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Nutrition for people with diabetes mellitus in tourism industry – does it exist at all?

Abstract

Diabetes is increasing around the world and therefore it is expected that a great number of tourists suffer from diabetes, especially from type 2 diabetes. It is necessary to provide special nutrition for this population. The tourism industry does this at the declaration level, but only a glimpse at services offered at hotels and meals in aeroplanes shows that there is a great need for improvements.

Key words: diabetes; nutrition in tourism industry for people who suffer from diabetes; gastronomy and medical tourism

Introduction

Diabetes or diabetes mellitus is the most common endocrinological disease in the world. It is also a metabolic disease of a multiple etiology, characterized by chronic hyperglycemia and impairment in carbohydrates, fat and protein exchange, which appears as a consequence of insulin secretion and/or action.

It is estimated that around 150 million people around the world today suffer from diabetes and that the number of affected people by diabetes will rise up to 370 million by 2030. Considering the prevalence of the illness in the amount of 10%, it can be seen that we are experiencing the pandemics of this dangerous disease. It is the sixth most common cause of death in the United States (Pham, Pham, Kourlas & Pham, 2007).

There are several types of this disease, which are different in their origin, as well as in its treatment and clinical manifestation:

1. Type 1 (insulin dependent), «juvenile diabetes», IDDM, which appears due to an absolute insulin deficiency in the organism
2. Type 2 (insulin independent), «adult-onset diabetes», NIDDM, which appears due to a relative insulin deficiency, i.e. its inefficiency.
3. Gestational diabetes («diabetes in pregnancy»)
4. Other special types

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The biggest percentage of affected persons, over 90 %, are those having type 2 diabetes, while only around 8% have type 1 diabetes. The rest are patients with other diabetes types. Such a distribution of the affected persons is the direct consequence of the illness etiology. It is considered that type 1 diabetes is actually the consequence of insufficiently explained autoimmune occurrence which, as a consequence, has interrupted insulin secretion from pancreatic islets of Langerhans beta cells. On the other hand, type 2 diabetes is a consequence of a genetic predisposition which, together with diabetes risk factors, i.e. environment factors (nutrition, obesity, lack of physical activity) leads to insulin resistance, a larger need for insulin, having the consequence of relative insulin insufficiency, which finally results in beta cells disfunctioning, i.e. in impairment in carbohydrates, fat and protein exchange.

Although there are several types of diabetes, the treatment postulates for both types of diabetes are the same:

- Healthy eating habits
- Exercises
- Self-control
- Peroral hypoglycemic drugs
- Insulin

By following of the above mentioned five postulates of diabetes (all of them!), the majority of cases can achieve a good regulation of the disease. i.e. postpone the appearance of chronic micro- and macro-vascular complications, which cause the main problem for patients and the highest costs to insurance companies. The main fact is that only a small number of diabetes patients have managed to stop the disease entirely. The cause lies in the fact that the whole modern way of living (too often and unjustified transport means usage, sitting), society norms (celebrations, complementary treats, expressions of hospitality), marketing (aggressive food advertising), lack of knowledge, refusing to take responsibility for one's own health, work against good regulation of illness achievements. Given the huge importance of travel in today's modern lifestyle this paper explores to which extent tourism industry responds to nutrition needs of people with diabetes disease.

Recommendations for nutrition of people suffering from diabetes mellitus

According to ADA (American Diabetes Association) guidelines, which were applied during the previous decade, after determining of daily calories needs (by anthropometric indexes, e.g. ITM- body mass index or waist-hip ratio) for each patient (depending on whether it is necessary to maintain or to reduce the body mass), nutrition was determined based on «ideal» percentages of macronutrients (50% of carbohydrates, 20 % of proteins, 30 % of fat) and in determined calories amount.

The problem of such an approach is inability of individualisation and such nutrition is often opposed to life habits or social-economic status of a patient. Life and nutrition habits of diabetics are actually far away from the proclaimed recommendations and guidelines all around the world, as it is shown in studies in Croatia and the United States of America (Magaš, Poljičanin, Sekerija, Ajduković, Metelko, Car & Kern, 2009; Mainous, Diaz & Geesey, 2008).

Therefore a more modern attitude supports the individualised approach to nutrition of the patients suffering from diabetes, taking into account the patients' habits, their lifestyle and physical activity. At the same time, despite the numerous studies trials to establish macronutrients percentages for persons suffering from diabetes, it seems that such an ideal combination does not exist, so the current nutrition recommendations (DRI) for adult diabetics are 45-65 % of carbohydrates, 20-35% of fat (polynonsaturated fat, omega 3 fatty acids, and the fat percentage of a mere 7 %, excluding the intake of trans fatty acids), and 10-35% of proteins (Franz, 2008).

Gastronomy and medical tourism

One of the basic motives for visiting any destination is a desire to learn about one's culture, spiritual and material tradition of a certain area. The cultural tradition can certainly involve a culinary tradition of the certain area. Croatian culinary tradition is a mixture of various geographical and historical influences and it can be divided into the Dinara, the Adriatic and the Pannonian zone (Žaper, 2004).

Taking into account the above mentioned recommendations on nutrition of the patients suffering from diabetes, the culinary tradition of our Adriatic zone (Mediterranean food) is, according to its ingredients, the most similar to this ideal model of nutrition.

A common feature of the Mediterranean food is a very simple way of food preparation, usage of local ingredients and spices. The most commonly are used ingredients of plant origin (potatoes, bread, wheat, vegetables, fruit, vetch and nuts. The ingredients are processed thermally for a short period of time and fat is mainly used in a form of olive oil. Consumption of animal origin ingredients is moderate, with relatively more of seafood, in relation to other areas. Alcohol and red meat are used moderately and fruit and honey are natural sweeteners (Žaper, 2004).

According to the most widely accepted estimate, around 350 000 patients from developed countries travelled in a less developed country in search of a medical service (Hopkins, Labonté, Runnels & Packer, 2010). The report of Deloitte Center for Health solutions from 2008, founded on a sample of 3000 respondents in the United States of America, forecasts an increase in travels for medical purposes to approximately 6.25 million in 2010 and to 23.2 million of travels in 2017 (Hopkins et al., 2010).

Taking into account that approximately 5% of the world's population is expected to suffer from diabetes, the diabetics will be a great share of this population, whether they are travelling in order to seek medical service or whether they are on holidays. Therefore, it is interesting to see if the tourism industry is ready for the challenge of special dietary/nutrition needs of diabetics.

Is hotel food adjusted to guests suffering from diabetes mellitus?

One of the necessary assumptions of every modern touristic development and hotel business is a high-quality food that must be in compliance with corresponding quality standards. The quality standards must be high in all the phases of food purchasing, preparation and supply/offer. One should stress the need for high standards in the phase of food preparation and supply, making sure that the supply has

a nutritive balance (Šimundić, 1998). Since the nutritive balance is one of the basic assumptions for the acceptable meal for diabetics, it seems that an additional effort is necessary to prepare and present the meal for this group of guests.

So, the first step is to offer a high-quality service to a guest – in this case the guest suffering from diabetes mellitus – to offer necessary information on food that can be served within a particular catering institution. This is the way to decrease health risks and also to prevent the guest's dissatisfaction, which finally results in a bad perception of the whole catering institution/hotel (Krešić, 2009). The management task is to ensure the information on food. It is not always easy, since there are some disputes about which information should be given to the guest and how (Krešić, 2009). Book of Rules on labelling, advertising and presenting of food, however, requires that a guest must be introduced with presence of certain ingredients, which can cause allergies, in person and that he/she must have all the information on main food ingredients origins and content (Krešić, 2009).

It seems that the users themselves finally decide, i.e. guests suffering from diabetes mellitus, and it all depends on their awareness and the level of education on their own nutrition adjustments needs. Only a brief browsing through the Internet pages of our hotels gives the impression that there is awareness on the need of adjusting the hotel daily menus for the guests with special needs and that they are a part of the tourist supply among many restaurants and hotels. On the other hand, it is very difficult, if not impossible, to get any information from the above mentioned Internet pages on what the menu adjusted to diabetes patients looks like, how many calories a certain meal contains or who made the menu.

Unfortunately, the biggest number of commercial hotels in Croatia do not have specially designed menus for the guests with special needs (Krešić, Barić Colić & Šimundić, 2002). The paper written by Krešić and associates shows that the meals in larger number of our hotels are not balanced according to the nutrition principles. It was shown that the biggest percentage of daily energy needs comes from fats (around 48%), but from carbohydrates only 38 %. Only the protein percentage was close to the recommended values (Krešić et al., 2002). The total energy intake of a meal in our hotels was also different, so that the biggest meals were almost twice as rich in energy as the smallest meals (Krešić et al., 2002).

On the other hand, in the developed countries (such as USA) there is a law requirement to give calories quantities and food contents/ingredients in a meal, even in fast food restaurants, which can certainly make any guest to reconsider the need of a balanced food intake (McColl, 2008). Majority of consumers, however, underestimate food contents/ingredients, and the quantity of calories, salt, fats, carbohydrates in the meal they consume exceeds the value that a consumer is expected to eat in the meal twice (Burton, 2006). It is interesting that the restaurant industry in the USA is against such a way of meal presentation (McColl, 2008).

Food in aeroplanes

1,7 million people travel by plane in the United States of America every day, which amounts to 600 million passengers in this country (DeHart, 2003). With greater prevalence of diabetes, it is clear that there are many patients suffering from diabetes among these passengers. How much is really necessary to adjust meals in aeroplanes for patients suffering from diabetes is shown in the analysis of 2 meals

carried out by a Greek airline, i.e. a country where tourism is one of the main economies. Food contents were measured on 12 flights. The analysis showed that the meals were (too) rich in energy, fats and salt, but the worst meals are on international flights (Grammatikopoulou, Zakas, Papadopoulou & Panayiotoglou, 2007).

Big airline companies advertise on their web pages serving meals which are adjusted for diabetics. It is necessary to ask for a special meal. Also, it is not possible to influence the meal size or ingredients. For example, British Airways explains that this is food where sweets, syrups, marmalade, cakes and chocolate do not contain sugar, unless they are “specially suited for the diabetics”. There are no data on macronutrients composition in a meal or which is its energy value.

Our Croatian national airline offers a possibility of an application for a special meal, diabetics meals includes, (DBML, diabetics meal) – stating that the meal is prepared “without ingredients that cause sudden glucose increase, with carefully balanced share of proteins, carbohydrates and fats”. The meal is prepared from non-fatty ingredients, rich in vegetables and fruit, with a moderate quantity of carbohydrates. Again, it is not possible to find out the energy value of a single meal, or influence on its ingredients, or choose the ingredients of the meal yourself. Browsing through internet pages of other airline companies we can find a similar situation.

Conclusion

Since more and more people around the world suffer from diabetes mellitus, we can expect even bigger number of diabetics among tourists. This imposes the need for food adjusted to this category of guests. It seems that, despite the declarative and marketing attitude on special services needs for the diet/nutrition of these guests, the hotel and airline industries are not entirely ready to take up such a task.

The biggest disadvantage is in poor information for a potential user on contents/ingredients and energy value of food, while the standard food in these two tourism sectors is totally inadequate in its energetic and nutritive value for patients suffering from diabetes mellitus. It is strongly claimed here that the tourism industry would improve its care of a guest with special needs if it made a serious advancement in this area.

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