AN INVESTIGATION INTO THE PRESENTATION OF NUTRITION CLAIM AS A MEDIUM TO COMMUNICATE FOOD CHOICES AMONG MALAYSIAN CONSUMERS

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Abstract - Nutrition claim serves a purpose to quick inform consumers of nutritional value of food products and help consumers make healthy decisions. The increase in the use of nutrition claim demonstrated its effects on consumer perception and buying intention. However, misperception is inevitable due to low level of understanding among consumers, and the formats of nutrition claims were presented in a multitude format, yet, were scarcely discussed. Therefore, this research investigates the association between consumer knowledge; the elements of presentation of nutrition claims; and the perception towards the nutrition claims. 321 surveys were collected from major grocery stores in Klang Valley. Data gathered about Malaysian consumer's understanding of nutrition claim and their preferred presentation of nutrition claim formats during food buying process. The results indicated that consumers possess inadequate knowledge of nutrition claim and yet 44 percent of consumers demand more nutrition claims as a product carries more nutrition claims was perceived to be better. The positive perception was also higher in terms of perceived healthiness (70%), attractiveness of the product (73%) and higher product quality (73%). This study also identified consumers preferred terms such as "less" (47%), "low" (38%) and "rich" (36%) when using nutrition claims. In addition, more respondents preferred the application of graphic over text due to graphic is more communicative and less cognitive effort is required to process the information. This study implied the needs for the concise and comprehensive presentation of nutrition claims for effective comprehension.

Index Terms - Nutrition Claim, Perception and Preference, Format and Presentation

I. INTRODUCTION

In 2015, Ministry of Health (MOH) has published National Health and Morbidity Survey (NHMS), stating there was at least 63 percent of Malaysians adults aged 18 years and above had at least one Non-communicable Disease (NCD) risk factor comprising of high blood cholesterol, high blood sugar, high blood pressure or overweight/obesity ("Ministry of Health Malaysia", 2015). With the percentage of NCD skyrocketed throughout the years, this issue should be raised to the attention of government, policy makers, food industry, civil societies and consumers. Despite the successful attempts to amend health policies and proposed health program to increase health awareness, NHMS 2015 has implied that the effort of improving the health status in Malaysia has to be strengthened.

On the other hand, dietary pattern has changed drastically in this modern era as the consumption of processed and convenience foods were continuously increased in low and middle-income countries. Furthermore, nutrition transition which could be affected by dietary patterns and nutrient intake increases the risk of getting NCD (World Cancer Research Fund International, 2014). The increased of health-promoting products available in the market due to Malaysians consumers' health concerns have been multiplied (Lau et al, 2012). Moreover, Stanton, Emms and Sia (2011) also mooted that purchase of functional foods, nutraceuticals and organic foods have been risen due to the increased of better informed Malaysians (as cited in Lau et al., 2012). (Ahmad, 1996; Bech-Larsen and Grunert, 2003; Hasler, 1998; Lawrence and Germov, 1999; Milner, 1999; Poulsen, 1999) 'studies have found that foods can help to prevent disease, enhance the quality of life and improve mental health (as cited in Hassan and Mustapha, 2010). That being said, consumers have increasingly become more health conscious and selective in their food choices in order to achieve a balance diet. As a result, consumers' preference for functional food has prompted food industry to increase the production of functional foods to fulfill the need of health conscious consumer market. DPO (Daniel Pans, Office) international (2014) has stated that food market in Malaysia constitutes demand for functional food market and it has been created due to the increasing consumers' awareness in nutrition value. With a variety of functional food produced and available in the market, food labelling has become an important medium or channel to guide consumers to make healthy and informed food choices. In the meantime, food label is considered a primary communication medium between the manufacturer and the consumers (Gale, 2013). The legislative and governance forum on food regulation (2011) has also stated the role of food labels in communicating preventative health messages and informing healthy

food purchasing decisions by consumers. Among others food labels, research regarding the presentation of nutrition claims has been scarcely looked into despite its important role to assist consumers to make healthy food choices. Nutrition claims is regarded as a rapid means of communication and it communicates the value or the specific nutrient contained in a food product to the consumers (Miller and Cassady, 2015). The value or nutrient is normally being emphasized with the use of nutrition claims in an apparent manner that is placed on the front packaging (Health Canada, 2003). Being highly visible is main feature of nutrition claims to present nutritional feature of interest. The highlight of the nutritional features allows consumers to make quick and easy assessment of the product in which consumers can identify foods with a specific nutritional feature of interest rapidly. Therefore, the provision of nutrition claims expedites the communication process between the producer and consumer of a product as well as facilitates informed food choices.

However, if a food product does not employ any claims, consumers may have difficulty to grasp the key feature of a food product and make poor judgement based on their intuitive thoughts, especially those who have limited knowledge and experience as consumers with greater experience and education are able to comprehend the claims better (Dean et al, 2011 ; Verbeke et al, 2009, as cited Miller and Cassady, 2015). As a result, nutrition claims is deemed as an important tool to communicate the nutritional feature and quality of a food product to help consumers to make healthy food choices. Nevertheless, there is no doubt that claims have impact on product evaluations sometimes (Garreston and Burton, 2000, as cited Miller and Cassady, 2015) but it may also appear to be misleading and confusing to consumers (Hasler, 2008, as cited Miller and Cassady, 2015). Hence, the objectives of this study were to investigate (1) the perception towards nutrition claims that develops biased thoughts and encourages purchases among Malaysian consumers, (2) the ambiguity of nutrition claims as a medium to inform consumers of product information and (3) the format and presentation of nutrition claims that elicit purchase desire. Perception, in this context, refers to how consumers interpret nutrition claims and form mental impression in a positive, negative or neutral manner. Ambiguity refers to the way how nutrition claims are presented vaguely which leads to miscommunication while the format and presentation refers to the design and choice of words applied to nutrition claims. This paper has drawn attention to further improve nutrition claims for a better consumer understanding and facilitating informed food choices. Nutrition claims serves as a channel or medium to inform consumers of product information which processes through either central route or peripheral route by consumers. The amount of persuasion knowledge consumers possess affects the likelihood of consumers being persuaded to make purchase and consumers' perception being affected by the information given. For instance, a consumer with limited amount of persuasion knowledge processes nutrition claims through peripheral route would more likely affect consumers' perception and purchase decision. Thus, consumers' perception and purchase decision would be affected by the way how they process the information given and the amount of persuasion knowledge they possess.

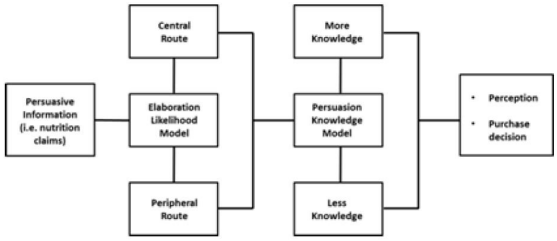


Fig. 1. Conceptual framework for the use of nutrition claims as a medium affects consumers

II. RESEARCH METHODOLOGY

This study was solely targeting at grocery shoppers with a sample size of 400 and the sample should be aware of the presence of nutrition claim. Targeted respondents were being approached and confirmed as grocery shoppers before taking the survey. To reaffirm there was no unsuited respondents, one of the survey questions has been set to verify the respondents' awareness of nutrition claim. Those who have stated not knowing the presence of nutrition claim were considered unfitted and removed subsequently.

Structured questionnaire format was adopted for this study which consists of multiple choices question (MCQ) and Likert scale. This survey questionnaire helped the researcher to explore attitudinal dimensions (Oppenheim, 1992, as cited in Hassan and Mustapha, 2010). Pictures and examples of different types of nutrition claims, labels and logos that were generally used on functional food in Malaysia's food markets were provided in the questionnaire to obtain consumers' responses more precisely. Questions were specifically designed to inquire into the perception, knowledge, motivations, attitude and behaviour of the respondents on three types of permitted nutrition claims used on functional food products in Malaysia, including: (i) nutrient content claim, (ii) nutrient comparative claim and (iii) nutrient function claim. The first section of the survey questionnaire, questions looked into respondents' perception towards different types of nutrition claims, be it positive or negative. Followed by second section examines respondents' knowledge of nutrition claims. Implication of different types of nutrition claims and several nutrient

calculation questions were added in to the survey questionnaire to further examine the understanding of consumers on nutrition claims. Third section investigated respondents' motivation, attitude and behaviour and other possible factors that could have impacted on consumer buying decision. The last section collected the demographic background of the respondents which consists of gender, age, race, marital status, qualification level and current status.

Table 1. Demographic Attributes

		%	N
Gender	Female	67.29%	216
	Male	32.09%	103
Age	>20	7.48%	24
	21-29	33.64%	108
	30-39	25.55%	82
	40-49	15.26%	49
	50 and above	17.45%	56
Race	Malay	29.60%	95
	Chinese	56.70%	182
	Indian	11.84%	38
	Indigenous	1.56%	5
Marital Status	Single	50.16%	161
	Married with kids	41.74%	134
	Married, no kids	7.79%	25
Qualification	Secondary and below	27.41%	88
	Diploma	25.55%	82
	Degree	33.02%	106
	Postgraduate	13.71%	44
Current Status	Employed	62.62%	201
	Self-employed	7.17%	23
	Student	16.20%	52
	Housewife	9.66%	31
	Retiree	4.05%	13

Data display as (n=).

Table 1.0

III. RESULT AND DISCUSSION

3.1. Demographic Attributes

Demographic attributes consist of gender, age, race, marital status, qualification and current status. A total of 319 respondents have done the survey questionnaire. There were more female respondents (67.29%) than male respondents (32.09%). Most of the respondents (33.64%) were aged 21-29, followed by those in the age group of 30-39 (25.55%) and more than half of the respondents were Chinese (56.7%), following by Malay (29.6%) and Indian (11.84%) while indigenous accounts for a very small percentage only (1.56%). Half of the respondents were single (50.16%) while close to half of them were married with kids (41.74%), some with no kids (7.79%). Majority of the respondents (72.59 %) had diploma, degree and postgraduate qualification, and only 27.41% of the respondents whose last qualification was secondary and below.

3.2. Additional nutrition claims increases price acceptance

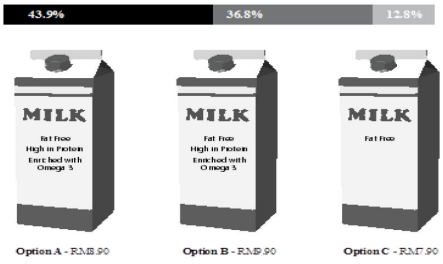


Fig. 2

Statistic reported that majority of the respondent (81%) preferred "Option A" (fig. 3.0) and "Option B" (fig. 3.0) among the available options as shown above, including (1) a product carries more than one nutrition claim, (2) A product carries more than one nutrition claim and a nutrition symbol, and (3) a product with only one nutrition claim.

Despite the fact that Malaysian consumers are deemed as the most price-sensitive in Southeast Asia (Nielsen 2012), findings showed that close to half of the respondents preferred a product with more nutrition claims at higher price. Consumers were willing to spend more to buy a product that carries additional nutrition claims. It indicated that the amount of product information given would seemingly influence consumers' willingness to buy as it is very important for consumers get access to more in-depth product information (Label Insight, 2016). This was supported by previous study to look into consumer knowledge and preferred information sources in selecting functional foods (Hassan and Mustapha, 2010) stated that consumers demand information that were more detailed, accurate and accessible regarding the food labels such as nutrition claim. Label Insight (2016) further revealed that more than a third of respondents claimed their willingness to switch brand if another brand provides more detailed product information. It is evident that the influence of the amount of the information given is significant. As the concept of healthy eating has increased, food product transparency has become more important to consumers for making healthy food choices. Likewise, a food product with more nutrition claims indicates more product information and higher transparency, resulting in higher buying intention. Therefore, this study has explained that consumers preferred food products with additional nutrition claims due to additional information given increased purchase intention and price acceptance.

3.3. The Preferred Format and Presentation for Nutrition Claim

(a) Choice of Words

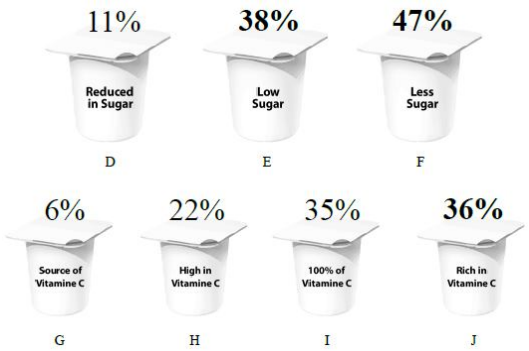


Fig. 3

With different types of the nutrition claims shown above, statistic reported that most respondents intend to buy products that carried terms "less" (47%), "low" (38%) and "rich" (36%). It could be seen that respondents were stimulated to certain words only which was expounded by a study pertaining to the reviews for research about the use and understanding of health claims which showed that actual words used in claims could influence consumer buying decisions (Williams and Ghosh, 2008). Therefore, wise choice of words in nutrition claims offers a greater help for consumers to grasp the key information of food product well within limited purchasing time. Yet, another study investigated consumer understanding of nutrition and health claims made on food (EdComs, 2007) which showed consumers were sometimes sceptical of nutrition claims. However, certain nutrition claims include "high in" and "a good source of" have gained 51% of the respondents' confidence. Again, this has proven that choice of words has significant influence on consumer purchase intention and decision. As mentioned, "less" and "low" were two most preferred terms that were classified as negative nutrition claims (i.e. "not adding" and "removing") while positive claims (i.e. "adding" and "not removing") was not as popular as the negative claims. Prior study to look into the claims' naturalness and valence (positive or negative aspects of food) has showed that negative claim has the strongest associations with weight loss (Andre, Chandon and Haws, 2016). For example, consumers always expect foods claiming to be "healthy" or "low fat" to be less fattening (Gravel et al. 2012; Provencher, Polivy, and Herman 2008; Raghunathan, Naylor, and Hoyer 2006; Wansink and Chandon 2006; as cited in Andre, Chandon and Haws, 2016). This explicates that consumers expect a product carries negative nutrition claim (i.e. "less sugar" and "low fat") helps in weight loss.

Besides that, previous study to examine the use of nutrition and health claims as marketing tools (Orquin and Scholderer, 2015) showed that nutrient reduction claim such as "contains 50 percent fewer calories" or "contains less fat" were getting more popular in many food categories. It showed that the effect of nutrient reduction claim has greater influence on consumers' perception as they perceived a product that contain less of certain substance that is detrimental to their health more positively (Orquin and Scholderer, 2015). Therefore, result objected to what Drewnowski et al. (2010) has stated that negative claims have little effect to enhance the healthfulness ratings. Furthermore, this study has proposed that Malaysian consumers prefer claims that stated the absence of nutrient which also known as negative claims and perceived it as more healthy. On the contrary, "Source of" was the least chosen by the respondents (6%) when asked to make their purchase decision from the available options. Previous study looked into consumer understanding of nutrition and health claims made on food (EdComs, 2007) showed that there was a significant difference in consumer interpretation of terms such as "a good source of" depending on whether they refer to familiar or unfamiliar nutrients. It was probable caused by the uncertainty in consumer interpretation or lack of interest to certain nutrition claim such as "Source of", resulted in consumer being less responsive to it.
Format and presentation of nutrition claims has played a greater role to help improving the understanding of Malaysian consumers on nutrition claims and the food product itself. Hence, findings revealed the importance of the format of nutrition claims to assist Malaysian consumers to make healthy and informed food choices with right choice of words.

(b) Graphic Application

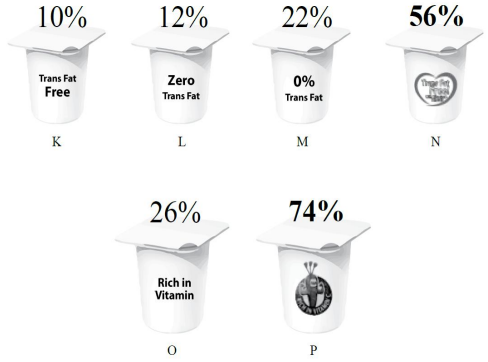


Fig.4

As shown in fig. 5.0, findings showed most respondents (74%) preferred the nutrition claim in graphic format, indicating a sign of being strong and more than half of the respondents (56%) preferred another claim with the sign of good for heart. It's apparent that Malaysian consumers preferred nutrition claims with the application of graphic over the plain text format. This could be explained by a prior study explored the impacts of food label format on consumer willingness to pay for environmental sustainability (Tait et al., 2016) that has showed graphic clarified more about the food product and it was more communicative compared to text format. In previous study, Viswanathan (1994) has stated that visual presentations lead to a greater degree of use than numerical presentations (as cited Berning et al., 2009). Additionally, graphic application allows consumers to pick up messages fast as it requires less cognitive effort. This implied that consumer understanding could be further improved by digesting the message faster and easier which helps in making a rapid purchase decision as well. To sum it up, graphic can deliver a simpler message than text as it can quick inform the consumers of nutritional value and

information.Nonetheless, consumers' reactions may change accordingly depending on their exposure to the types of nutrition claims. Regardless of graphic or word choice, studying consumers' preference on nutrition labelling or format is vital as it may lead to higher possibility of use (Berning et al., 2009).

CONCLUSION

In a nutshell, nutrition claims plays a significant role in influencing consumer perception and purchase decisions especially when additional nutrition claims presented which increases buying intention and price acceptance. This paper also suggested that the format of nutrition claim and its presentation was the key to influence the process from consumer perception to consumer buying intention, main factors include choice of words and graphic application. In regards to word choices, terms such as "less", "low" and "rich" were perceived to have a stronger impact on consumers buying intention. In addition, findings showed that consumers were more responsive to nutrition claims in graphic format due to higher and simpler comprehension by consumers. It is evident that consumers have their own preference of nutrition claims for a better understanding of the food product.

These data provide a preliminary indicator of how nutrition claims can be better presented to communicate healthy decision when making food choices. As much as knowledge is important to determine the use of nutrition claim, consideration to present in a concise and comprehensible manner should also be paid equal attention in order to determine the implications, further analysis would be conducted to further look into consumer interpretation of preferred nutrition claims in both graphic and text form and its possibility of misleading through focus groups. This will help establishing a better format and presentation of nutrition claims.

I would like to express my gratitude to my supervisor for patiently guiding me all the while from the beginning until the end. Her continuous support and encouraging words have been bringing me to this far and complete this eventually. Besides that, I would like to thank my mother for her contributions to my studies and her unconditional love for me which further motivates me to produce a better work. Lastly, I also acknowledge the contribution of my friends and the respondents to have taken part in my research.

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