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Investigating the Fish Consumption and Some Related Factors among Households under Coverage Care-Health Centers

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ABSTRACT

One of the most valuable foods is fish due to minerals, vitamins, fats known as omega-3 raised today the valuable food and the precious pharmaceutical. The World Health Organization has mentioned that the consumption of fish at least twice a week is one of the effective factors in prevention of cardiovascular disease, stroke and sudden death due to heart attacks. This study is a cross-sectional analytic-descriptive survey. The population covered in this study was all households in health-care centers in Zahedan according to socioeconomic and cultural status of Zahedan and 400 samples were analyzed as available. Data collection instrument was the questionnaire which was completed in-person interview. After collecting, the data were analyzed using SPSS software descriptive and analytical statistical methods (t-test, ANOVA). The mean age of the patients was 30.51 ± 9.88 years. According to results, only 53 (14.17%) of households, according to the World Health Organization, ate fish at least two times or more during a week. Average fish consumption was 3.67 ± 2.37 times in a month. The most important barriers on fish consumption were mentioned, respectively, high price 50.14%, bad smell 15.56%, the lack of awareness of the benefits 9.22%. There had been observed a significant correlation between jobs, the incomes and education levels of samples and the average fish consumption. The improvement of attitudes of people towards the benefits of fish consumption, the continually encouragement of people to fish consumption by the media and key individuals, the familiarization of families with the benefits of fish consumption, the reduction of prices, offering a variety of products and the use of techniques to remove odors have the important and worth wide roles in raising consumption of protein products.

Key words: fish consumption, barriers to fish consumption

INTRODUCTION

Fish is one of the most valuable foods having the important role in improvement and prevention of many diseases due to minerals, vitamins, fats known as omega-3 raised today the valuable food and the precious pharmaceutical. There are suitable minerals in fish including Fe, Iodine, Phosphorus, Calcium and Selenium enough. Also, there are enough vitamins in fish including B6, B12, B3, B2, A, D and E. The positive effects of fish oil have been demonstrated in the reduction of blood pressure and viscosity, reduced plasma triglycerides, the reduction of platelet adhesion, migraines, asthma and arthritis [1]. The World Health Organization has mentioned that the consumption

of fish at least twice a week is one of the effective factors in prevention of cardiovascular disease, stroke and sudden death due to heart attacks attributed to the prevention of the fat in the fish (Omega 3)[2]. Research results have shown that consumption of fish particularly fatty types are beneficial for the heart and vascular system [3]. In this regard, a series of studies have shown that the resulted protection against the risk of cardiovascular disease and cardiac death are often due to the effect of omega-3 and anti-arrhythmia. Fish, compared with red meat and white meat of chicken, has similar amount of protein but has less saturated fat and cholesterol [4].

Health and fish consumption are intertwined with the consumption of fish and today the fish consumption has been increasingly taken into consideration in public ([5]. In Iranian community, along with the increase in the population of deaths caused by heart disease, mainly due to obesity, there has been observed the food insecurity due to malnutrition because the energy consumption and animal protein in the food basket of households are less than the standard levels [6]. Due to benefits of the aquatic food, many countries have planned some programs on the aquatic products to increase the aquatic food in the food basket of people [7]. But despite the many advantages, the share of the consumption of fish and seafood products in the food basket of Iranian households has been reported low compared to other meat, with an average per capita consumption of fish in the world down is 16 kg and in Iran is 6 kg and in the fourth program development, it has been predicted that the amount of fish consumption reaches to 4.55 grams per day or 10 kg per year [8]. In addition, the studies indicate that the main ingredient of energy or calorie requirements in Iran is bread and the fish products have only a very small share funded through fish consumption. In Iran, fish consumption, after consuming meat and chicken, is in third place. Also, the fish consumption is variable in different regions of Iran as in coastal areas the fish consumption rate is about double the average and in eastern and western areas, the consumption of fish products are less than the national average [9]. According to the results of the study of Baghiani Moghadam and Eivazi, titled the causes related to fish consumption in households of Javanrood, only 15.8 percent of households of Javanrood followed the pattern of consumption twice a week [4].

Due to results of the study of Yousefi and Shariati, titled sociological analysis of food consumption in Mashhad, the fish consumption rate was very low (130 grams per month) and most households (51.4%) did not use the fish products [9].

In studies performed in this area, although the attitude of individuals towards fish consumption properties was high, but social pressures to consume it was at the low level, so that none of the key people in the community, including doctors, health workers, and the mass media and family and friends did not seriously encourage the community about the fish consumption [10].

According to information obtained in this study and growing prevalence of cardiovascular disease, which is the main source of nutrition and dietary patterns, there has been indicated the relationship between the effective consumption of fish foods and the prevention of these diseases. Due to limited information about factors related to the consumption of fish, in this study, it was decided to investigate the consumption of fish and some related factors in households covered by health centers in Zahedan in 2015.

MATERIALS AND METHODS

This study is a cross-sectional analytic-descriptive survey. The population covered in this study was all households in health-care centers in Zahedan according to socioeconomic and cultural status of Zahedan and 400 samples were analyzed as available. The regions of Zahedan were divided into three parts with regard to cultural and socioeconomic status in order to select the samples then randomly it was selected two health-care centers from each part of health centers and 400 samples from women referred to these centers were investigated.

Data collection instrument was a questionnaire that was prepared by studying literature and reliable texts. In order to determine the validity, there has been used content validity so that the questionnaires were delivered to several members of the academic staff and there were used their corrective feedbacks and its reliability was determined by Cronbach's alpha coefficient. First, the purpose of this study and how to do it and its confidentiality were explained to the subjects. Data collection instrument was the questionnaire which was completed in-person interview. After collecting, the data were analyzed using SPSS software descriptive and analytical statistical methods (t-test, ANOVA).

RESULTS

The Participants in the study were 400 patients. The mean age of the samples was 30.51 ± 9.88 years. The education level of subjects includes 44 subjects (11%) were illiterate, 33 subjects were elementary education (8.3%), 61 subjects (15.2 percent) were secondary education, 183 subjects (45.8 percent) were diploma and 79 subjects (19.8%) were higher education. Occupational level of the majority subjects (84.8 percent) were housewives.

According to results, only 55 persons of households (14.17%) used the fish at least twice a week or more due to World Health Organization and 118 persons (31.55%) used fish foods between 1-2 times a week, and 203 persons (54.27 percent) less than once a week used the fish foods. The average consumption of fish was 3.67 ± 2.37 times in a month. Most persons in the survey (42.78%) consumed both fish. The majority used fresh fish (66.3%) and fried fish (60.16%). The most important barriers to fish consumption (no use, or less than 2 times per week) were, respectively, 50.14% due to high price, 15.56% due to unpleasant taste the smell, 9.22% due to the lack of awareness of the benefits mentioned; other obstacles have been show in the Table 1.

Table 1: Absolute and relative frequency of reasons of non-use of fish in subjects studied in the survey

Reasons of non-use of fish	numbers	Percent
unpleasant taste and smell	54	15.56
Lack of access to fish	27	7.78
Lack of diversity of fish delivery	20	5.76
High price	174	50.14
Lack of awareness of the benefits	32	9.22
False beliefs about fish consumption	7	2.01
allergy	3	0.86
Cooking ways	2	0.57
Two items from above items	17	4.89
Three items from above items	11	3.17
Total	347	100

The above table shows that the most important obstacles to the fish consumption (non-use or less than twice a week) are 50.14% due to high price, 15.56% due to unpleasant taste and 9.22% due to the lack of awareness on the benefits.

There has been observed the meaningful relationship between the job of women and the fish consumption as the average consumption of fish foods among households with working women was higher than the households with housewives ($t=61.292$, $p=0.001$).

There has been observed the meaningful relationship between the level of education of women and the fish consumption during a month as the average consumption of fish foods among households with higher education women was higher than the households with women in other levels (literacy, elementary, middle and secondary) ($f=15.420$, $p=0.001$).

There has been observed the meaningful relationship between the level of education of men and the fish consumption during a month as the average consumption of fish foods among households with higher education men was higher than the households with men in other levels (literacy, elementary, middle and secondary) ($f=30.376$, $p=0.001$).

There has been observed the meaningful relationship between the job of men and the fish consumption as the average consumption of fish foods among the employees and retirees was higher than the farmers and workers or self-employed persons ($t=37.431$, $p=0.001$).

There has been observed the meaningful relationship between the income level of households and the fish consumption during a month as the average consumption of fish foods among households with income higher than 1 million Tomans was higher than the households whose income was between five hundred thousand Tomans or less than less than five hundred thousand Tomans ($f=834.88$, $p=0.001$).

DISCUSSION AND CONCLUSION

Despite the proximity of Zahedan to Chabahar Port and the access to fish - this source of protein – Only 14.17 percent of households have the fish consumption pattern for twice per week. In the final report of the first surveillance system program of the risk factors of non-communicable diseases in Yazd Province announced that 49.3% of the population in this province does not eat fish during a week and only 14.9% of people eat fish foods at least two times per week (11).

According to the results of the study of Baghiani Moghadam and Eivazi, titled the causes related to fish consumption in households of Javanrood, only 15.8 percent of households of Javanrood followed the pattern of consumption twice a week (4).

The most important obstacles in the consumption of fish in this study are the high price, unpleasant smell taste and lack of awareness of the benefits. The other study performed by the General Office of International and Public Relations of Fisheries showed that the reasons for non- use in views of Tehrani consumers are high prices , unavailability, unpleasant smell of fish supplying in the market (12). In another study performed by Verbak and Vaki, it showed that the high prices and fish bones have created the negative attitudes towards the fish consumption (13). In this regard, the familiarization of the families with the benefits of fish consumption and the reduction of the price of aquatic products may help to increase fish consumption.

Another reason for the low consumption of fish products in the present study was related to the unpleasant smell that it can be removed by supplying a variety of products with learning to cook a to some extent. Such this study, there has been performed another study by Verbak and Vaki and they stated in his study that the addition of seasoning to the fish is an incentive for increasing fish consumption (13).

The results of this study showed that there has been the meaningful relationship between jobs, income rate and the average amount education of people and the fish consumption. In the study of Baghiani moghadam and Avazi, there was a significant correlation between fish consumption and individuals and jobs, which the price of the fish can be a contribution factor. In the study of Trondson et al, it was shown that the higher the education level and income lead to increase the fish consumption (14).

CONCLUSION

With regard to non-use of fish foods by households due to recommended amount, it can be stated that some factors have the important and effective role in increasing this protein product including the increase of attitude levels of the general community towards the fish consumption, increasing the levels of social pressures by encouragement of people to use fish foods by media and key individuals in the society, health/ care staff as well as massive campaign to accommodate fish in food culture prevalent in families, acquainting families with the benefits of fish consumption, reducing prices, offering a variety of aquatic products, the use of techniques to remove unpleasant smells, teaching to cook different foods by various methods.

Competing Interests

The authors declare that they have no competing interests.

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REFERENCES

- [1] Yazdi H, SH M. [Investigation in value of fish oil]. PhD Thesis; Tabriz University of Med Sciences; 1996: 88. (Persian).
- [2] Li D, Ng A, Mann N J, Sinclair A. Contribution; be a victim-protect yourself. [On line]. 2005[cited 2005 mar 12]. Available from: <http://who.net>
- [3] Rosen, Jutta, Stephan Marette, Sandrine Blanchemanche & Philippe Verger "Dose Health Information Marette for Modifying Consumption? A field Experiment Measuring the Impact of Risk Information on Fish Consumption", Review of Agricultural Economics; 2006, 31 (1):2-20
- [4] Baghiani Moghaddam MH, Eyvazi S. Investigate the reasons for the lack of fish consumption was related to the amount recommended by the World Health Organization in javanroad urban households peers based on goal-oriented behavior. Ilam University of Medical Sciences Journal, period 19, Number 1, Spring 2011: 2. (Persian).
- [5] Caswell J. "Quality Assurance, Information Tracing and Consumer Labeling" .available online at <http://www.net-lanna.info/food/Articles/11017603.pdf>.2006.
- [6] Harrison. G. The paradox of Hunger and Obesity, Proceeding of The 8th Iranian Nutrition Congress Bridging between Science and Policy: The Key Public Nutrition Health, Tehran; 2005. (Persian).
- [7] Konig, Ariane, Bouzan C, Cohen JT, Connor WE, Kris-Etherton PM, Gray GM, Lawrence RS, Savitz DA, Teutsch SM. Others "A Quantitative Analysis of Fish Consumption and Coronary Heart Disease Mortality; 2005. "American Journal of Preventive Medicine, 29: 335-346.
- [8] Salehi, H. Actions and policies in order to increase the contribution of marine fisheries in household consumption basket. Proceedings of the Eighth Congress of Nutrition Iran, Tehran: Iranian Nutrition Society, 2004. available online at http://www.civilica.com/Paper-INC08-INC08_005.html. (Persian).
- [9] Yousefi, Ali, Shariati, MT. Comprehensive analysis of fish consumption behavior in Mashhad. Iranian Journal of Social Studies, Volume III, Number 3, fall 2008: 3. (Persian).
- [10] Afruzayan M, Yazdan Karimi T, Hamed behzad M, Pourghasem Gargari B. Nutritional knowledge of health care workers in Tabriz Imam Khomeini and Sina associated with fish consumption. Tabriz University of Medical Sciences and Health Services, the Iranian Nutrition Congress 2005: 2. (Persian)
- [11] Jafarizade M. Risk factors for uncommunicable diseases. Final Report of Project on Study of Health and Disease in Iran 2006.p.47-8.
- [12] Salehi H, Mokhtari A. Study of nourishment experts tendency to fish consumption in Iran. Iran Scientific Fishery Magazine 2009.17(1):79-90(persian).
- [13] Verbeke W, Vackier I. Individual determinants of fish consumption: application of the theory planned behavior. J Behavioral Science 2005;44:67-42.
- [14] Trondsen T, Scholderen J, Lund E, Eggen AE. Perceived barriers to consumption of fish among Norwegian women. JApptite 2003, 41:301-14.