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Applying social marketing mix to identify consumers' preferences towards functional dairy products in Iran

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## Article information:

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**Purpose** – During the past few decades, production and marketing of functional foods has increased in many countries including Iran. Considering the fact that consumers' preferences play an important role in the success of marketing a product to increase consumption, this study was conducted in Iran to fill the knowledge gap in this regard.

**Design/methodology/approach** – The theory of social marketing served as the framework of this study. Qualitative data were collected via eight semi-structured focus group discussions, between May and September 2014. Participants were 65 women (44 housewives and 21 employed women), aged 23–68 years, selected by purposeful sampling technique, considering maximum diversity. All focus group discussions were audio recorded and transcribed verbatim. Analysis of the qualitative content of the data was conducted using MAXQDA® software.

**Findings** – The findings showed that there were quite diverse preferences among studied women in regards to different aspects of a product and its social marketing strategies. The preferences towards functional dairy products were categorized in 4 main groups: (i) characteristics of products including sensory and non-sensory characteristics; (ii) price; (iii) place of the product supply; and (iv) promotion strategies of products categorized in three subgroups of informing and educating, advertising, and recommending.

**Originality/value** – This study is the first study in this regard in Iran. Given the novelty of functional dairy products in the market, the diversity of preferences should be considered both in production of dairy foods and their promotion plans. This understanding can contribute to success of interventions to increase consumption of these products among consumers.

**Key words:** Functional dairy products, Preferences, Qualitative study, Social marketing

## Introduction

Functional foods comprise a variety of natural foods or foods that have been modified to have a functional influence on the health and well-being of consumers through elimination, addition, or modification of specific components by using technology or biotechnology (Diplock et al., 1999;

Roberfroid, 2000). The term "Functional Food" was first introduced in Japan, in the early 1990s, as an alternative to conventional foods to prevent disease and reduce health care costs (Shimizu, 2003).

One of the most important types of functional foods are functional dairy products, including low fat/ skim dairy products (Ozen et al, 2012), probiotic dairy products (Granato et al, 2010), dairy products fortified with vitamins/ minerals/ or omega-3 fatty acids, and low lactose/ lactose free milk (ADA, 2009). Probiotic products such as yoghurt and other fermented dairy products are considered as the first and most important functional food products by some authors (Azizpour et al, 2009). There are some strong evidences indicating that these products have health benefits such as improving the immune system, lowering cholesterol, treating alcoholic liver disease, improving lactose intolerance, preventing and controlling cancer especially colon cancer, lowering urinary tract infection, gastric ulcer, diarrhea and gastrointestinal diseases (Kirpich et al., 2008; Rampengan et al, 2010; Zhao et al, 2007).

Over time, demands for functional foods have increased throughout the world (Martirosyan & Singh, 2015), probably due to increasing life expectancy and rising costs of health care (Siegrist et al, 2015). However, many people are not familiar with these products and even think that these foods are designed for certain diseases while consumption of functional foods can be beneficial for everyone (Hellyer et al, 2012).

While functional foods market is growing constantly (Bigliardi & Galati, 2013), consumers' acceptance is identified as an important and crucial factor affecting the chances of success in this market (Siro et al, 2008). According to several studies, acceptance of functional foods is influenced by various factors including those related to consumers such as awareness or knowledge about the concepts of functional foods and functional ingredients (Annunziata et al, 2016; Ares et al, 2008; Urala & Lähteenmäki, 2007; Vella et al, 2014), attitude towards these products (Peng et al, 2006; Rezai et al, 2017), the perceived healthiness of functional foods (Annunziata & Vecchio, 2011; Ares et al., 2008; Shan et al., 2017), past experience of illnesses (Maynard & Franklin, 2003; Verbeke, 2005), and the demographic and socio-economic characteristic of consumers (Carrillo et al, 2013; Kraus et al, 2017; Urala & Lähteenmäki, 2007).

It has been shown that functional foods consumption depends not only on the factors mentioned above but also on other factors like product characteristics. Among sensory characteristics, taste play a major role in driving the consumers to choose a functional food (Ares et al, 2010; Leathwood et al, 2007; Verbeke, 2006), because many consumers may be hesitant to compromise on taste for health benefits (Verbeke, 2006). Non- sensory product characteristics such as brand and price (Ares et al., 2010;

Krystallis et al, 2008), packaging and convenience of consumption (Urala & Lahteenmaki, 2003), and health claims related to functional foods (Christidis et al, 2011; Coleman et al, 2014; Siegrist et al, 2008) have an important role in informing consumers about the product's properties, attracting and influencing consumer purchasing decisions.

In addition to the above, the method used in communicating health benefits of functional foods (Leathwood et al., 2007; Siro et al., 2008; Verhagen et al, 2010) have been shown to be effective in acceptance of functional foods and purchasing behavior of consumers.

Currently, some manufacturers produce functional dairy products such as low fat/ skim dairy products, probiotic dairy products, low lactose/ lactose free milk, and milk fortified with vitamin D3 in Iran in limited amount and in a gradually growing but fragile market. Considering nutrition issues including high prevalence of calcium and vitamin D deficiency in Iran (Ardestani et al., 2010; Moussavi et al, 2005; Neyestani et al., 2012), increase of functional dairy products can have an added value for public health. To the best our knowledge, it should be noted that according to the latest statistics about Iranians food basket, per capita dairy consumption is 139 g that is very low in comparison with the optimal level of dairy consumption about 225 to 240 g (Bahadoran et al, 2015). However, given the novelty of functional dairy products in the market, little is known about the factors that may determine their consumption among Iranian consumers. Filling this knowledge gap is especially needed for designing effective and evidence-based interventions to increase functional dairy products consumption at the population level. As determinants of functional food consumption goes beyond the individual factors of consumers to include environmental factors such as market, promotional advertisements and education, social marketing framework was chosen to guide this study. Social marketing which is the application of traditional marketing principles towards the promotion of health behavior change (Andreasen, 1995) has been frequently used in behavior change studies in various areas including public health and nutrition for more than three decades. However, it seems that this framework is best used in public health for changing behaviors which involve purchasing and consuming a healthy product. Hence, this research aimed at identifying the preferences of Iranian consumers about functional dairy products characteristics, price, place and product delivery methods, and ways to promote their use by using the formative research phase of a social marketing framework.

## Subjects and Methods

The present study was part of a broader mixed method study that utilized Social Marketing Assessment and Response Tool (SMART) and its seven stages consisting of preliminary planning; formative research including consumer analysis, market analysis, and channel analysis; developing interventions,

materials, and pretesting; implementation; and evaluation (Neiger & Thackeray, 2002). This paper only reports part of the results of preliminary planning and the consumer analysis stage of this framework, which aims to provide better understanding about consumers' preferences towards different aspects of functional dairy products (4Ps of marketing mix) including price, place, product delivery methods, and ways to promote their use (Story et al, 2008) in Tehran, the capital of Iran.

After completing the first step of the pre-planning phase of SMART framework, specific consumer and stakeholder groups were identified to be included in the study. This paper only reports the findings related to perspectives of women as one of the consumers' groups, which are responsible for food shopping in most households.



***Participants and data collection***

A purposeful sampling technique, with a maximum diversity, was used to conduct this study. The participants were 65 women (44 housewives and 21 employed women), aged 23–68 years. Focus group discussion was chosen as a qualitative method of data collection as it can help shed light on issues that may not come up in other qualitative research methods (Rubin & Rubin, 2011). Eight focus group discussions (FGDs) were conducted between May and September 2014. To achieve high diversity and variation of participants, Tehran, the capital of Iran, was divided into five geographic areas including north, east, west, south, and central. Then, one neighborhood's house in one of the districts from one geographical region was randomly chosen. Housewives were invited to join the study by telephone and conducting of FGDs continued until data saturation was achieved. Five focus groups for housewives were conducted at five neighborhood's houses, Tehran Municipality's Social and Cultural department. For employed women, three focus groups were conducted at three government organizations including one university, one department of education, and one municipality council. Same as housewives, Tehran was divided into five geographic areas and one government organization in one of the districts from one geographical region is randomly chosen. Then, employed women interested in participating in the study were invited to join the study. This process continued until data saturation was achieved. Finally data saturation was achieved by eight FGDs. Six focus groups were conducted to collect data and two more were considered to ensure that there is no new codes and data saturation.

A series of semi-structured questions based on social marketing framework were developed to guide the discussions. The questions were evaluated for their content by two experts and then pretested with eleven women similar to the target population prior to conducting interviews with the target audience. Based on their feedback, minor changes were implemented.

At the beginning of each focus group session, the purpose of the meeting was explained. After ensuring that the participants are satisfied by attending the meeting, all participants were asked to complete a short socio- demographic survey. All focus groups were conducted in a private room within the neighborhood's house and government organization setting (for housewives and employed women respectively). Groups were formed based on an average of eight women per focus group (range = 7-9). Each focus group was facilitated by a researcher. A co-researcher audiotaped the proceedings and took notes. Each session took 90 to 120 min. New focus group discussion sessions were planned until data saturation. The moderator followed a topic outline with the flexibility to allow for the generation of new inquiries. Focus group interviews were transcribed from the tape recordings.



### *Ethics*

The ethics committee of the National Nutrition and Food Technology Research Institute, Shahid Beheshti University of Medical Sciences approved the study (No. 053555). Participants provided written informed consent before the focus group discussions and explicit permission was sought for audiotaping.

### *Data analysis*

Transcripts of all eight focus groups were then imported into MAXQDA®, a software package for managing and analyzing qualitative research data. Directed thematic analysis (Guest, MacQueen, & Namey, 2012) was used to analyze the data in the four areas of social marketing mix: “preferences in relation to product”, “preferences in relation to place”, “preferences in relation to price”, and “preferences in relation to promotion”.

Confirmability and credibility of the data were established through maximum variation of sampling, taking enough time to collect data, in-depth prolonged engagement with participants and data. In addition, some participants were given a full transcript of their coded interviews to determine whether the codes matched their point of view. The dependability of the data was established through reviewing by colleagues and members of the group, recording all the research details, and transcribing the interviews as soon as possible. Inter-rater reliability was calculated using percent agreement (inter-rater reliability r= 0.92) (Rourke et al, 2001). This agreement indicated that the coding list was reliable. Disagreements were discussed and new or adjusted coding categories were applied to all transcripts. To establish transferability, the researcher documented the steps followed in the research and the decisions made to save the dependability for other researchers to perform the steps of the research in future studies.

## Results

The characteristics of the study participants are shown in Table 1.

"INSERT TABLE 1 HERE"

The following sections present summaries of different views identified by housewives and employed women about their preferences about functional dairy products. Table 2 summarizes the related findings.

### *Preferences in relation to product*

Data analysis identified several preferences of participants in relation to sensory characteristics of products such as taste, texture, and quality; and non- sensory characteristics including packaging, brand, nutritional labeling, and so on which are explained subsequently in more details.

- *Sensory characteristics*

A majority of the participants, from both groups of housewives and employed women, mentioned that good taste and flavor of the products are the most important sensory characteristics which give people the enthusiasm to pay for even unhealthy foods such as high-fat dairy products. They believed that if people liked the taste and flavor of functional dairy products, they would incorporate them in their daily diet. In addition, one housewife and one employed woman believed that as fortification procedure worsen the taste of the product; it may reduce its consumption.

> *"When something is added to food, it should not badly affect its taste and flavor. Usually, non-fortified milk and yogurt tastes better than fortified milk and yogurt". (32-year-old housewife)*

In addition to good taste, many housewives and employed women noted that functional dairy products should have a good texture and quality, as well as a high shelf life without changing their taste. Even, one of the housewives believed that quality is more important than taste.

> *"It is possible that taste should not be very important. Because some products may not be delicious, but their quality is good". (40-year-old housewife)*

- *Non- sensory characteristics*

A majority of the participants in both groups believed that attractiveness of packaging is important for both children and adults, but one housewife disagreed with this assertion. She believed that people should make a choice between product property and packaging appearance, and the second will have little impact on the product selection.

*"If the functional dairy products are beneficial, I think most of the people may not pay attention to many items, even its packaging. Because some products you see do not have a good packaging, but they are very beneficial and mostly, are bought by people". (33-year-old housewife)*

Brand was another factor identified as an important characteristic of dairy product influencing the consumption of products. Some participants in both groups reported that people mainly buy brand products that are perceived as well known, famous and credible. However, one housewife believed that what is important is not the type of brand, but the nutrients it contains.

According to few participants in both groups, another notable identified factor was packaging material. They believed that packaging material has a significant impact on taste and flavor of the product. Therefore, for a better taste, one of their preferences was to deliver milk in glass bottles, as past years, instead of plastic bags. Packet size was also mentioned as an important factor in purchasing dairy products. A small number of housewives stated that functional dairy products should not only be available in large packages as small-pack sizes provide easy access to fresh products, and also make it easy for children to consume it especially in schools.

Participants had also few preferences about nutritional labeling on the package. One of the housewives believed that the name of the substance added to functional dairy products should be presented in bold type letters on the package, so that it can be easily visible. Few participants from both groups preferred using dairy products that do not contain preservatives and additives. A small number of participants also suggested that these products must have health and safety sign.

*"My daughter says food products should have a healthy logo. Otherwise, I do not eat them. She says our school health teacher has said it should be. She says if the product does not have a healthy logo, I will not eat it because it is not healthy". (32-year-old housewife)*

***Preferences in relation to place***

The majority of housewives and employed women participating in the study stated that functional dairy products should be available in all stores and shops, not only in some special shops as all people have the right to use the best of everything. In addition, some housewives suggested that functional dairy products should be placed on the shelves in stores and shops in a way that customers can easily notice them.

*"There are some dairy products that are very good, but they are only available in chain stores. Perhaps it is not possible to everyone to go to the chain store. If these products are available everywhere, for example, in local shops and stores, I think it's better". (41-year-old housewife)*

***Preferences in relation to price***

Both housewives and employed women believed that affordable pricing of functional dairy, preferably equal compared with non-functional ones, will encourage people to buy these products.

*"I think the price is very impressive, I saw in stores those who were talking together about the prices of products. Because they were beside me, I mistakenly heard one of them saying to the other see which product's price is more suitable, buy it. Many people buy the products mostly based on their prices, regardless of their properties or whether they are high fat or not". (34 - year-old employed woman)*

Given the important role of prices, one of the housewives referred to an allocation of subsidies to functional dairy products as a factor that can provide support to the consumers and increase the consumption of these products.

***Preferences in relation to promotion***

Housewives and employed women participating in the study had different preferences regarding promotion strategies grouped in three concepts as informing and educating, advertising, and recommending by experts/ family/ or friends.

- *Informing and educating*

Both groups believed that informing people about functional dairy products play a major role in encouraging them to consume these products. Some employed women believed that providing comprehensive information about functional dairy products could be very effective in building their confidence in consuming these products. An employed woman added that diversity of audiences in terms of age, gender, education, and so on, should be considered in information programs, for example, information should be presented in simple and understandable language.

Providing information about the products inside the store, providing information by experts in stores and crowded shopping centers, and providing information by doctors/ nutritionists/ or those who are accepted by the people in popular television programs were other information methods mentioned by some employed women in this study.

*"I say that in order to increase people's information, wherever more people go shopping like large chain stores, it's better to be an expert explaining people about these products and making people more familiar with these products, their properties and benefits. Maybe they are interested in using them". (35 -year-old employed woman)*

The majority of housewives believed that providing information through popular television channels and programs, especially by doctors and nutritionists, is very impressive in introducing functional dairy products to the people. In this regard, one of them believed that providing information through television is better than providing information through other media like magazines.

"*It is possible I don't read the magazine, but my TV is turned on every day, whether I look at it or not. It's more effective than I pay for the magazine or I don't have time to read it. However, the TV is on. It can present functional dairy products to the people*". *(68-year-old housewife)*

Some housewives stated that many people look for information about the products before making a purchase, thus putting the information on functional dairy products on the walls or windows in shops would help them make informed purchasing decisions.

*"Sellers can attach information on these products in their shops. Nowadays, women's awareness has been enhanced, so that they are reading and studying. This means that all are unconsciously selecting a brand from a number of alternatives. Few people are doing it up. I have seen that most of them are looking at their ingredients". (40-year-old housewife)*

In addition to the above, providing information in different ways, such as the internet, health centers, kindergartens and schools, retailers, and sending a health message about dairy products via SMS were among the issues discussed by some housewives.

In addition to those mentioned above, some housewives believed that holding education classes in neighborhood houses, especially by nutritionists; holding education classes for mothers in kindergartens and schools; and launching the television channels devoted to children and adolescents and broadcasting educational programs and entertainment programs may be effective in raising public awareness about functional dairy products.

According to one housewife, hearing conflicting opinions about consumption of dairy products supplied by industries has reduced public confidence in the products and has led most of them to purchase bulk dairy products. Therefore, in her belief, before promoting functional dairy products consumption, it is necessary to take steps to build trust in the product.

- *Advertising*

The majority of participants in both groups stated that TV advertising is one of the easiest and most convenient ways to promote the use of functional dairy products. They believed that the advertising would be impressive, if it targeted children and is displayed regularly during popular serials and films. In relation to television advertising, many employed women mentioned that designing and showing attractive animations about functional dairy products on television would motivate people, both children and adults, to consume these products. According to them, these animations would have the greatest effect when they are prepared by the official organizations such as Ministry of Health, and be logical, accurate, short and in simple language.

"*The animations designed by the Ministry of Health are good, because adults such as me can read a passage and understand that these dairies are fortified with vitamin A or other nutrients. Kids usually make up a larger segment of the television audiences. However, there is a kid in every house. He's interested in it. This makes other family members have to look at it. These animations are attractive so that adults are also interested in them …*" (*26 -year-old employed woman)*

However, one employed woman was concerned that television advertising would increase the price of dairy products. She believed that advertising in shopping centers was more effective than television advertising.

"*The problem with television advertising is that if a product is advertised today, its price will be increased two days later. It usually goes like this*". (*34 -year-old employed woman)*

*"I think that advertising in shopping centers is more effective. Maybe even once a week, I don't see television; but I am always in shopping centers. This means that for the necessities of life, I always go shopping. I think that advertising in those places is most effective than advertising on TV and radio".* (*34 -year old employed woman)*

Advertising by sellers and offering the product samples in shops, stores and crowded shopping centers were among other advertising strategies mentioned by some housewives and employed women participating in the study. Few employed women stated that when a new product was offered for the first time in stores, it would be better to offer free or with good discount as this would have a significant impact on attracting the attention of consumers and encouraging them to try it. Some participants emphasized that providing information alone was not sufficient, so it was necessary that

the product sample should be offered in educational classes and at various meetings in order to help people to become familiar with its taste.

- *Recommending by experts/ family/ friends*

The majority of participants in both groups believed that if a doctor or nutritionist recommended functional dairy products should be consumed, the people would follow it. A small number of the housewives also mentioned that recommending by either a friend or a family member could be also effective.

*"My sister said. Due to pregnancy, she consumed low-lactose milk. She said it was good. Therefore, I consumed that". (40- year-old housewife)*

"INSERT TABLE 2 HERE"



**Discussion**

The aim of the study was to determine the preferences of Iranian consumers about functional dairy products characteristics, price, place and product delivery methods, and ways to promote their consumption. Our results identified a broad range of preferences as possible facilitators to functional dairy acceptance and consumption.

Sensory characteristics have been proved to be an extremely important factor in influencing acceptance of functional foods (Urala & Lähteenmäki, 2007). Several studies highlighted the primary role of taste in consumers' food choice (Lonneker, 2007; Maehle et al, 2015; Patterson, 2006; Urala & Lahteenmaki, 2003). Furthermore, a review of consumers' perception of health claims showed that taste was a stronger driver of purchase intent than health claims (Pothoulaki & Chryssochoidis, 2009). For instance, Verbeke (2006) indicated that consumers were not willing to compromise taste for possible health benefits. Similar findings were reported previously (Tuorila & Cardello, 2002). However, some products may have such a strong health claim that consumers are ready to compromise the taste (Urala & Lähteenmäki, 2004). This study, similar to previous studies (Urala & Lähteenmäki, 2004), emphasizes that it is important to find ways to increase the functionality of food products without changing their taste. Apart from the taste, a good texture and quality, and a high shelf life which were identified as important factors have also been reported in other studies (Patch et al, 2005).

The results obtained in this study support those of earlier studies stating an important role of different non-sensory factors such as packaging elements like its color, packaging material, and design of

wrapper (Ampuero & Vila, 2006; Raheem et al, 2014), brand familiarity (Annunziata & Vecchio, 2013; G Ares et al., 2010), food labels (Frewer et al, 2003; Verbeke, 2008), the absence of preservatives and additives in the product (Backstrom et al, 2003; Niva, 2007), naturalness (Rozin et al., 2004), and availability (Annunziata & Vecchio, 2011) in affecting consumer perceptions, purchase decisions and food acceptance. The remarkable thing about the brand is that it is one of the factors affecting consumer purchasing decisions because of its impact on attitudes and preference toward health-enhancing dairy products (Ares & Deliza, 2010), while brand do not affect food decisions in consumers with interest in health (Annunziata & Vecchio, 2013; Barrios et al, 2008).

In addition, recent marketing research has suggested that in-store environmental stimuli, such as shelf-space allocation and product display, have a great influence upon consumer buying behavior (Chen et al, 2006).

This study identified that high prices of functional dairy products may act as an obstacle for purchasing them, as reported in many studies (Annunziata & Vecchio, 2011; Nolan-Clark et al, 2011; Patch et al., 2005). Hence, many of the participants demanded for fairly-priced products, targeting different consumer segments as noted in other studies (Bholah & Neergheen-Bhujun, 2013; Krystallis et al, 2008). However, a study showed that Belgian consumers did not perceived high costs as a barrier to consuming functional foods (Verbeke et al, 2009).

Since the health benefits of the product are not directly perceived by consumers (Peng et al., 2006), specific communication and information activities are required on newly introduced functional foods to the market due to the limited consumers' awareness and knowledge (Biacs, 2007). It should be noted that information on the health benefits of functional foods and the ways in which this information reaches consumers can affect perception of these products (Ares et al., 2008; Urala & Lähteenmäki, 2004) and their acceptance (Verbeke, 2008). In this study, similar to some other studies (Annunziata & Vecchio, 2011; Nolan-Clark et al., 2011; Vella et al., 2014), it was suggested that health professionals and trusted informants should be the source of information about health benefits of functional foods in order to increase confidence in the information provided. Still, in some studies physicians and their advice were identified as the strongest normative influence regarding dairy foods with many avoiding particular items solely as a result of advice received from their doctor (Eddy et al, 1999). Given the role of trust as one of the most crucial factor in consumers' willingness to use functional foods (Siegrist et al., 2015; Siegrist et al., 2008), the need to build trust in dairy industries and their products were proposed by participants of this study.

In addition to health professionals, recommendations from family or friends, as seen in previous studies (Patch et al., 2005), also appeared to be important in exposing consumers to new food products and their incentive to try them. However, regardless of the source of information, one of the important issues in marketing functional foods is simplicity and reliability of communication regarding their health effects to consumers (Menrad, 2003; Nicolay, 2003). It has been advised that complex terminology and medical details should be avoided in such campaigns (Menrad, 2003).

In terms of the best promotion channels, the present study identified television as one of the most influential channels of communication, followed by physicians or nutritionists; training classes in different places like neighborhood houses, kindergartens and schools; shopping centers; and family and/ or friends. However, in some other studies, participants preferred to receive information about functional foods from newspapers, magazines and/or books, food labels and the internet, respectively (Vella et al., 2014).

Although some participants in this study were very skeptical of advertising, they acknowledged the need to inform the market about new food innovations through advertising, a finding that has also been reported elsewhere (Patch et al., 2005).

In Conclusion, this study explored the diverse preferences of women about their favorite characteristics of functional dairy products, the price they are willing to pay for its consumption, the place these products are available, and strategies to promote their consumption. These preferences can be considered as facilitators to the acceptance and consumption of functional dairy products by different groups of consumers. These findings may help dairy industry in Iran to develop appropriate marketing plan for each groups of consumers to meet their specific needs and preferences. The health sector also needs to understand the marketing aspect of the people's changing consumption behavior to design effective interventions to increase consumption of these products among consumers.

This study had a number of limitations that should be noted. Voluntary participation could have led to exclusion of the experiences of those who did not participate in the study. In addition, all participants were selected from a sample of Tehranian women, so the findings of this study might not reflect views of the general population of Iran. However, considering variety in sampling including different socio-economic backgrounds and different occupation groups of participants helped to support the findings. Findings of this qualitative study provided a better understanding of Iranian women's preferences about functional dairy products. Moreover, they can contribute in developing a quantitative questionnaire to measure frequency of each type of preferences of consumers in Iran.

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**Disclosure statement**

The authors declare that they have no conflict of interests.

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**Appendix A**

Focus group discussion questions

| | |
|---|---|
| 1 | What dairy do you usually consume? Why? |
| 2 | Have you ever heard the term "functional dairy products"? In your opinion, what dairy is called functional dairy? |
| 3 | Do you consume functional dairy products? Which one? Why? |
| 4 | What criteria do you consider when purchasing the functional dairy products? Which functional dairy you like more to use? Why? |
| 5 | In your opinion, what are the reasons for the consumption of these products in Tehran city? |
| 6 | In your opinion, what kind of functional dairy products are not available in Tehran market, but should be available? What functional dairy are insufficiently supplied in Tehran city? |
| 7 | In your opinion, how the functional dairy should be promoted to attract the consumers' attention? Where is better location to supply these products? |
| 8 | Through which channels do you currently find the information related to dairy or functional dairy products? |
| 9 | What promotion strategies do you suggest to increase the consumption of functional dairy? |
| 10 | In your opinion, what education source is best to obtain information about the functional dairy? |

Table 1. The study participants' characteristics

| | Housewives (n=44) | Employed women (n=21) |
|---|---|---|
| | N (%) | N (%) |
| Age (year) | | |
| 20-29 | 5 (11.4) | 2 (9.5) |
| 30-39 | 15 (34.1) | 8 (38.1) |
| 40-49 | 13 (29.5) | 7 (33.3) |
| 50-59 | 7 (15.9) | 4 (19.1) |
| $60^{+}$ | 4 (9.1) | - |
| Education | | |
| Under diploma | 4 (9.1) | - |
| Diploma | 29 (65.9) | 5 (23.8) |
| University | 11 (25) | 16 (76.2) |
| Marital status | | |
| Married | 42 (95.5) | 19 (90.5) |
| Unmarried | 2 (4.5) | 2 (9.5) |
| Responsible for household food shopping | | |
| Yes, always | 21 (47.7) | 11 (52.4) |
| Yes, sometimes | 5 (11.4) | 6 (28.6) |
| No | 18 (40.9) | 4 (19.0) |
| Existence of children under 18 years old in household | | |
| Yes | 22 (50) | 12 (57.1) |
| No | 22 (50) | 9 (42.9) |

N= 65

Table 2. Consumers' preferences towards functional dairy products

| **Categories** | **Sub- categories** | **Codes** |
|---|---|---|
| Preferences in relation to product | Sensory characteristics | Good taste and flavor |
| | | No difference between taste of functional dairy products vs. the conventional |
| | | Good texture and quality |
| | | High shelf life without changing the taste |
| | Non- sensory characteristics | Beautiful and attractive packaging |
| | | Well-known brand |
| | | High quality packaging material |
| | | Different sizes of packaging |
| | | Nutritional labeling on the package |
| | | Absence of preservatives and additives |
| | | Writing functional compounds' name in bold font on package |
| | | Having health and safety sign |
| Preferences in relation to place | | Be available in all stores and shops |
| | | Be visible in shops and stores |
| Preferences in relation to price | | Optimal pricing |
| | | No difference between price of functional dairy products vs. the conventional |
| | | Allocation of subsidies to the product |

Table 2. Consumers' preferences towards functional dairy products (Cont'd)

| **Categories** | **Sub- categories** | **Codes** |
|---|---|---|
| Preferences in relation to promotion | Informing & Educating | Providing comprehensive information about the product |
| | | Providing information in simple understandable language |
| | | Informing by doctors/ nutritionists/ or those who are accepted by the people in popular TV programs |
| | | Informing by experts in stores and crowded shopping centers |
| | | Providing information about the products inside the store |
| | | Informing by Internet |
| | | Informing by health centers |
| | | Informing by kindergartens and schools |
| | | Informing by retailers |
| | | Sending health messages about the product via SMS |
| | | Holding education classes in neighborhood houses |
| | | Holding education classes for mothers in kindergartens and schools |
| | | Showing the educational materials in TV networks for children |
| | | Building trust in the product produced by industries |
| | Advertising | Advertising in TV, particularly among television serials and films |
| | | Designing and showing attractive animations about the product on TV |
| | | Advertising by sellers |
| | | Sampling in shops, stores and crowded shopping centers |
| | | Offering the new product free or putting it up for auction |
| | | Holding conferences in neighborhood houses with offering the product sample |
| | | Distributing the product at various meetings |
| | Recommending | Recommending by doctor or nutritionist |
| | | Recommending by friends or family members |