

THE COLORS OF MILK LABELS - PEOPLE KNOW WHAT THEY MEAN?

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Abstract

Milk is a source of calcium, vitamin D and protein that the body needs to nourish the muscles and cells. Many people drink different types of milk due to health restrictions (high cholesterol, obesity, heart disease, etc.) or because they are watching their diet and trying to eat more healthy and unprocessed foods. The food industry labels the different types of milk by color to make it easy to recognize. Most nutrition labels on milk include calorie, fat, protein and calcium content, and the milk is also separated by the color of the lid. This makes it easier for consumer to identify which milk they want to buy and helps reassure them that they're getting exactly what they want.

Questionnaire contained questions about the type and packaging of the milk that is most often consumed as well as a set of claims about the relationship of color packaging of milk and milk content and importance of color packaging for consumers. The results are expressed through absolute and relative frequencies, mean and standard deviation.

Most of the respondents know that there are various colors of packaging milk, but only a few of them connects color packaging and milk composition (% of fat in milk, etc). The majority believes that the packaging of the product can be use for quick and short presentation of the composition of the product.

These results and the trend towards health that emphasizes the importance of nutrition for the maintenance of health and for their contribution in the treatment of some diseases, require more intensive informing and education of consumers about the importance of products' packaging and its importance in everyday shopping.

Key words: Color, Milk labels, The colors of milk labels, Diet, Diet habits.

1. Introduction

The association between food and health is well established [4], [7] and recent studies have shown that

modifiable risk factors seem to be of greater significance for health than previously anticipated [11]. Prevention of disease may in the future be just as important as treatment of diseases. Indeed, many consumers of today are highly aware of health-properties of food, and the market for healthy food and food with special health benefits is increasing [9], [14].

Dairy and milk consumption are frequently included as important elements in a healthy and balanced diet [3]. It is the first food for mammals and provides all the necessary energy and nutrients to ensure proper growth and development, being crucial in respect to bone mass formation. However, several controversies arise from consumption of dairy and milk products during adulthood, especially because it refers to milk from other species. Despite these controversies, epidemiologic studies confirm the nutritional importance of milk in the human diet and reinforce the possible role of its consumption in preventing several chronic conditions like cardiovascular diseases [16], some forms of cancer, obesity [8], and diabetes [4], [10].

Getting consumers to eat more healthily is no trivial task. While health is valued by everybody and therefore is one of the fundamental drivers of human behaviour, attempts to change eating patterns by informing consumers about the link between diet and health have been difficult. One of the major instruments in trying to bring about more healthy eating patterns has been labelling ([1], [2], [6], [12]).

Labelling is the principal means of communication between the manufacturer, the food handler, and the purchaser and is therefore an integral, important part of the marketing efforts and it also helps in assuring proper product handling [5].

With increasing diversification of food products and increasing trade, and to measure up against the sophistication of consumer attitudes and education, labelling patterns have become complex and more informative. The purpose, however, has not changed - to present and

promote the product and to inform the purchaser in a way that is as faithful, fair, and accurate as possible [5].

With increasing international trade, the demand for international harmonization of labelling has increased. Due to widespread trade, the dairy sector was the first to initiate the establishment of international labelling rules, primarily to ensure fair-trade practices [5].

Many food products present nutrition information in the form of a table on their package. This often includes the product's energy value and the amounts of protein, carbohydrate, and fat per 100 grams or millilitre. In addition, the product's saturated and unsaturated fat, sugar, and fibre can be added. It is important that people use and understand this information correctly so that they can make informed decisions about which foods they choose to eat [14], [16]. Several studies have indicated, however, that, overall, people pay little attention to this type of information, although they often say they do. One of the reasons people have given for not reading the nutrition label is that they do not understand the information. Although several studies have examined the effects of different presentation formats on the use and understanding of nutrition information on food products, their results were often contradicting ([11], [13]). This is probably because most of these studies were not based on a theoretical background that explains how people evaluate products.

Nutrition labelling is an attempt to provide consumers, at the point of purchase, with information about the nutrition content of individual food products, in order to enable consumers to choose nutritionally appropriate food. It is an attractive instrument for a variety of reasons: it supports the goal of healthy eating while retaining consumer freedom of choice, and it reduces information search costs for consumers, which should make it more likely that the information provided is actually being used. The food industry labels the different types of milk by colour to make it easy to recognize [6]. Most nutrition labels on milk include calorie, fat, protein and calcium content, and the milk is also separated by the colour of the lid. This makes it easier for consumer to identify which milk they want to buy and helps reassure them that they're getting exactly what they want.

2. Materials and Methods

The research was conducted on a convenience sample of students at Karlovac University of Applied Sciences. The reason for the choice of such a sample is the fact that the authors have prepared a questionnaire themselves and this is a good way for it to be tested. Based on the obtained results eventual correction of the questionnaire can be done. Final corrected questionnaire will be used for detailed research on consumer attitudes about packaging colour of dairy products among the general population.

Participants in research were informed of its purpose and participated voluntarily. Respondents answered questions about their habits of consuming milk and the importance of colour packaging while shopping in general. They also expressed their agreement with statement about the importance of colour in packaging. The degrees of agreement/disagreement were scored according to the Likert scale with grades from 1 (totally disagree) to 5 (strongly agree).

After the technical control of questionnaires, sample consisted of 61 questionnaires. Data were analyzed in Microsoft Office Excel 2007 and SPSS for Windows, version 16.0. Results were expressed in absolute (f) and relative frequencies (%), also mean and standard deviation ($M \pm SD$) were calculated.

3. Results and Discussion

This study included 61 respondents - 20 (32.8%) men and 41 (67.2%) women, age range 18-23. Their frequency of consumption of milk is as follows: 24 (39.3%) every day, 17 (27.9%) several times a week, 12 (19.7%) periodically and 8 (13.1%) very rarely.

The fat content and price are the most common selection criteria when they are buying milk products - 32.8% respondents stated price and 37.7% stated percentage of the milk fat. Following criteria are the colours of labels which were stated by 10 (16.4%) respondents, and the least represented criteria are producer (9.8%) and packing (3.3%).

According to the respondents, most commonly consumed milk brand is Dukat Zagreb (57.4%) followed by Vindija Varaždin (27.9%) Only one respondent stated that they consumed milk brand Meggle and other respondents consumed milk processed by some other producers.

Results of some of the attitudes and habits of the respondents are shown in Table 1.

Results presented in the Table 1 show that respondents notice different colours in milk packaging (most of them), but only some of them think about the colour of the packaging during the purchase of milk. Also, most respondents noted that various dairy producer use different colours for their packaging (almost 90% of respondents), but do not know that one dairy producer packaging differs in shades depending on the composition of milk. Results are not the best when analyzing the knowledge of the respondents about the connection of colour packing and characteristics of milk. Less than half of respondents say that lighter packaging means less % milk fat, and darker more % milk fat. Half of the respondents said to this question they did not know. Even worse results are obtained for the question: I associate the colour of the milk packaging with

the nutritional value of the milk. These linkages exist for only a little over a quarter of respondents (27.9%).

Although respondents have answered the question about the criteria included during the purchase of the milk, another question about the intensity of influence of colour on their milk purchase was offered to them. The results showed that almost 70% (31.1% + 34.4%) respondents state that the colour has little or no influence on their milk purchase. Somewhat over quarter of them (26.2%) don't even think about the packaging colours, but packaging colours have strong influence on milk selection for 8.2% of the respondents.

According to the results, more than half of the respondents (55.7%) state that colour of milk packaging

makes no difference to them, 19.1% consider that colours only bring confusion in the mind of the consumers and 24.6% consider that putting milk in different packaging colour can help during the selection process of what milk to buy.

Results of agreement or disagreement with the statements about colour and packaging of milk, and products in general are shown in the table 2.

Mean of statements from the table show that respondents have a reserved attitude towards the meaning of the colours and their use on product packaging. Relatively large number of respondents feels that using different packaging colour is a mere marketing gimmick. According to their opinion, colours do affect

Table 1. Distribution of respondents according their attitudes and habits

Statement	f (%)		
	Yes	No	N/K
I have noticed that the different packaging of milk have different colors	56 (91.8)	5 (8.2)	-
Packages of different milk producers have different colours	54 (88.5)	7 (11.5)	-
Every dairy producer has a trademark color, and its milk packaging vary in shades of color	32 (52.5)	1 (1.6)	28 (45.9)
During the purchase, I'm thinking about the colour of packaging and its meaning	11 (18.0)	50 (82.0)	-
Light colour packaging means less % milk fat, and darker more % milk fat	28 (45.9)	2 (3.3)	31 (50.8)
I associate the color of the milk packaging with the nutritional value of the milk	17 (27.9)	44 (72.1)	-

N/K - I don't know

Table 2. Agreement/disagreement with the statements about colour and packaging of milk

Statement	M ± SD*	f (%)		
		Disagree	No opinion	Agree
Colour of the packaging affects consumer choice	2.721 ± 1.213	23 (37.7)	25 (41.0)	13 (21.3)
Colour of the packaging may indicate the composition of the product	2.967 ± 1.303	22 (36.2)	22 (36.1)	17 (27.9)
Packaging of the product can be use for quick and short presentation of the composition of the product	3.511 ± 1.010	13 (21,3)	17 (27,9)	31 (50.8)
Colours of the packaging make the selection of products that will be bought easier	3.033 ± 1.197	19 (31.1)	26 (42.6)	16 (26.2)
Colour of the packaging affects my purchasing decisions	2.311 ± 1.246	36 (59.0)	17 (27.9)	8 (13.1)
Colours affect people (their mood, decisions...)	3.574 ± 1.244	11 (18.0)	17 (27.9)	33 (54.1)
Using different colours on packaging is a marketing gimmick	3.770 ± 1.257	10 (16.4)	14 (23.0)	37 (60.7)
Packaging of milk is very important to me	2.311 ± 1.336	35 (57.4)	15 (24.6)	11 (18.0)
Colour of the milk packaging is very important to me	2.049 ± 1.396	41 (67.2)	12 (29.7)	8 (13.1)

*Mean ± Standard Deviation; N/K - I don't know

people and it's logical for this fact to be used as sale enhancement tactics for certain products. This is in contradiction with the goals of different packaging colours which is implication of product characteristics, more precisely the percentage of milk fat, vitamins and so on.

The results of the importance of packaging colour of dairy products are in accordance with the negative attitudes of respondents. According to the results, the majority of respondents stated that the colour of the packaging didn't affect them during their purchasing decisions, and also stated that either packing or packing colour of dairy products are not very important to them - according to the means, it is evident that more respondents disagreed than agreed with the stated claims.

However, the majority believes that the packaging of the product can be use for quick and short presentation of the composition of the product and colour of the packaging may indicate the composition of the product.

4. Conclusions

- The results show that respondents are relatively undecided about the impact of colour on their shopping habits. They are also informed about the existence of different colours for different products - products with different characteristics, but do not think too much about it. The reasons for this may be lay in the fact that the sample consisted of young respondents, but it is also important to emphasize that this is the population that is relatively susceptible to the influence of marketing and easily accepts a variety of innovations.

- According the result the relatively high number of respondents believes that the packaging of the product may indicate and can be use for quick and short presentation of the composition of the product.

- The combination of a positive attitude about the information through the packaging of the product and its colour and openness of young people to new opportunities expands the possibilities of promoting healthy eating trend as the foundation of a healthy lifestyle, Especially today, when information and communication technologies developed immensely and has become an integral part of everyday life of every young person

- Of course, research of the meaning of packaging colour of dairy products does not stop at this. Due to the fact that a questionnaire created by the authors had been used in this study, further research should use a questionnaire in which all deficiencies got corrected. The research should include other respondents in order to obtain data from a sample in which the results can be compared according to the age and height of income. Also it would be interesting to compare the attitudes of milk consuming and non-consuming

respondents and focus on the marketing aspects of the dairy industry, which would give a better insight into the true and hidden reasons behind the use of colour on the packaging of dairy products.

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