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## A STUDY ON INFORMATION PROVIDED ON LABELS OF ULTRA PROCESSED PRE PACKAGED FOOD PRODUCTS

Faseela Mohammed Rasheed\* and Rashmi H.Poojara

Department of Home Science, St. Teresa's College, Ernakulam

\*Corresponding Author: [rashmipoojara@rediffmail.com](mailto:rashmipoojara@rediffmail.com)

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### ABSTRACT

The consumption rates of ultra processed pre packaged food products are rising by the day and consumers are drawn by its mystified appeal, not knowing what it actually contains. Food product labels serve as a primary source of information relating to the product. The present study aimed at gaining a general overview of the information provided on labels of ultra processed pre packaged food products of selected categories. The problems identified in the current system of labeling followed in India include lack of a comprehensive nutrient facts panel that provides nutrient information per serving and % values of calories and other nutrients obtained with reference to the recommended daily allowance. Moreover the failure to declare the type of additives used and the presence of potential allergens was observed in a majority of the labels. Overall, 23% of the products studied had claims of varying kinds. There is a growing concern related to the presence of unregulated claims on the food product which lack scientific support. The study identifies the need for stringent regulations on the part of the governing bodies to bring about standardized labeling formats and to keep a check on unregulated claims.

**Key words:** ultra processed food products, pre packaged food, nutritional labeling, and food labeling.

### INTRODUCTION

Convenience foods form a significant part of the food supplies which are purchased on a regular basis. Because of advances in food preparation technology, these foods have a longer shelf life and attractive appearance, they are at a premium among people with little cooking experience, the elderly, professional women who do not have the time for elaborate preparations (Roday, 2007). A classification proposed by a research group at the Faculty of Public Health at the University of Sao Paulo categorised foodstuffs based on the extent of food processing into three groups: unprocessed or minimally processed foods (Group 1); processed culinary ingredients (Group 2); and ultra processed products (Group 3) (Monteiro et al, 2010).

The ultra processed products are the most commonly consumed convenience foods, they are often or even typically energy-dense, are high in refined starches, sugars, fats or salt, and have a heavy glycaemic load, as well as being often sold in large portion sizes, typically formulated to be extremely palatable and habit-forming, and aggressively advertised and marketed (Moubarac et al, 2012). "Unhealthy commodities"—soft drinks and processed foods that are high in salt, fat, and sugar, along with tobacco and alcohol—are leading risk factors for chronic Non-Communicable Diseases (NCDs). Their consumption is thought to be rising rapidly, particularly in Low, Middle Income Countries (LMICs) (Chan, 2011).

The knowledge that ultra processed pre packaged foods mainly constituting 'junk foods' are unhealthy is common place, however the knowledge relating to what

makes them unhealthy is quite a mystery to most consumers. There is an observed information gap with regard to the composition of these convenience foods, which can only be filled with appropriate mechanisms to inform consumers concerning the constituent elements of the food products. Appropriate labeling of food products can go a long way in assisting consumers in making informed food choices.

The present investigation is an attempt to obtain a general overview on the quality of information disclosed on the labels of ultra processed pre packaged foods which constitutes a major share in the Fast Moving Consumer Goods (FMCG) in India.

### METHODOLOGY

The study was conducted by procuring 150 labels of ultra processed prepackaged foods of 6 categories: Biscuits, Breads, Chips/Crisps, Chocolate based confectionery, Ice creams/ Ice lollies and Packaged beverages; from super markets, hyper markets and way side shops in the regions of Kochi, Kerala.

The aim of the sampling plan was to obtain the labels of a representative group of the highest consumed retail pre packaged ultra processed products in India. Purposive sampling method was used for selection of sample.

The parameters studied include-General information about the product, Legibility of information,

Nutritional information, Additive information, Allergen Information and Presence of claims. The collected data were digitized in SPSS and Microsoft excel spreadsheet and a simple statistical analysis, to assess the nutritional information and other label content was carried out, which included descriptive statistical analysis, cross tabulation and frequency distribution.

## RESULTS AND DISCUSSION

The collected labels of the ultra processed food products were of the following product categories: Biscuits, Breads, Chips/Crisps, Chocolate based confectionery, Ice creams/Ice lollies and Packaged Beverages. (Table I)

**Table I - Labels within each food product category**

Sl. No.	Category	Number
1.	Biscuits	30
2.	Breads	12
3.	Chips/Crisps	21
4.	Chocolate based confectionery	32
5.	Ice creams/ Ice lollies	38
6.	Packaged beverages	17
	<b>Total</b>	<b>150</b>

**Table II -Declaration of mandatory nutrients on food product labels**

Percent Products	Energy (KCal)	Carbohydrate (g)	Sugar (g)	Protein (g)	Fat (g)
Biscuits	100	90.6	81.2	90.6	90.6
Breads	91.6	91.6	75	91.6	91.6
Chocolate based confectionery	93.8	90.6	81.2	90.6	90.6
Chips/Crisps	100	100	95.2	100	100
Ice creams/ Ice lollies	100	100	89.4	100	100
Packaged Beverages	88.2	88.2	76.4	88.2	88.2

**Table III-Format of Nutritional information among different categories of food products**

Percent food products	Nutrient information per serving	Nutrient Information per 100 g/ml	% Daily Values
Biscuits	23.3	76.6	6.67
Breads	0	100	0
Chocolate based confectionery	62.5	37.5	3.1
Chips	23.8	76.2	0
Ice creams/ Ice lollies	7	100	5.2
Packaged Beverages	23.5	76.4	5.8

With regard to compliance with the FSSAI norms in reporting of nutrients, lowest compliance observed among the various food product categories was for sugar(only 75% breads, 76% beverages and 81% of chocolate based confectionery had sugar listed in their nutrient facts panels.). These results are in line with a similar study conducted by Singh et al (2013) which showed lower compliance with regard to declaration of sugar (61-95%).

The maximum number of nutrient information per serving was observed in labels of Chocolate based confectioneries. It is seen that 62.5 % of the labels of Chocolate based confectioneries had nutrient information

The general profiling of the food product labels showed that among the labels of ultra processed pre packaged food products, the major players are Multinational Companies. Among categories such as Chocolate based confectioneries, biscuits, chips/ crisps etc. maximum number of products are manufactured by these companies. It was seen that 86% of the products were manufactured within the country and the rest were imported.

Legibility of labels is one of the key features that determine the usefulness of labels. The legibility of the product labels was assessed and it was found that only 66% had good legibility, and 3% showed 'very poor' legibility.

The nutritional information provided on the labels was studied -the presence of nutritional information and the type of format used to present the information (Table II). The nutrient facts panel of each of the product label was observed and the presence of mandatory nutrients was checked (Table III). The FSSAI mandates the declaration of five nutrients on every nutrient facts panel, namely; Energy, Protein, Carbohydrates, Sugar and Fat.

per serving. It is worth mentioning that Chocolate based confectionery is the category with maximum number of multinational brands (72%) as well as imported products (28%). In contrast, breads and beverages which have more regional presence had very few nutrient facts panel with per serving nutrient information (0-7%). Products with nutrient information per serving among the category of biscuits (50% national brands) were also seen to be low (only in 23% of labels).

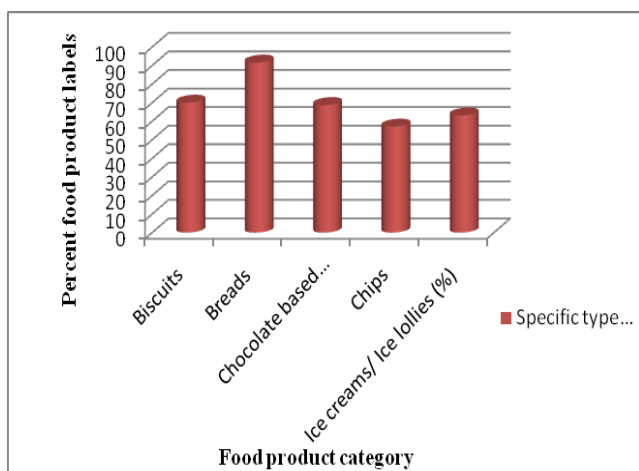
Thus, the results give a clear indication that in the Indian scenario, nutrient information per serving has not received much importance and is usually ignored. It was also observed that % Daily Value format which is a

comprehensive form of presentation of nutrient information is not common in India and they were found only on imported products and none of the domestic products had them on their labels.

The results of a similar study involving food products of various food groups also showed similar results with 64.1% of the food products having only nutrient information per 100g; only 19.2 % having nutrient information per serving and 8.4% of the products had % daily values (Singh et al, 2013).

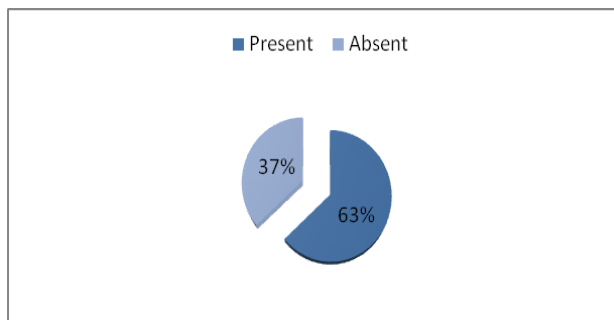
The type of fat present in any packaged food is important just as the total amount of fat. The Indian guidelines have not necessitated its presence in the food labels, but a number of companies have voluntarily included quantitative information on various types of fatty acids such as saturated fatty acids, trans fatty acids, poly unsaturated fatty acids etc.

In the category of chips/crisps about 57% of them revealed the specific type of fat while about 43% did not. In the category of Biscuits 70% of the total collected labels had mentioned specific type of fat (figure 1). About 69% of chocolate based confectionery had specific information on type of fat in their nutrient composition tables. It is noteworthy that among the Chocolate based confectionery a number of products, (Cadbury ) came in the range of 'Be treat wise- know what is inside' which provided labels with a detailed nutrient composition table. It was observed that 91.6% of breads had information on specific type of fat mentioned on their labels; this is a significant figure, as it indicates that the regional food manufacturers are aware of the importance of mentioning the type of fat and they were included even though it is not mandated by the labeling regulations.



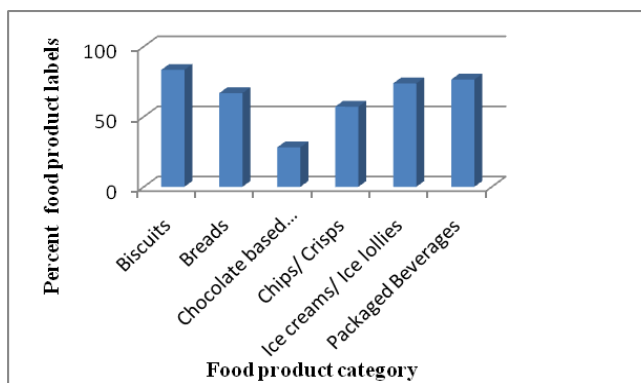
**Figure 1- Percent distribution of food product labels with information on specific type of fat**

Information on specific additives (figure 2) on food product labels helps consumers understand the extent of usage of chemicals in commonly consumed foods and this can go a long way in improving awareness among consumers on the dangers of consuming ultra processed foods which can lead to serious complications when excess (EFSA,2012). Specific additive information was provided only on 63% of food product labels.



**Figure 2- Percent distribution of food product labels with specific additive information**

It is seen that 83% of the biscuit labels had specific additive information. The major chemical additives used in biscuits were Sodium Bicarbonate, Ammonium bicarbonate (Leavening agents), Soy lecithin (Emulsifier), sodium meta bisulphite, tartaric acid etc. The information on additives was very poor among chocolate based confectionery (28.12%) which is the least among the six, followed by chips/crisps. About 83% of biscuits had specific additive information. The information regarding additives (figure 3) among Breads (66.7%) is higher compared to Chips/Crisps or chocolate based confectionery in spite of regional production and packaging. The lack of information on additives in products such as Chocolate based confectionery is a matter of concern as the manufacture of these products involve a lot of processing and the type of additives used remain unknown to the consumer masses.



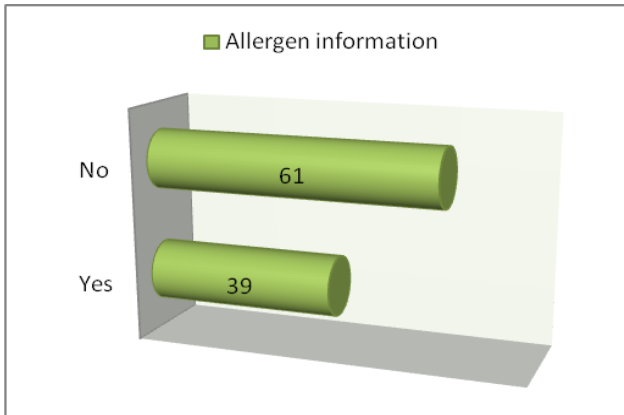
**Figure 3- Percent distribution of labels with specific additive information among different food product categories**

Allergen information is another feature that was assessed on food labels and it was observed that only 39% had allergen declaration (figure 4), other than what is mentioned along with the ingredients. Therefore, individuals with food allergies need to scan the entire ingredient list in order to choose products without potential allergens if a declaration is not provided.

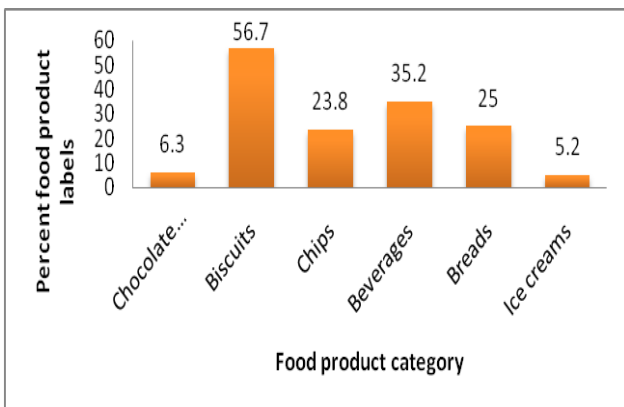
Nutrient/ Health claim (figure 5) was another label attribute that was noted. It was observed that in about 23% of the labels of ultra processed pre packaged food products had such claims. The most commonly observed claim (figure 6) included 'zero trans fat', 'zero cholesterol' and others related to absence of artificial colours or flavours



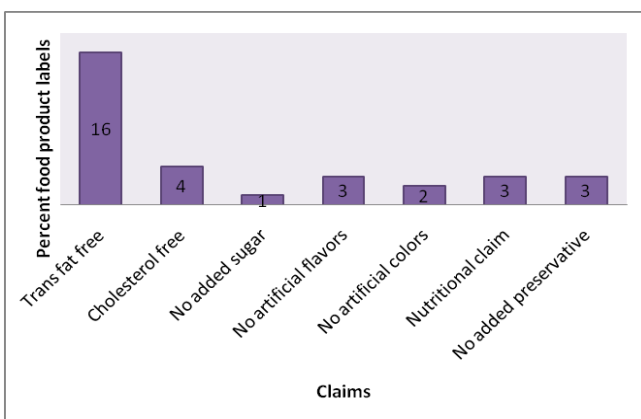
such as ‘no artificial colours added’. The increased incidence of claims among Biscuits may be related to its popularity as ‘healthy snacks’ for children and it is commonly observed that working mothers give biscuits as mid morning/ evening snacks for children on a daily basis. However, a study conducted by Karn et al (2012) reports the presence of trans fat and saturated fats in significant amounts in commercially available biscuits.



**Figure 4- Percent distribution of food product labels with Allergen information**



**Figure 5- Category wise distribution of food product labels with claims**



**Figure 6- Types of claims present on food product labels**

The claims were declared on food product labels without any regulation and reports have shown several incidences of inconsistencies as in a study by the Centre

for Science and Environment (CSE) (2012) which found that a number of pre packaged foods claiming to be contain ‘no trans fats’ had significant levels of trans fat and saturated fats.

Better labeling alternatives for improved consumer comprehension was observed to be % Daily Value format which specifies the proportion of nutrients provided by the food product to the Recommended Daily Allowance(RDA).Front of pack labeling is particularly effective as the consumers get a ‘at a glance’ view of what the product offers in terms of nutrients.



**Good**



**Fair**

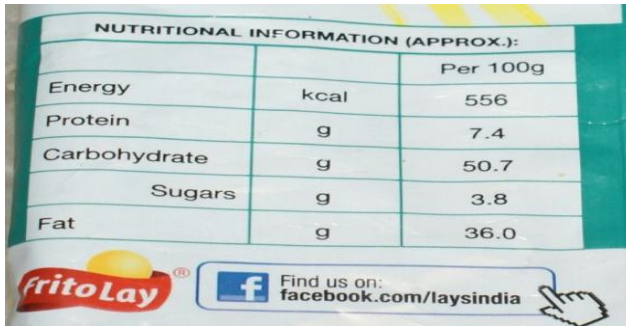


**Poor**



**Very poor**

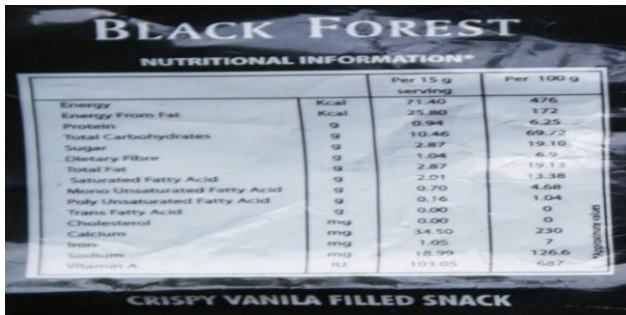
**Plate 1 -Legibility of food product labels**



NUTRITIONAL INFORMATION (APPROX.):		
		Per 100g
Energy	kcal	556
Protein	g	7.4
Carbohydrate	g	50.7
Sugars	g	3.8
Fat	g	36.0

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Nutrient information per 100g/ml



BLACK FOREST			
NUTRITIONAL INFORMATION*			
		Per 15 g serving	Per 100 g
Energy	Kcal	21.40	476
Energy From Fat	Kcal	25.80	172
Protein	g	0.94	6.25
Total Carbohydrates	g	10.46	69.72
Sugar	g	2.87	19.10
Dietary Fibre	g	1.04	6.9
Total Fat	g	2.87	13.38
Saturated Fatty Acid	g	2.01	13.38
Monounsaturated Fatty Acid	g	0.70	4.68
Poly Unsaturated Fatty Acid	g	0.16	1.04
Trans Fatty Acid	g	0.00	0
Cholesterol	mg	0.00	0
Calcium	mg	34.50	230
Iron	mg	1.05	7
Sodium	mg	18.99	126.6
Vitamin A	IU	103.05	687

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Nutrient information per serving



Each Serving (Short Row or 12.5g) contains				
سعرات حرارية	سكر (g)	دهون (g)	مشبعة (g)	ملح (g)
Calories	Sugar (g)	Fat (g)	Saturates (g)	Salt (g)
66	7	4	2.5	0.03
3%*	7%*	6%*	12%*	0.5%*

\* Of an adult's Guideline Daily Amount (GDA)  
www.planetmarsme.com

% Daily value

Plate 2 -Formats of nutrient information in food product labels

## CONCLUSION

Overall, the results of the study indicate that there are number of areas in which the Indian food product labels are substandard, when compared to their counter parts in the West. It is unsettling that with a significantly high consumption of ultra processed foods, the manufacturers fail to provide adequate information regarding the contents of the food products on their labels. A similar study conducted on nutritional labeling compliance with the FSSAI norms also revealed poor compliance with mandatory provisions (Singh et al, 2013).

The existence of incomprehensible nutrient facts panel with nutrients listed as per 100g (64% of the food product labels) and inability to provide specific additive (37% of the food product labels) and allergen information (61% of the food product labels) coupled with unregulated claims; call for urgent attention on the part of the governing bodies to combat the issue and bring about more

stringent policies to improve the information provided to the consumers at the point of purchase.

To conclude, the results of the study reveal that there is scope for improvement in terms of providing accurate, well informed and easy to read food product labels which must be implemented as a policy by the governing bodies and timely monitoring must be carried out to ensure proper compliance with the regulations.

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