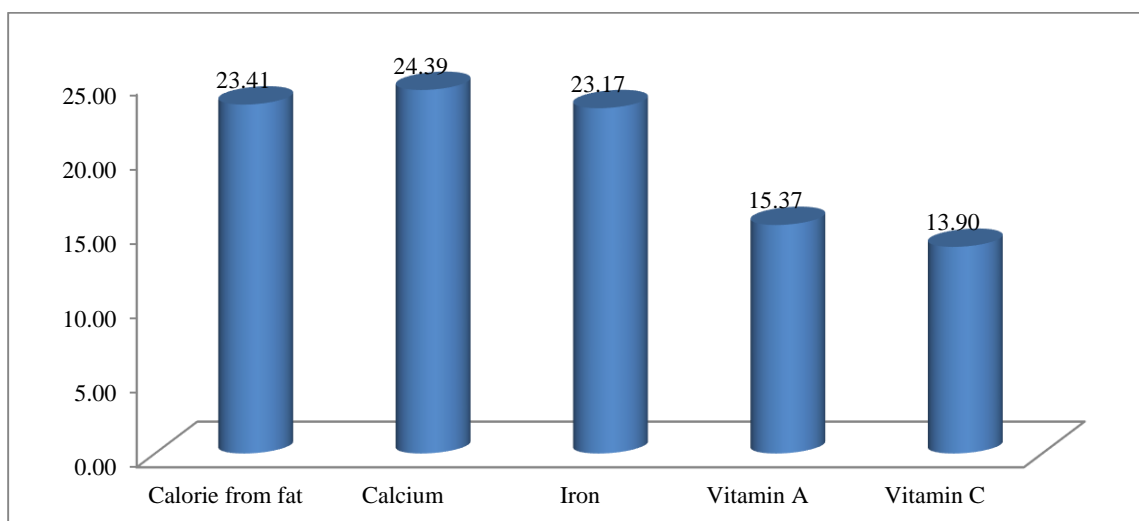


Figure 3- Percentage distribution of optional nutrition facts on snack labels

Nutrition facts on the label of beverages

Beverages- All the beverages (n=74), as depicted in Figure- 4 gave 100% information about mandatory nutrients like energy, protein, carbohydrate and total fat. Display of information regarding sodium and saturated fat was only 39.39% and 22.73% respectively. Display of values for cholesterol was high revealed in semi optional nutrients with 27.27% (Fig- 5). The optional nutrition facts were found only in 6- 4 % beverages (Fig- 6).

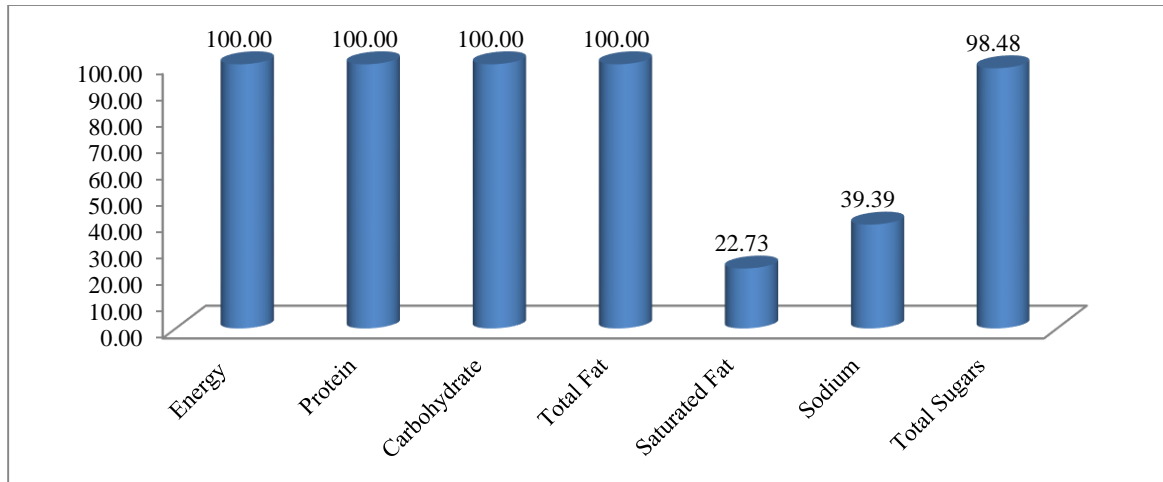


Figure 4 - Percentage distribution of mandatory nutrition facts on beverages

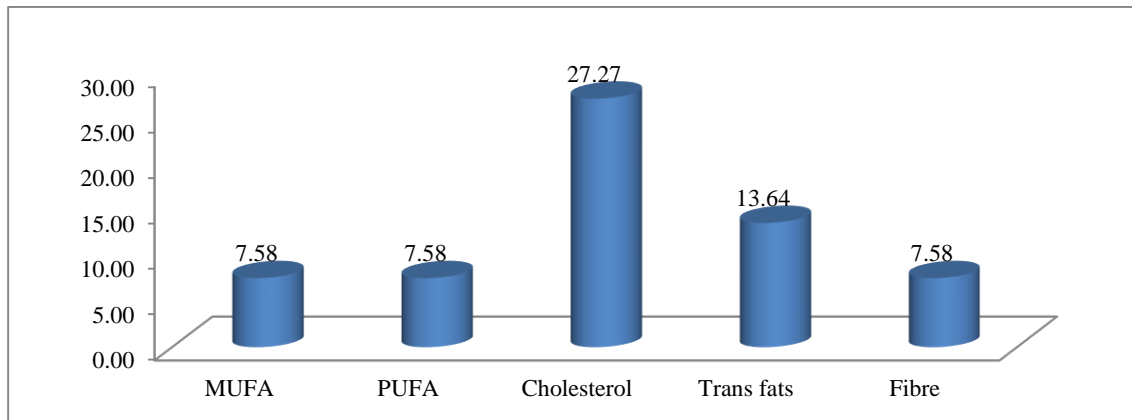


Figure 5- Percentage distribution of semi-optional nutrition facts on beverages

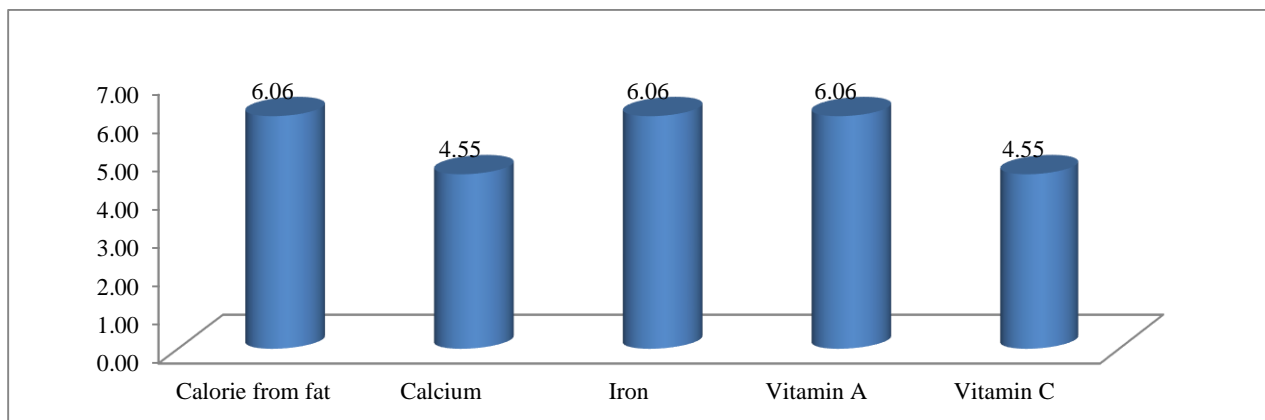


Figure 6- Percentage distribution of optional nutrition facts on beverages

Nutritional facts on the label of RTE foods

Ready to Eat Foods- The information regarding four mandatory nutrients- energy, protein, carbohydrate and total fat on the label were reported to be 97% of the products (Figure 7). Total sugars reported on the label were found to be in 87.16% of the RTE foods. Also saturated fat and sodium were mentioned on the label of 55.96 and 48.62% products.

Figure 8 depicts the display of information of semi optional nutrition facts on the label. Cholesterol was displayed on the label in 56.8% and trans fat was displayed on food label on 44 % RTE foods.

The display of optional nutrients on the label was around 32 % for calcium and iron. Around twenty six percent RTE foods displayed information about vitamin A and 22.94% about vitamin C (Fig. 9) approximately 10% products had information regarding vitamin B₁, B₂, B₆ and B₁₂.

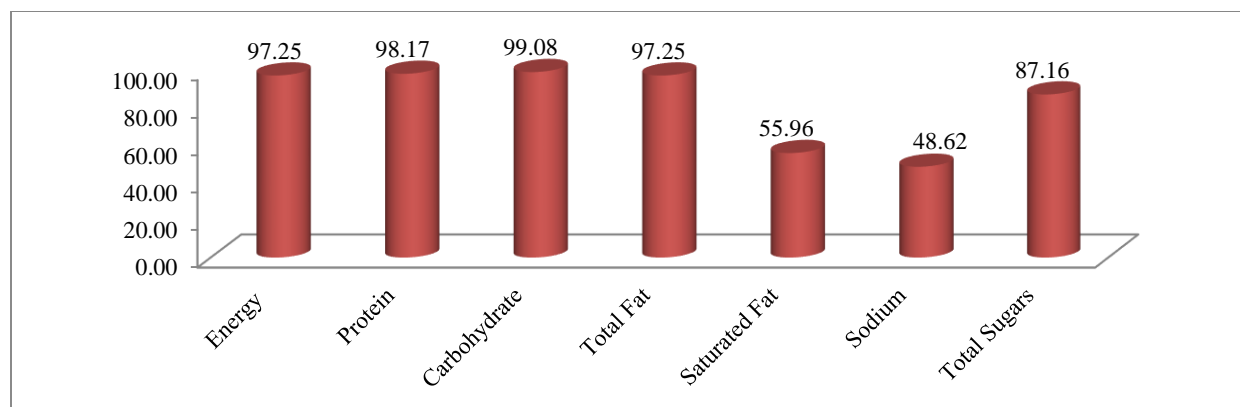


Figure 7 - Percentage distribution of mandatory nutrition facts present on RTE foods

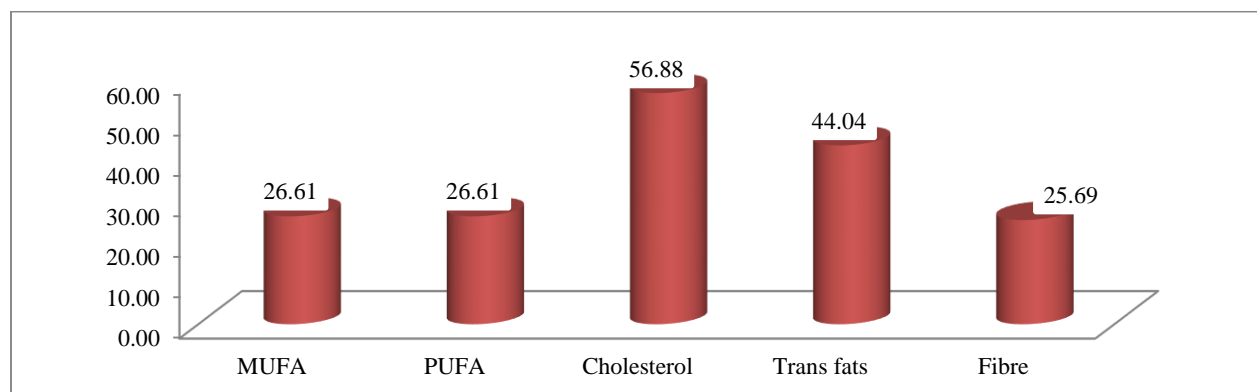


Figure 8 - Percentage Distribution of Semi-optional Nutrition Facts on RTE Meals Labels

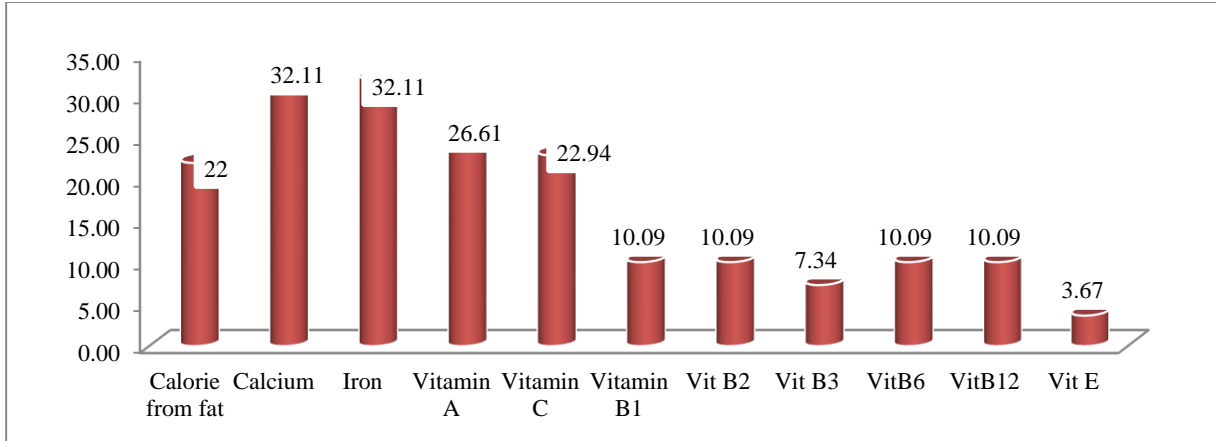


Figure 9 - Percentage distribution of optional nutrition facts on RTE food labels

Nutritional facts on the label of accompaniments

Accompaniments- All the accompaniments (100%) displayed information about the energy, while 97.14% informed about protein and total fat. Ninety percent displayed the carbohydrate and 87.14% gave the total sugar information. Sodium and saturated fat were found in 57.14% and 54.28% accompaniment products (Fig. 10). The semi optional nutrition facts were found in less than 15% of the products, PUFA leading with 15.71%, MUFA and cholesterol with 14.29% respectively and same is reflected in the figure 11.

Figure 12 depicts the nutritional facts on optional nutrients of the accompaniments. Calcium values were displayed on 24.29% labels followed by vitamin values on 31.43% labels.

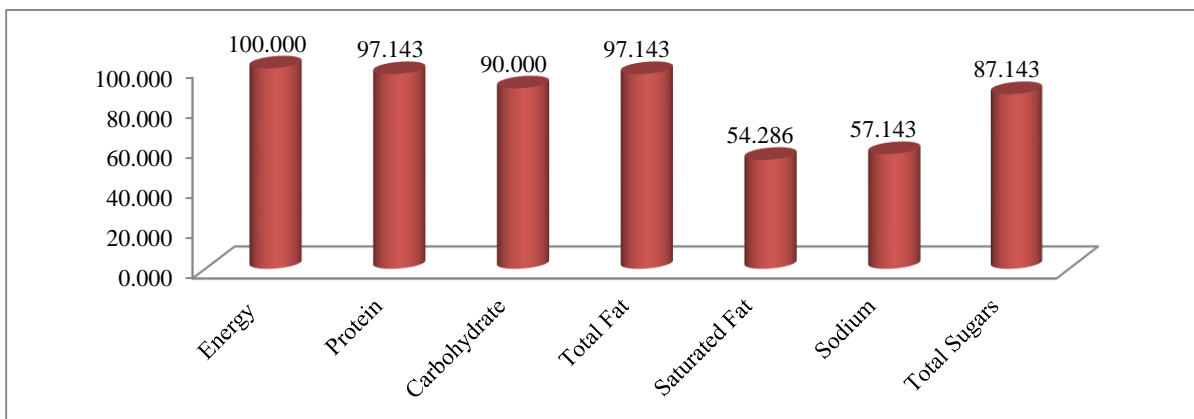


Figure 10- Percentage distribution of mandatory nutrient facts on accompaniments

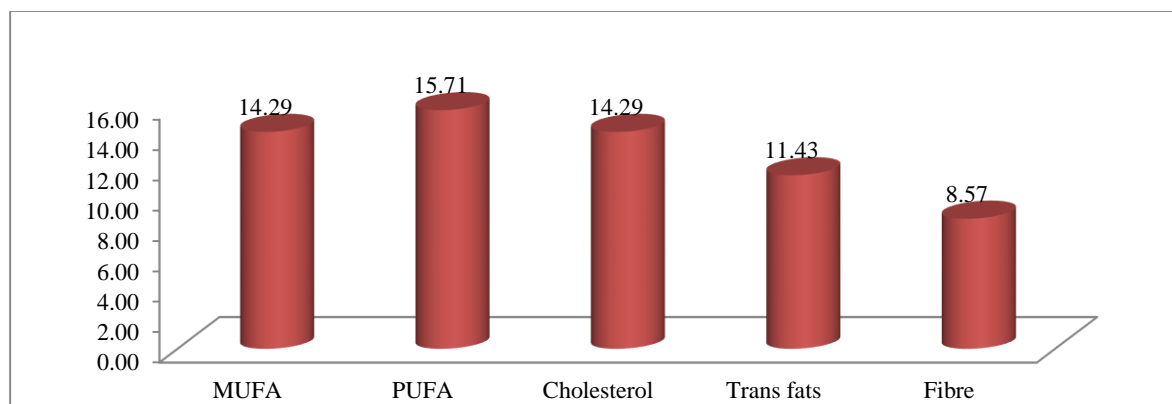


Figure 11- Percentage distribution of semi-optional nutrition facts on accompaniment

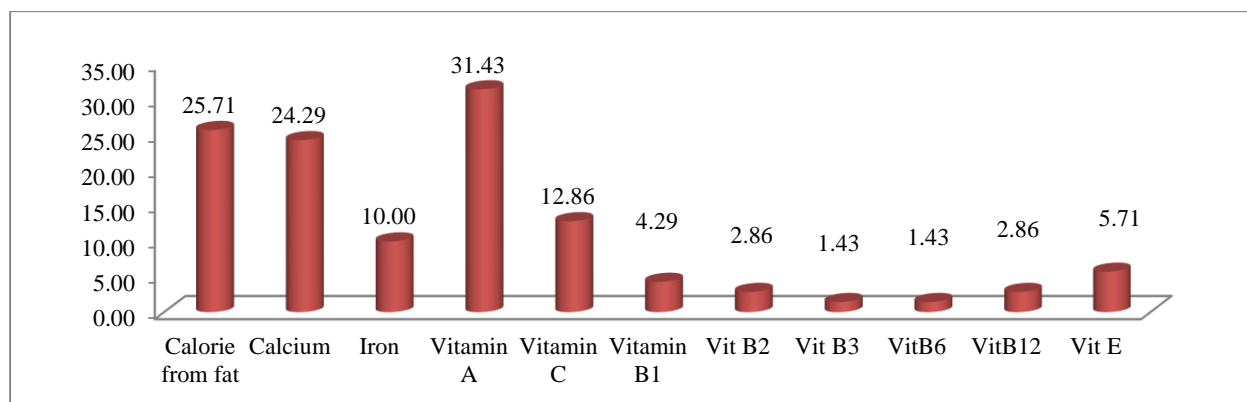


Figure 12- Percentage distribution of optional nutrition facts on accompaniments

Discussion

The present study on ready to eat foods was carried out on snacks, ready to eat meals, beverages and accompaniments, the results indicate that food labels on beverages displayed maximum information regarding the mandatory, semi optional and optional nutrients. After beverages accompaniments, ready to eat meals and snacks displayed information on the food labels regarding nutritional facts.

Ready to eat foods form a major market of food industry as dependency on these products is increasing day by day. Labeling is a powerful tool with the consumers to assess the nutrients present in the packaged food product. The results from the present study indicate that the industries were not following the guidelines regarding labelling on food. Mandatory information

as per Codex guidelines was also missing on food labels. Important information regarding health threats and allergy were also not displayed on labels. The results from a study carried out in Gujarat indicate non compliance of regulations for labelling on processed foods in Indian market. Therefore the government and manufacturers are advised to take an initiative in this direction and make strict laws for display of accurate and easy to understand information on food labels to enable consumers make healthy food choices (Singh, Iyer, and Chandorkar, 2013). There is paucity of data regarding labelling in India.

CONCLUSIONS & RECOMMENDATIONS

Recommendations:

- ▶ Creating awareness among consumers for reading labels
- ▶ Making stringent guidelines and laws for food industries regarding labelling.
- ▶ Create awareness among manufacturers regarding significance of labelling and use it as a tool for building trust among consumers

Conclusions- Therefore it may be concluded that food and nutrition labelling of selected 884 products did not comply the food labeling laws laid by codex alimentarius. Stringent action by government is needed in this direction.

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