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Insight of Dietary Fibers Consumption and Obesity Prevention

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Abstract

Research studies showed that consumers' average Dietary Fibres consumption was below the recommended value and also WHO estimates that the prevalence of obesity increased in the last decade all over the world, data that are a big concern and sustain the need for updated food-based dietary guidelines tuned to each country culture, climate and food sources.

We recommend that each country have to implement a rigorous population screening regarding the attitudes, knowledge and practices towards Dietary Fibres sources and to elaborate an efficient strategy for a community intervention program for obesity prevention.

Keywords:

Dietary fibre; Obesity; Education

Introduction

The term dietary fiber (DF) is defined by non-digestible carbohydrates, found in plants, with beneficial physiological effects on consumers. Is conventionally classified into two categories according to their water solubility:

Insoluble DF (such as cellulose, hemicellulose and lignin) and

Soluble DF (such as pectin, gums and mucilage)

It can be found in fruits, wholegrain cereals, vegetables and pulses [1]

According to the World Health Organization (WHO) and Food and Agriculture Organization of the United Nations (FAO), the average adult should eat 25-35 g of fibre per day, man more than women, with no important differences by ages but corrected for children (14 g per 1000 kcal for all ages and 0.5 g/kg body weight for children older than 2 years) [1,2]. Despite the recommendations, worldwide the quantity of dietary fibers in the menus is low, being influenced by cultural changes and preferences for eating out-home, by urbanisation, by more refined and processed types of food on the market, economic

development along with new western-type diet trends and lack of information on this topic. Consequently, these changes have been associated with an increase in the global prevalence of non-communicable diseases and even mortality [1-3].

A body of literature attests the fact that DF deficiency can induce breast and colon cancer, obesity at young ages, diabetes by unbalanced fasting blood glucose, postprandial plasma glucose and haemoglobin glycosylated, increase also the risk of cardiovascular diseases and hypertension when total and LDL cholesterol are increasing, prolong intestinal transit time and induce constipation, enhance immune function with prebiotic fibres, decrease post-meal satiety followed by weight gain and reduce also the associate intake of antioxidants, vitamins, minerals, phytoestrogens or lignans [4,5].

Moreover, determinants of diet, food composition in fibres and level of consumption are related also with availability, season offers, gastronomic trends and interest of consumers for information about fibres benefits. The potential of some foods rich in fibres to promote health, and their role in reducing the risk for chronic diseases and cancer, has to be promoted in schools, for vulnerable groups, also in communities by nutritional education [4,5]. Childhood is suitable for proper nutrition interventions in order to reduce lifetime risk for chronic diseases development, by influencing children to adopt diets high in fruits and vegetables and low in sweets, soft drinks and salty snacks. For adults, proper sources of data dissemination can insure the information and education level required [6].

Research studies and reports [2-7] showed that consumers' average DF consumption was below the recommended value and also WHO estimates that the prevalence of obesity increased in the last decade all over the world, data that are a big concern and sustain the need for updated food-based dietary guidelines tuned to each country culture, climate and food sources [1]. Most of the studies upon the population practices of consuming regarding dietary fibers food products were cross-sectional surveys, done all over the world, and the results showed that females were more likely than males to answer correctly in at least half of the occasions and secondary school graduates had 10 times more chances to answer correctly, compared to university graduates [8].

We recommend that each country need to implement a rigorous population screening regarding the attitudes, knowledge and practices towards food dietary sources and to elaborate an efficient strategy for a community intervention program for obesity prevention.

Discussion

Studies performed in the last years [1-3,7,9], showed that DF intake was below the recommended value, and the prevalence of cancer and obesity increased in the last decade, data that sustain the need for proper educational intervention and an updated national food-based dietary guidelines.

The highest knowledge and interest about DF, food composition and relationship with health status were registered at females, with medium educational level and living in urban areas, similar to other recent studies [10-12], they are more aware about food composition and as food buyers and taking care of family members. Most of the illnesses recognized by the subjects interviewed from US or Europe, with a link to diet rich in fibres [7,12], were obesity, breast cancer, diabetes, cardiovascular diseases, or vitamins and mineral deficiencies, probably in relationship with the main sources of fibres (fruits and vegetables, and less wholegrain, pulses and nuts). The connection of DF intake with the level of LDL cholesterol, constipation, obesity and bowel cancer and was less known [12,13].

Guine et al., emphasized in their study that comparing to other countries, Romania was in the middle between Portugal and Turkey (with the highest level of knowledge) and Egypt and Italy (with the lowest score) regarding obesity, cardiovascular disease, colorectal cancer, plasma cholesterol, obesity and diabetes. The highest score for overall knowledge about fibres was obtained by Portugal and the lowest score was for Italy, Croatia, Latvia, Macedonia and Romania, countries with different cultures, lifestyle, climate and economical level [7,8].

Usually, women agreed significantly more frequent than men the statement that eating DF in appropriate amounts can prevent and/or treat diseases, also separately related to specific diseases, women also agree significantly more frequent that fibres can prevent and/or treat obesity, breast or bowel cancer, cardio-vascular diseases, cholesterol, constipation, or diabetes [12-14].

These results underlined different methods of approach to be used in future training and educational programs e.g the internet would be a good information channel for young people to encourage them to include more fibre rich foods in their daily menu [15].

Conclusions

The knowledge about dietary fibres effects upon health and the intake recommendations was low in most of the recent studies, also was the ingestion of foods rich in fibre (like fruits, vegetables and cereals, especially for males (adults and elderly). The in-depth analysis of factors that are able to influence consumer's knowledge and attitudes towards food fibres,

defined the social profile of the respondents with interest on dietary fibre intake: young females, with at least high school education, which considers internet and television like main sources of information regarding fibres. Based on this profile, we can elaborate more efficient community and school intervention programs, marked by nutritional education for students and training for school physicians, nurses and dietitians. Inside and outside the school, we have to focus more on modern information technology (like specific apps) and communication skills fit to the consumer's profile in order to improve the outcomes.

References

1. WHO (2013) Vienna Declaration on Nutrition and Noncommunicable Diseases in the Context of Health 2020, Geneva.
2. Buil-Cosiales P, Toledo E, Salas-Salvadó J, Zazpe I, Farràs M, et al. (2016) Association between dietary fibre intake and fruit, vegetable or whole-grain consumption and the risk of CVD: results from the PREvención con Dieta MEDiterránea (PREDIMED) trial. *Br J Nutr* 116: 534-556.
3. Hajishafiee M, Saneei P, Benisi-Kohansal S, Esmailzadeh A (2016) Cereal fibre intake and risk of mortality from all causes, CVD, cancer and inflammatory diseases: a systematic review and meta-analysis of prospective cohort studies. *Br J Nutr* 116: 343-352.
4. Kim Y, Je Y (2016) Dietary fibre intake and mortality from cardiovascular disease and all cancers: A meta-analysis of prospective cohort studies. *Arch Cardiovasc Dis* 109: 39-54.
5. Murakami K, Livingstone MB (2016) Associations between meal and snack frequency and diet quality and adiposity measures in British adults: findings from the National Diet and Nutrition Survey. *Public Health Nutr* 19: 1624-1634.
6. Al-Almaie S (2005) Knowledge of healthy diets among adolescents in eastern Saudi Arabia. *Ann Saudi Med* 25: 294-298.
7. Guine R, Duarte J, Ferreira M, Correia P, Leal M, et al. (2016) Attitudes towards dietary fibre on a multicultural basis: a fibre study framework. *Curr Nutri Food Sci* 12: 14-20.
8. Szczuko M, Gutowska I, Seidler T (2015) Nutrition and nourishment status of Polish students in comparison with students from other countries. *Rocz Panstw Zakl Hig* 66: 261-268.
9. Szűcs V, Harangozó J, Guiné RP (2016) Consumer knowledge about dietary fibre: Results of a national questionnaire survey. *Orv Hetil* 157: 302-309.
10. Powell-Wiley TM, Miller PE, Agyemang P, Agurs-Collins T, Reedy J, et al. (2014) Perceived and objective diet quality in US adults: a cross-sectional analysis of the National Health and Nutrition Examination Survey (NHANES). *Public Health Nutr* 17: 2641-2649.
11. Nagle CM, Wilson LF, Hughes MC, Ibiebele TI, Miura K, et al. (2015) Cancers in Australia in 2010 attributable to inadequate consumption of fruit, non-starchy vegetables and dietary fibre. *Aust N Z J Public Health* 39: 422-428.
12. Seal CJ, Nugent AP, Tee ES, Thielecke F (2016) Whole-grain dietary recommendations: the need for a unified global approach. *Br J Nutr* 115: 2031-2038.
13. Peralta LR, Dudley DA, Cotton WG (2016) Teaching healthy eating to elementary school students: a scoping review of nutrition education resources. *J Sch Health* 86: 334-345.

14. Brinton E (2015) Management of hypertriglyceridemia for prevention of atherosclerotic cardiovascular disease. *Cardiol Clin* 33: 309-323.
15. Gnagnarella P, Misotti AM, Santoro L, Akoumianakis D, Del Campo L, et al. (2016) Nutritional Online Information for Cancer Patients: a Randomized Trial of an Internet Communication Plus Social Media Intervention. *J Cancer Educ* 31: 472-480.