

Traffic lights symbol's effect on consumer dietary quality

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Abstract: The objective of this article was to elaborate the decisive role of traffic lights symbols on consumer's dietary quality. Several researchers have taken this Front of Package label scheme for the investigation of its positive, negative or indifference role for consumer diet quality. Author of this research paper has observed mixed kind of results regarding traffic lights symbols toward its effect on consumer dietary quality. In the past researches few researchers have expressed very favorable opinion and they described that due to easy to understand and easy to interpret traffic lights symbols are effective. They indicated that traffic lights symbols develop basic sense of healthy and unhealthy food intake which ultimately leads toward better consumer dietary quality. Whereas some researchers have noted that traffic lights symbols did not effect on consumer dietary quality. Their point of view is that every consumer has unique Body Mass Index (BMI), therefore traffic light symbols just provide the signal about low medium and high saturated fat, fat, sodium and sugar. But consumers need to know per serving of calories in package food. These mixed kinds of results have indicated that the need of improvement and investigation on traffic light symbols still required for better results.

Key words: Traffic light symbols; Consumer dietary quality; Food label

1. Introduction

There is no simple method exist to classify the healthy or unhealthy food. Dietary structure, the varieties of foods that are taken in daily routine and their comparative amounts, is together with the nutritional quality of food pivotal for the influence of the diet on health (Torjusen et al., 2012). Several factors have remained under researchers' observation to investigate their association with consumer dietary quality. Socio-economic level was one of them. The noticeable socio economic discrimination among consumers has played decisive role in their dietary quality (Mackenbach et al., 2008). (Ni Mhurchu, 2010) has noted that food purchase behaviour is the single most significant determinate of consumer dietary quality. These purchase behaviours actually guide consumer in selecting food items. The increasing ratio of processed food consumption in developed, developing and under developing countries have provoked food regulation authorities and food processing companies to design food packaging full of informative for the convenience of consumer decision making. To achieve this object the most decisive method is food labelling. Food labelling is the legal requirement and this notion has been discussed several time in the previous researches that food label information guide consumer in healthy and nutritional food selection (Ababio et al., 2012). Food processing companies and food regulatory authorities have adopted various tools for the awareness of nutritional food and for the

improvement of consumer dietary quality like, Guideline Daily Amount, Claims (Nutritional and Health Claims), Traffic light symbols and Keyhole method (Lahteenmaki, 2012). The information related to fat, saturated fat, sodium, calories, fiber and vitamins are displayed in scientific language. The scientific information is difficult to understand. The intention of food processing companies in displaying the nutritional information on food packaging is to assist consumer in making wise decision. Unfortunately, due to the difficulty level of scientific nutritional information, these food labels have become strangers for common consumers. By using traffic light symbols in color coded form like green, amber and red the understanding of food label and reading of food label at point of purchase has improved in some countries like UK and USA.

The revision in nutritional food labelling schemes has also been occurring time to time according to the requirement and need (Bonsmann et al., 2010). These changes are made to make the food label user friendly and informative. There are two type of labelling concepts exists in the world, Front of Pack labelling and Back of Pack labelling (Bonsmann et al., 2010). Traffic light symbols are the part of Front of labelling schemes (Grunert et al., 2010). The color coded traffic light symbol is easy to understand method and this ease can grab the consumer attention in reading food label and ultimately can increase the consumer's dietary quality.

The objective of the current research paper is to review the popularity traffic light symbols among consumers. To achieve this goal author of this paper has review previous studies and tried to figure out

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the role of traffic light symbols on consumer dietary quality and healthy food selection.

2. Literature review

Due to the scientific connection between diet and health, the promotion of healthy food and awareness of dietary quality has increased at global level (Gao et al., 2013). The Commonwealth Department of Health and Ageing is promoting healthy diet programs in Australia with different names like Stephanie Alexander Kitchen Garden national program. This program would encourage the Australian consumer to take maximum healthy food in their daily life for better dietary quality. America has started food guidance program in 2005 with the name MyPyramid to support as well as awareness of consumer in taking healthy food (Guenther et al., 2008). There are some countries which are taking very serious measures for the better quality of consumer's health and they are levying taxes on unhealthy food and beverages like Denmark and France with the name, fat tax, junk food tax and sweetened drink tax. These taxes are actually increasing the cost of unhealthy foods and people might become compelled to divert their attention toward nutritional food selection or at least to think about nutritional food choices. According to the (Schönfeldt et al., 2012) the unhealthy food and poor dietary quality are the causes of food related diseases like cardiovascular, type 2 diabetes, sugar and other non-communicable diseases. It has been observed that in one of the research conducted in UK, that promoting healthy diet and lifestyle changes among consumer has reduced the cost of dietary diseases (Scarborough et al., 2011). It is the general consensus on the notion that there is no proper method to educate consumer regarding healthy food and dietary quality except food label. It means that food label make consumer mind toward healthy and unhealthy food choices.

For the facilitation of healthy food selection and bringing change in consumer dietary quality, food label play vital role (Grunert & Wills, 2007). Food label information is very decisive one for consumer in order to take decision regarding healthy and unhealthy food choices. It has been observed that UK has the highest level of penetration of food label information in consumer decision making (Hodgkins et al., 2012). Previous researches have indicated that food label usage has positive, although weak, association with attitude and nutritional knowledge (Rasberry et al., 2007) whereas, in some researches the mediating role of food label, between attitude and consumer dietary quality, has also been investigated and results have found the mediation effect (Graham & Jeffery, 2012). It means that food label is a medium used by food processing companies to deliver information regarding nutrients and other health related facts to consumers and finally consumers can make their dietary quality better by using these labels. Another

problem is that the understanding of information available on food label.

The nutritional information provided in scientific method, which is hard to understand not only for educated person but also for illiterate or average literate consumers. Food label packages pattern have solved this problem to some extent by providing different front of pack labelling patterns like Guideline daily amount (Wiseman, 1993), health and nutritional claims, first time introduced in Japan, 1980, (Bjornelv et al., 2011) and traffic light symbols (Food Standard Agency, 2010). In these patterns traffic light symbols are the color coded scheme of food labels. The information related to fat, sugar and salt is displayed on food label with three traffic light colors like, red, amber and green with respect to high, medium and low (Dodds et al., 2014).

Research results has indicated that the information, regarding nutrients, provided by using traffic light symbols on food label has increased the consumption of healthy food among consumers and this increasing ratio has thrown positive effect on consumer dietary quality (Olstad et al., 2015). It has also been noticed that when calorie labels are accompanied by traffic light symbols, consumer read the food label due to ease of understanding (Sinclair et al., 2014). It means that traffic light symbols might create the interest among consumer to read the food label and this reading intention of food label might develop the sense of healthy food intake and finally make consumer dietary quality better. Consumer is unable to read the numerical data displayed on food label whereas in front of pack food labelling schemes traffic light symbols compensate this difficulty level for consumers (Hawley et al., 2013; Campos et al., 2011). Some researchers have indicated that traffic light symbols are commonly used symbols in daily life of individuals and being observed in the form of road traffic lights. Therefore these symbols create an image in consumer mind and consumer relate it with "red" mean stop or to avoid food item, which are high in fat, saturated fat, sodium, salt and sugar, and "green" mean to go or take these food items, which are low (Cohen and Babey, 2012). Therefore it will not be wrong to state that traffic light symbols are user friendly front of pack labelling pattern which can effect for consumer dietary quality. A small level of research has conducted in Canada and the results have exposed the fact that traffic light symbols are useful for the selection of healthy food and also effective for consumer dietary quality (Emrich et al., 2014; Goodman et al., 2013).

Roberto et al., (2012) have expressed their opinion that traffic light symbols not only assist consumer in selecting healthy food items and avoid unhealthy food choices but also motivate companies that to reduce the red colored ingredients from the processed food products and promote nutritional and healthy food among consumers. There are many researchers who have indicated that the use of graphics and symbols (Marino and Mahan, 2005; Geiger et al., 1991), different adjective oriented labels (Levy et al., 1996) and the labels which

comprises of limited numerical information (Abbott, 1997) are better than the traditional information crowded food labels. The information accompanied with graphical symbols is very helpful for those consumers who first time interact with food label (Signal et al., 2008). The adoption of well-planned health symbols and traffic light symbols are influential in consumer decision making process regarding healthy food (Feunekes et al., 2008; Miller et al., 1999). The previous studies have also noticed that traffic light symbols, which are displayed on food labels in the form of green, amber and red for the indication of saturated fat, fat, sodium and sugar, increased the consumer's ability and skills in identification of healthy food as well as in general food reading habits (Gorton et al., 2009; Kelly et al., 2009; Jones and Richardson, 2007).

Traffic light labelling system has been adopted in some of UK food retailers and the results have indicated that these three color coded schemes are found to be effective and motivated among consumers in food selection (Miller et al., 2009). A study conducted in Germany where researchers have made pair of different products with four different packaging formats like, no label, with label, traffic light symbols, guideline daily amount (GDA) and color guideline daily amount (CGDA). The purpose of this article was to investigate that which format is the most effective one for the selection of correct food choices. The results have unfolded the fact that traffic light symbols were the famous among rest of the format in correct food selection (Borgmeier & Westenhoefer, 2009). Signal et al., (2008) have investigated the effect of different front of pack labelling schemes on consumer awareness regarding nutritional food and use of food label while purchase healthy food items. Signal et al., (2008) results have directed that the traffic light symbols have taken highest percentage. There are several reason for this high raking like, easy to read and understand, familiar with general traffic lights colors, displayed prominently on front of package and the easy comparison low medium and high level of saturated fat, fat, sugar and sodium with three colors.

Roberto et al. (2012) have introduced the extended version of traffic light symbols. Robert et al. (2012) has conducted a research by taking respondent from Yale University. The objective of this research was to introduce new dimensions or extended categories of traffic light symbols. Researchers have taken five categories in packaging, no label, traffic light label, traffic light plus labels, fact up front label and fact up front plus labels. Different foods and beverages have been selected for this purpose and analysed that which type of labelling was more influential for correct food selection among consumers. Even after this extensive research the highest ranked favourite labelling scheme, for correct food selection and easy to understand the nutritional message, was traffic light symbols. Few of the respondents have taken traffic light symbols and traffic light plus similar.

Walker et al. (2014) have investigated the effect of simple and easy to understand food labelling. The results has unfolded the fact that traffic light symbols are the user friendly labelling scheme, but along this fact another darker side of traffic light symbols has also been examined that traffic light symbols did not guide consumers regarding per serving. But nevertheless the usage of traffic light symbols has increased and not confined to the processed food labeling. Lobstein & Davies (2009) has noticed that catering business has also getting facilities from traffic light symbols by placing the color coded signals on menu and consumer decide the product according to its health requirement and then place order. These traffic light symbols guide consumers instantly regarding the food nutrients level with the color coded signals. Traffic light symbols have also taken support from European Organizations. They concluded that interpretation of nutritional information, for the selection of healthy food, traffic light symbols are most effective one (Bureau European des Unions de Consummators, BEUC, 2006). Traffic light labelling scheme is the most useful method to convey nutritional message to consumers. The method assists consumers in overall nutritional level of food in a very simplistic manner (Consummation Lodgement et Cadre de Vie, CLCV, 2006). It has also been observed that traffic light symbols not only guide consumers in taking healthy food but also used for comparing two products (Lobstein and Davies, 2009). The traffic light system has been used in Sainsbury products like Chicken and Bacon Pasta Bake. The results have been indicated that traffic light symbols could be a driving force of consumer demand in any specific product (Lobstein et al., 2007).

Few researchers have also expressed their opinions that no doubt traffic light symbols are the effective visual cues for the selection of healthy food product but there is not sufficient evidence available which exposed the fact that traffic light symbols also play vital role in changing consumer behaviour toward healthy food selection. This area need to be addressed in future (Sacks et al., 2009; Sacks et al., 2011). According to the scientific evidence the effectiveness of traffic light scheme is not always strong for all food categories (Gortmaker et al., 2011; Avenell and Goode, 2008). Despite of these facts the significance of traffic light symbols is inevitable. Companies are considering traffic light system a cost effective strategies in anti-tobacco campaigns and preventing junk food among children (Duffy, Yamazaki, & Zizza, 2012).

3. Discussion

It is a long and endless debate that either the traffic light symbols are effective for consumer dietary quality or not. The mixed kind of results in previous researches have provided the cushion to the future researchers and still the door is open to investigate more about the decisiveness of traffic light symbols for the selection of healthy food.

Infect this is the responsibility of food processing companies and even for the catering services organizations to guide consumer in his better health maintenance. For this purpose label play pivotal role to communicate and educate consumers. Traffic light labelling scheme is one of the front of pack labelling schemes, others are Guideline Daily Amount and Health Claims (Nutritional and health). The past research has expressed its opinion that consumer do not have much time and education to read lengthy and scientific nutritional information while purchasing food items. Therefore, user friendly and easy to understand labelling schemes was need in food labelling. This was the cause of the introduction of three front of pack labelling schemes, GDA, Health Claims and Traffic light symbols.

The major reason behind the success of traffic light symbols among other front of package labelling system was the familiarity of traffic lights signals. General consumer was able to interpret the meaning of Red (to stop), Yellow (To move slowly) and Green (To go). When the similar traffic light's shapes and colors used on food packaging by relating with saturated fat, fat, sodium and sugar it has developed understanding among the consumer in selection of healthy and unhealthy food.

Furthermore, the popularity and criticism of traffic lights symbols prevail side by side among the researchers. Author of this article cannot give any one sided decision about the traffic light symbols. The German Nutrition Society (2002) has criticized the traffic light symbols and used the word "So called Traffic Light Symbols". Their opinion was that traffic light symbols did not clear per person serving regarding the preventive calories and nutrients. Another point of view was that traffic light symbols system has been promoted by consumer association and organizations.

Moreover, the opponent of traffic light symbols has also said that this concept is in reality based on subjective norm. Some of the critique has argued that traffic light symbols are not effective for combating the obesity and overweight issues. Few critiques have expressed their opinion that traffic light symbols did not create the discrimination between healthy and unhealthy food items except developing the general food perception with three colors coded scheme.

Nevertheless, the significance of traffic light symbols cannot be ignored altogether on the bases of few anti-traffic light symbols' opinion. Consumer do not have much time to spend on purchasing food item and due to scare time food label should be easy to understand and even the educated consumer is unable to understand scientific nutrient food label. Therefore, traffic light symbols at least develop a sense of food label reading and guide to consumer in taking basic healthy food products with a simplistic method.

The criticism on traffic light symbols has directed some researchers to develop extended form of traffic light symbols, like traffic light symbols plus, which not only assist consumer in general food selection

but also provide information regarding per person intake of calories and nutrients. For future research the question which is still need to be answered is that "Does traffic light symbols play its role in creating awareness among the consumer". The reason is that in some countries consumer is even unaware about the existence of nutritional information on food label. Therefore, it is required to investigate that to what extent traffic light symbols are decisive in creating awareness among consumers.

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