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Attitudes, practices, and views of consumers on food labels in Bandar Abbas, 2017

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ABSTRACT

Introduction: A healthy community is the basis of development of each country and one way to achieve this goal is proper nutrition, and consequently it is essential to provide the society with the necessary information about food products. Therefore, this study was conducted to determine the attitudes, practices, and views of consumers on food labels in Bandar Abbas in 2017.

Methods: This was a cross-sectional study. The city of Bandar Abbas divided into five districts, and then 200 people from food stores were randomly selected by cluster sampling. The instrument used was a researcher-made 5-part questionnaire including demographic status, attitude, practices, views on the content of the labels, and the barriers to using the food labels. Data were analyzed using SPSS version 18 software.

Results: The results showed that the mean age of participants was 31 ± 10.28 years. About 51% of the samples were women. 58% of the participants were married and 46% had university degrees. 46% were self-employed. Gender had a significant relationship with the variable of the barriers to using labels ($p < 0.05$). Additionally, there was a significant relationship between the level of education of people and attitudes, practices, and views of participants regarding food labels and barriers to checking labels ($p < 0.05$). The most attention the labels draw, is for checking the production and the expiration date.

Conclusion: There are many barriers in relation to the information on food labels. Thus, given the high impact of food labels on choosing healthy food by consumers, food industry owners need to take action to remove barriers to labels.

Introduction

In many countries in the world today, labeling foods with nutritional information is considered necessary. Raising nutritional awareness and understanding the role of nutrition in controlling chronic diseases such as cardiovascular disease, obesity, diabetes and hypertension have attracted people's attention more than ever on how to choose foods and information about their nutritional value (1). Food labels are one of the most important public health tools used to balance the nutrition models. These labels help consumers get informed about the value of nutrients and compare them with food of the same value and choose the healthiest product accordingly. These labels are also useful for people with a specific diet (diabetics or hyperlipidemia) to select the best product based on their health status (2). Labels are the most powerful means of transmitting information from manufacturers to consumers. Nutrition labeling is one of the public health policies, with

the goal of promoting food safety and consumer awareness of their nutritional choices (3). Having the knowledge and skills of interpreting food labels is crucial for choosing a healthy diet (4). What is written on labels should be simple and understandable for everyone and contain the product's profile (5). But there are many problems with food labels. For example, many people do not quite understand the information on these labels and will have an unhealthy nutritious selection, which leads to an increase in fat, salt, calories and carbohydrate intake in the diet (7). Probably the lack of consistency and inaccuracy of information on food labels is one of the important points in food labels. The extent of using labels depends on the type of product category, for example, the most used labels are for foods such as dairy products and meat products that have a healthy food image. On the other hand, the least used labels are for foods which are used extensively, such as sweets (3). In Iran, legislation on labeling packed foods and the standard setting of the general characteristics of food labels is done by the National Institute of Research and Standards. According to this standard, informative facts must be recorded on the food packaging label (5). In a study conducted by Drichoutis et al. to determine the effective factors on the use of food labels, the results showed that personality traits (age, gender, and education) and behavioral and attitudinal factors (income, occupational status, available time to purchase a product, the level of concern about nutrition and health) affects the use of labels (7). In a study by Grunert et al., the results showed that there is a greater likelihood of using a food label when purchasing a product for the first time by the consumer, and consumers pay the most attention to the price of the product rather than the label (8). The results of the study by Misra et al. showed that there is a direct relationship between the use of food labels and nutritional information (9). However, in a recent study by Nayga et al., the results indicate that nutritional information is not related to the extent of using labels (10). Since the information on food packages can be effective in making consumer decisions for purchasing and will lead them to change nutritional behavior and a healthy and desirable dietary model, and since there has not been much research in our country so far, the aim of this study was to determine the attitude and performance of consumer views on food labels in Bandar Abbas city.

Methods

The present study is a cross-sectional study. The research environment was food preparing and distribution centers in Bandar Abbas city, 2017. First, the city of Bandar Abbas was divided into five districts (District A: Golshahr, district B: Damahi, district C: Bazar, district D: Jomhouri Blvd, and district E: Khaja Atta). Samples consisted of 200 food consumers who attended grocery stores in Bandar Abbas. They were randomly selected by cluster sampling. Given the uncertainty in the size of the statistical population, the sample size was calculated using the Cochran formula. In this formula z, d, p, and q were considered as below:

z=1.96, d=0.07, p=q=0.5 $n = \frac{z^2 pq}{d^2}$

According to sample size, 40 people were selected from each region. After obtaining a letter of introduction from the university's research deputy and presenting it to the managers of the stores and explanation of the purpose and method of research implementation to the subjects, written informed consent form of the samples and a researcher-made questionnaire consisting of 5 parts: demographic information (age, sex, education, marital status, and employment status), attitude, practices, views of consumers on label information and barriers to check food labels were completed by the subjects. The questionnaire consisted of 46 questions, 5 of which were in the field of demographic information, 12 questions of attitude, 1 question of practice, 11 questions about the views of consumers regarding the content of food labels and 7 questions related to food labels. Scoring questions using the Likert spectrum for attitude questions (very high, high, moderate, very low, low, scaling grades from 5 to 1 in the order of options) and for practice questions (always, most, sometimes, never, scaling grades from 4 to 1) were arranged. To determine the validity of the questionnaire it was sent to five health professionals and an environmental health specialist. Their views were asked along with an attached form about the structure and subject of the questions. They were also asked for corrective questions and suggestions and necessary changes required. The content validity index (CVR) was evaluated and the validity of the attitude, practices, views, and barriers questions were 0.91%, 0.99%, 97%, and 98%, respectively. The reliability of the questionnaire was calculated by Cronbach's alpha, such that the calculated Cronbach's alpha for the second to fifth parts was calculated 0.712 to 0.721. The findings of the questions have been extracted as percentages. The collected data were analyzed by SPSS version 18 software using descriptive statistics t-test and ANOVA.

Results

In this study, 200 food consumers referring to 5 districts of Bandar Abbas were studied. Table 1 shows the age distribution of participants in the study. The age

Table 1. Distribution of relative frequency of participants based on demographic characteristics

Characteristics		Frequency	Percentage	Performance (P-value)	Attitude (P-value)
Age	Under 20 years	24	12	0.088	0.413
	20-40	142	71		
	40-60	31	15.5		
	Over 60 years	3	1.5		
Gender	Men	98	49	0.459	0.919
	Women	102	51		
Education	Under the Diploma	32	16	0.000	0.65
	Diploma	75	37		
	Academic	93	46		
Job	Employee	44	22	0.108	0.526
	Free job	93	46		
	student	30	15		
	housewife	33	16		
Marital status	Single	83	41	0.106	0.910
	Marriage	117	59		

*P-Value<0.05

range was between 11-68 years old. The mean age of participants was 31 ± 3.283 years. As shown in table 2, about 51% of the samples were female and current barriers in checking food labels among participants were different in regard of gender p=0.007. 58% of the participants in the study were married and the four studied variables did not have a significant relationship with marital status. In terms of education, 46% had university degrees. 46% of participants were self-employed. Data analysis showed that there was a significant relationship between the level of education of people with their views regarding food labels, barriers to checking labels and practices of individuals (p <0.05) (Table 2). According to table 3, the most important consideration for food labels was the observation of the production and expiration date of the product, and the least frequent was the observation of nutritional information. The results also showed that 4% of the subjects always, 28% most of the time, and 28.5% sometimes read the labels, and 39.5% never read the food labels. The mean practice score in the samples was 1.96 and the mean practice in females was higher than that of males. The mean score of attitude was 28 and was equal in both genders. The performance and attitude of the people with other demographic characteristics were not significantly correlated (p> 0.05) (Table 3). The result showed that, from the consumer point of view, illegible labels and improper place for insertion of food labels are the most frequent barriers, while readability and suitability of the place for the insertion of labels are most satisfactory (Figure 1). 57% of consumers revealed that the printing of labels was diminutive and ignorance for checking the tags has the lowest percentage (70%) (Figure 2).

Discussion

As it can be seen from the results of this study, the importance of nutritional components and food ingredients among consumers is high, the reason for which, is the high interest and incentives for consumers to have a nutritional diet or health care recommendations of modern day. The most important reasons for not paying attention to food labels include ignorance, diminutive printing of labels, lack of time, lack of interest and motivation of people, and illegible contents of food labels.

Table 2. The frequency and percentage of the attention to food labels from the view of food consumers (n = 200)

The reason	High		Too high		Moderate		Too low		Low	
	F	P	F	P	F	P	F	P	F	P
Help to choose good or bad food	11	5	20	10	32	16	61	30	76	38
Having an educational aspect	7	3	19	9	48	24	76	38	50	25
Earn nutritional information about food	4	2	25	12	49	24	71	35	51	25
Pay attention to the production history and product expiration	29	14	39	19	60	30	33	16	39	19
Pay attention to the ingredients that make up the food	8	4	16	8	49	24	59	29	68	34
Pay attention to the product price	6	3	13	6	36	18	55	27	90	45
Pay attention to the product's health advice	12	6	18	9	39	19	66	33	65	32
Product weight	-	-	7	3	11	5	36	18	146	73
Consideration of additives, preservatives and artificial colors	19	9	37	18	55	27	51	25	56	28
Learn about product storage conditions	14	7	24	12	55	27	51	25	56	56
Learn nutritional information about the product	16	8	31	15	52	26	56	28	45	45
Attention to allergenic substances present in the product	28	14	21	10	41	20	43	21	67	67

Findings of Ghotbi et al. on consumer awareness and practice about food labels in Tehran showed that about half of consumers pointed out that the production and expiration date of products were illegible and inappropriate. Moreover, peoples' awareness of food labels is very low, and the effect of awareness of practices of individuals is evident (1). The results of Ghanbari et al. study in Bostan Abad showed that the most common motivation was observing the production and expiration date of products, while a small percentage of people were concerned with nutritional information, product weights, and information regarding additives and artificial colors on food labels. Accordingly, due to the effect of awareness on the practice of individuals, the practice of individuals is also weak, which is consistent with the results of this study (6). In the study of Jahed et al., about 85% of the samples sought the expiration and production date (11). In the present study, the most important consideration for food labels was the observation of the production date and the expiration of the product. Shine et al. showed that the reasons for Irish's lack of attention to food labels were lack of interest, lack of time to read labels, and illegible contents of food labels (12). Lack of interest, lack of time or previous information about food was reported as a cause of not paying attention to food labels among Americans (13). Also in as study by Worsley et al., the most dissatisfaction was related to the inadequacy of nutritional information (14). These results are consistent with the present study. In line with these results, Satia et al. also argued that 78% of consumers read the labels when buying them and the highest number of discontent is related to the incomprehensibility of nutritional information (15).

Conclusion

The level of consumer attitudes and practice regarding food labels is low. Given that nutritional knowledge has an impact on consumer practice, training in the in-

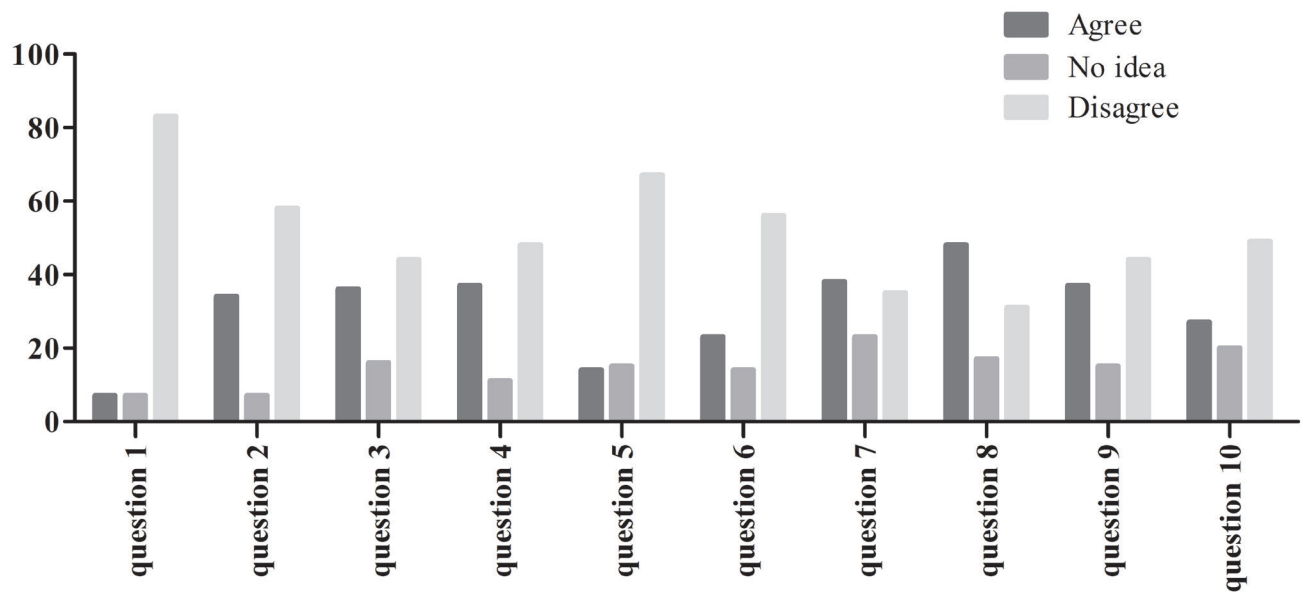

Figure 1. Distribution of consumers based on their views about information of food labels (N=200). Q1: Readable and appropriate label insertion. Q2: The appropriate place to insert the production date and expiration date; Q3: Fixed and non-erasable production date and deadline. Q4: The legibility and suitability of the price of food stuffs. Q5: The legibility and suitability of the place of insertion of the ingredients of the product. Q6: The legibility and suitability of the place of insertion of the durability and conditions of maintenance. Q7: Determine the natural or artificial color used in making food. Q8: The legibility and suitability of the place for the inclusion of allergenic substances. Q9: The legibility and appropriateness of the insertion of health advice. Q10: Readable and appropriate place to insert nutritional information.

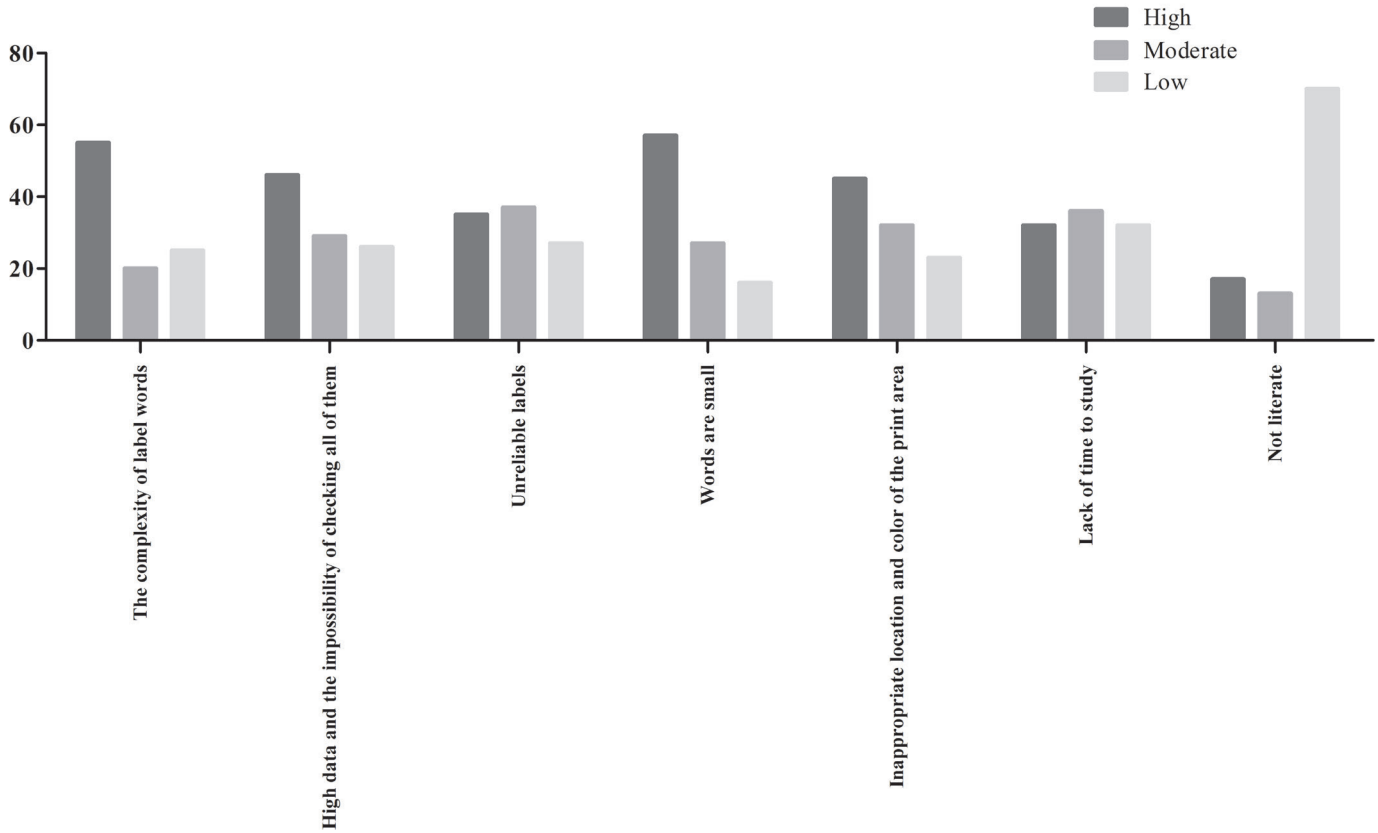

Figure 2. Distributing consumers based on the barriers to check food labels (N=200)

terpretation of information on nutrition labels, the consideration of healthy nutrition related courses in school and university curricula in order reducing undesirable side effects can be effective. Most people care about food labels and they are in favor of having a healthy nutritional model, but the inappropriate nature of the label's content and its illegibility are still barriers to consumer satisfaction. Therefore, considering the importance of labels in having a healthy eating habits, it is suggested that more time be spent on the content of food labels and the proper placement of labels on the products. One of the research constraints was the limited number of samples and the number of stores visited. Therefore, it is recommended that research be carried out with larger number samples and food stores.

Ethical disclosure

Before performing the research, it was explained to the participants. An informed consent was obtained from all participants included in the study.

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Author contributions

All the authors have accepted responsibility for the entire content of this submitted manuscript and approved submission.

Conflict of interest

There is no conflict of interest.

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