VIA MEDICA
REVIEW ARTICLE
ISSN 2450–7458

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Changes in the Polish Diabetes Society nutritional recommendations in 2005–2020. Evolution or revolution?

ABSTRACT

The first Polish Diabetes Society (Diabetes Poland) guidelines on the management of diabetic patients were published in 2005. Since then, they have been updated annually to provide best care for diabetic patients based on the state-of-the-art knowledge. The present article summarizes changes in the nutritional recommendations for diabetic patients that have been introduced over the last 15 years. We analysed both general recommendations regarding the goals and strategies of nutritional treatment, and specific recommendations regarding the intake of major food components including carbohydrates, protein, and fat. We also analysed changes in the recommendations regarding additional dietary constituents such as salt, alcohol, and vitamin and mineral supplements. (Clin Diabetol 2020; 9; 6: 479–484)

Key words: diabetes, nutritional recommendations, carbohydrates, proteins, fats, dietary fibre

Introduction

The Polish Diabetes Society has been publishing detailed comprehensive guidelines on the management of diabetic patients (Diabetes Poland) since 2005. These guidelines are a cooperative effort of experts representing multiple clinical specialties, encompassing diagnosis and prevention of diabetes, organization of diabetes care, treatment of diabetes and its complication, and patient education (including behavioural therapy aimed at healthy nutrition and physical activity).

Nutritional recommendations for diabetic patients have been included in the Diabetes Poland guidelines since their inception. It has been well known that in addition to appropriate drug therapy, an appropriate diet is of key importance for metabolic control. Each year, the published guidelines have included general recommendations regarding the overall approach to nutrition and detailed recommendation regarding such dietary components as carbohydrates, protein, fat, vitamins and minerals, salt, as alcohol. The present article summarizes changes in the Polish Diabetes Society nutritional recommendations for diabetic patients that have been introduced over the last 15 years.

General recommendations

In 2005–2007, nutritional recommendations [1–3] focused only on specific dietary components, and did not include the overall principles, goals, and strategies of nutritional therapy.

In 2008, in addition to the basic recommendations [4] regarding individual dietary components, a number of additional recommendations were added, including those related to:

— Both quantitative and qualitative effect of consumed carbohydrates on blood glucose levels;
— No indications for low-carbohydrate diets (> 130 g/day) in diabetic patients, and the need for body weight reduction in patients with overweight and obesity, and patients with diabetes type 2 at risk of obesity. Body weight should be reduced by lifestyle modifications including reduced caloric in-

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Translation: dr n. med. Piotr Jędrusik
Clinical Diabetology 2020, 9; 6: 479–484
DOI: 10.5603/DK.2020.0068
Received: 02.11.2020 Accepted: 27.12.2020

take and/or increased physical activity. The guidelines endorsed moderate reduction of caloric intake (in the range of 500–1000 kcal/d) and did not recommend low-energy diets (< 1000 kcal in women and < 1200 kcal in men).

In 2009, the general recommendations [5] included the following basic dietary recommendations:

— Avoiding consumption of simple carbohydrates;
— Consuming frequent meals of a defined caloric value;
— Universal recommendation of high vegetable intake and low saturated fat intake, targeted for all healthy persons.

According to the 2009 recommendations, patients with diabetes type 1 should avoid simple carbohydrates and have their insulin therapy adjusted to their daily activity. In patients with diabetes type 2, appropriate diet should contribute to metabolic control and reduction of excessive body weight by a moderate reduction of caloric intake (daily calorie deficit of 500–1000 kcal).

In 2010, the general recommendations [6] included for the first time a goal of nutrition therapy, i.e., maintaining normal glucose and lipid levels and optimal blood pressure values. The same goal reappeared in 2011. Basic dietary recommendations in 2010–2011, similarly to those from 2009, mostly included avoiding simple carbohydrates, consuming frequent meals of a defined caloric value, and adhering to the universal recommendation of high vegetable intake and low saturated fat intake.

Similarly to the previous year, it was recommended that persons with diabetes type 1 avoided simple carbohydrates and had their insulin therapy adjusted to their daily activity, and patients with diabetes type 2 reduced excessive body weight by appropriate nutrition. In addition, the 2011 recommendations [7] included an algorithm for calculating daily calorie requirement depending on the level of daily activity and the desired body weight.

In 2012–2012, the general recommendations [8, 9] were similar to those from previous years. The goals of nutritional treatment included maintenance of near-normal blood glucose levels, normal cholesterol and lipoprotein levels, and optimal blood pressure. The importance of appropriate nutritional education for metabolic control was also highlighted, with its provision by authorized healthcare personnel such as physicians, dietitians, diabetic nurses, or diabetes educators. According to these recommendations, in addition to adhering to general recommendations targeted at healthy people, diabetic patients should monitor carbohydrate intake both overall and during individual meals, limit simple carbohydrates, and consume frequent meals. Patients with diabetes type 1 were recommended to avoid fast-absorbing carbohydrates and to adhere to an appropriately balanced diet which should be adjusted to their individual lifestyle. Use of the carbohydrate exchanges, glycaemic index, and glycaemic load was recommended. Major recommendations for diabetes type 2 included maintenance of normal metabolic control and reducing and maintaining desirable body weight, which puts an emphasis on the overall caloric intake which should be adjusted to age, current body weight and physical activity. Similarly to previous years, it was recommended that body weight reduction should be achieved by moderate reduction of caloric intake (negative energy balance of 500–1000 kcal/d).

In 2014–2016, the general recommendations [10–12] regarding the goals and basic nutritional recommendations were the same as in 2012–2013. In addition, the strategy of nutritional treatment was highlighted, including:

— Evaluation of individual diet;
— Nutritional diagnosis;
— Nutritional intervention (individual and group);
— Monitoring of nutrition and its effects.

In addition, the guidelines included recommendations regarding the prevention and treatment in patients with diabetes type 2 at increased cardiovascular risk by employing the Mediterranean diet or the Dietary Approaches to Stop Hypertension (DASH) diet in 2014–2015, and in 2016 also vegetarian or vegan diet, low-fat diet or low-carbohydrate diet. A low-carbohydrate diet was considered a gold standard for body weight reduction in diabetic patients.

The general recommendations [13–14] from 2017–2018 were similar to those from previous years. The goals of nutritional treatment were the same, as is the strategy of nutritional treatment which, in addition to the evaluation of individual diet, nutritional diagnosis, nutritional intervention, and monitoring, also includes corrective measures if therapeutic goals are not met. Similarly to the previous years, patients with diabetes type 1 and normal body weight should adhere to the general healthy nutrition recommendations and avoid simple carbohydrates. Insulin therapy should be adjusted to the patient lifestyle. A system of estimating fast-absorbing carbohydrate content in meals, e.g., by using the carbohydrate exchanges, was highlighted. Similarly to the previous years, paying attention to the glycaemic index and glycaemic load was also recommended. A need for patient education regarding the glycaemic effect of protein and fat intake, and detailed education of the elderly patients to provide adequate protein intake in this age group was noted.

The recommendations for patients with diabetes type 2 were the same as in 2016. These included mostly the need for body weight reduction in overweight or obese patients by individually adjusted reduction of caloric intake. Depending on patient preferences, the DASH, portfolio, vegetarian, vegan, low-fat, or low-carbohydrate diet may be used, the latter remaining the gold standard. However, fasting-based diets were not recommended. It was noted that reducing body weight by as little as 5% may already result in measurable benefits in terms of blood glucose control. According to the 2019 and 2020 Polish Diabetes Society guidelines,[15-16] body weight should be optimally reduced by at least 7%. Since 2019, recommendations regarding the use of specific calorie-reducing diets (such as the DASH diet, vegetarian diet etc.) were retracted, as was the recommendation regarding long-term use of low-carbohydrate diets. In addition, all overweight and obese patients were advised to control portion size. In 2020, an attention was also paid to the form of messages regarding nutritional recommendations. According to the current guidelines, nutritional messages should be generally positive, showing multiple options of composing personal diet based on individual needs and preferences, while the negative messages should be limited.

Specific recommendations

Carbohydrates

In the first Polish Diabetes Society guidelines of 2005 [1], the recommended dietary content of carbohydrates along with monounsaturated fats was set at 50–60% of the total caloric intake. The diet should be based on carbohydrates from unrefined grains, fruits, vegetables, and low-fat milk. It was recommended to reduce sucrose intake by replacing it with carbohydrates from other sources. Sweeteners were allowed to be consumed in the amounts recommended by the manufacturers. The minimum intake of dietary fibre was set at 15 g/day. The guidelines also highlighted the need to keep constant daily carbohydrate intake in patients treated with insulin.

In 2006, the recommendations [2] regarding carbohydrate sources, sweetener intake, and reducing sucrose intake were the same as in 2005. The major change in that year's guidelines was a reduction in the recommended dietary carbohydrate content, set at 45–50% of the total caloric intake. The recommended dietary fibre intake was also changed to 25–35 g/day.

In 2007–2008, the recommendations [3, 4] regarding the intake and dietary sources of carbohydrate were not changes, as were the recommendations regarding the intake of dietary fibre. It was, however, recommended, that low glycaemic-index carbohydrate-sources should be preferred.

In 2009–2010, the recommended total dietary carbohydrate content was also set at 45–50% of the total caloric intake [5, 6]. A major recommendation was to reduce the intake of simple carbohydrates to a minimum. The recommendations regarding sweeteners and dietary fibre remained unchanged.

The recommendations from 2011–2015 [7–11] are very similar to those from the previous years. The only change was that the recommended dietary carbohydrate content was then set at 40–50% of the total caloric intake. In addition, the recommendations regarding dietary fibre were changed since 2012, when the intake of 25–40 g/day was recommended, with a preference for soluble fibre. Also since that year, fructose was no longer recommended as a substitute for sugar.

In 2016 [12], there was no longer any recommendation regarding the total dietary carbohydrate content due to lacking scientific evidence that would allow determining their optimal intake. Unrefined grain products with a low glycaemic index should remain the main source of dietary carbohydrates. The other recommendations regarding simple carbohydrates, sweeteners, fructose and the recommended dietary fibre intake remained unchanged.

In 2017–2020, the position was upheld [13–16] that no adequate scientific evidence was available to inform a recommendation regarding the total dietary carbohydrate content but it was suggested to be at about 45% of the total caloric intake. However, the total dietary carbohydrate content may be up to 60% of the total caloric intake if low-glycaemic index products with a high fibre content are the major dietary source of carbohydrates, and in individuals with a high level of physical activity. If physical activity is low and cannot be increased, it is recommended to reduce the total dietary carbohydrate content to about 25–45% of the total caloric intake. The recommendations regarding preferred consumption of carbohydrates from low glycaemic index sources and the intake of sweeteners did not change, while these were changed for fructose, the recommended intake of which should not exceed 50 g/day, although it is still not recommended as a substitute for sugar. Another change was made regarding the recommended intake of dietary fibre which should be consumed at 25–50 g/day or 15–25 g/1000 kcal. Similarly to the previous years, intake of soluble fibre should be preferred. Since 2018, it is recommended to supplement fibre, particularly its soluble fraction, in individuals who are not able to consume the recom-

Table 1. Recommendations regarding carbohydrate intake

Year	Carbohydrates (as % of the total caloric intake)
2005	50–60%
2006	45–50%
2007	45–50%
2008	45–50%
2009	45–50%
2010	45–50%
2011	40–50%
2012	40–50%
2013	40–50%
2014	40–50%
2015	40–50%
2016	No recommendation
2017	45%, high physical activity up to 60%, low physical activity 25–45%
2018	45%, high physical activity 60%, low physical activity 25–45%
2019	45%, high physical activity 60%, low physical activity 25–45%
2020	45%, high physical activity 60%, low physical activity 25–45%

Table 2. Recommendations regarding dietary fibre intake.

Year	Dietary fibre
2005	15 g/d
2006	25–35 g/d
2007	25–35 g/d
2008	25–35 g/d
2009	25–35 g/d
2010	25–35 g/d
2011	25–35 g/d
2012	25–40 g/d
2013	25–40 g/d
2014	25–40 g/d
2015	25–40 g/d
2016	25–40 g/d
2017	25–50 g/d or 15–25/100 kcal
2018	25–50 g/d or 15–25/100 kcal
2019	25–50 g/d or 15–25/100 kcal
2020	25–50 g/d or 15–25/100 kcal

mended amounts of fibre, and to increase the intake of resistant starch (Tables 1, 2).

Fats

In the first Polish Diabetes Society guidelines published in 2005 [1], the recommended dietary fat intake was set at 30% of the total caloric intake, of which saturated fatty acids should comprise not more than 10%, and 7% in patients with low-density lipoprotein (LDL) cholesterol levels ≥ 100 mg/dL (≥ 2.6 mmol/L). In addition, these guidelines recommended that the intake of monounsaturated fatty acids (MUFA) should be at 10%, and of polyunsaturated fatty acids (PUFA) at 7–10% of the total caloric intake.

In 2006, minor changes were introduced[2] regarding the recommended dietary fat intake, defined as 30–35% of the total caloric intake. The recommendations regarding saturated and unsaturated fat intake remained unchanged, in contrast to those regarding PUFA, with their recommended dietary intake defined as 6–10% of the total caloric intake, including 5–8% as omega-6 fatty acids and 1–2% as omega-3 fatty acids. The recommended dietary cholesterol intake was up to 300 mg/day (7.8 mmol/day) in individuals with normal LDL cholesterol level and 200 mg/day (5.2 mmol/day) in those with LDL cholesterol level ≥ 100 mg/dL (2.6 mmol/L). In addition, a recommendation was given to limit the intake of trans fatty acids. These recommendations [3–6] were upheld in 2007–2010.

Minor changes in the recommendations [7] were introduced in 2011, as the recommended dietary MUFA intake was increased to 10–15% of the total caloric intake. These modified recommendations [7–12] regarding fat intake were kept until 2017, when possible benefits of introducing plant stanols and sterols to the diet of individuals with elevated LDL cholesterol levels were noted [13].

In 2018, these recommendations [14] underwent some modifications. According to these recommendations, dietary fat intake should be similar to that recommended in healthy individuals, at 25–40% of the total caloric intake. Particular attention was paid to specific types of fatty acids. Saturated fat intake, similarly to the previous years, should not exceed 10% of the total caloric intake. Intake of MUFA should be up to 20%, and intake of PUFA should be at 6–10% of the total caloric intake (no distinction was made between omega-3 and omega-6 fatty acids). The recommendations regarding cholesterol did not change, and its recommended intake was up to 300 mg/day (7.8 mmol/day) in individuals with normal LDL cholesterol level and 200 mg/day (5.2 mmol/day) in those with LDL cholesterol level ≥ 100 mg/dL (2.6 mmol/L). The recommendations regarding trans fatty acids also remained unchanged. Consumption of plant sterols or stanols at 2–3 g/day was considered indicated in patients with hypercholesterolemia.

In 2019–2020, the recommendations [15, 16] regarding fat intake did not change. It was only specified

Table 3. Recommendations regarding fat intake

Year	Fat overall	SFA	MUFA	PUFA	Omega-6	Omega-3
2005	30.00%	10% (7% if elevated LDL cholesterol levels)	10.00%	7–10%	–	–
2006	30–35%	10% (7% if elevated LDL cholesterol levels)	10.00%	6–10%	5–8%	1–2%
2007	30–35%	10% (7% if elevated LDL cholesterol levels)	10.00%	6–10%	5–8%	1–2%
2008	30–35%	10% (7% if elevated LDL cholesterol levels)	10.00%	6–10%	5–8%	1–2%
2009	30–35%	10% (7% if elevated LDL cholesterol levels)	10.00%	6–10%	5–8%	1–2%
2010	30–35%	10% (7% if elevated LDL cholesterol levels)	10.00%	6–10%	5–8%	1–2%
2011	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2012	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2013	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2014	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2015	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2016	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2017	30–35%	10% (7% if elevated LDL cholesterol levels)	10–15%	6–10%	5–8%	1–2%
2018	25–40%	10.00%	Up to 20%	6–10%	—	—
2019	25–40%	10.00%	Up to 20%	6–10%	—	—
2020	25–40%	10.00%	Up to 20%	6–10%	—	—

LDL — low-density lipoprotein; MUFA — monounsaturated fatty acid; PUFA — polyunsaturated fatty acids; SFA — saturated fatty acid

that the recommended type of fat are vegetable oils, except for palm oil and coconut oil (Table 3).

Proteins

In 2005–2008, the recommended [1–4] protein intake was 15–20% of the total caloric intake, with the ratio of animal to plant protein of at least 50:50. No glycaemic effect of protein intake in patients with controlled diabetes type 2 and a possibility of increased protein requirement in patients with uncontrolled diabetes (although protein intake should not exceed the generally recommended level) were noted. In the above recommendations, it was assumed that low-carbohydrate protein with increased protein content may contribute to body weight reduction and better metabolic control of diabetes.

In 2009–2011, the recommendations [5–7] no longer included the statements about no glycaemic effect of protein intake in patients with controlled diabetes type 2 and possible increased protein requirement in patients with uncontrolled diabetes. The remaining recommendations remained unchanged.

In 2012–2016, the recommendations [8–12] only included the information about the recommended dietary protein intake, which remained unchanged since the first guidelines (15–20% of the total caloric intake), and the recommended animal to plant protein ratio (50:50).

In 2017–2020, the recommendations [13–20] underwent some modifications. The recommended protein intake in most patients is 15–20% of the total caloric intake, corresponding to about 1–1.5 g of protein per kg of body weight per day. In patients with diabetes type 2 and excessive body weight, a calorie-reduction diet may be used with an increased protein intake up to 20–30% of the total caloric intake. In patients with chronic kidney disease, it is recommended to limit protein intake to 0.8–1 g of protein per kg of body weight per day. No limitation of animal protein intake is recommended, although possible benefits from substituting plant proteins, e.g. soy proteins, for animal proteins were noted. In addition, no evidence for adverse effects of high-protein diets in diabetic patients has been noted in the guidelines since 2018 [14–16] (Table 4).

Vitamins and microelements

In the 2005–2008 guidelines [1–4], vitamin and mineral supplementation in patients without known deficiencies was not recommended due to insufficient supporting evidence. The exceptions were folic acid supplementation which was recommended in women contemplating pregnancy and pregnant women, and calcium supplementation in the prevention of osteoporosis.

In 2009–2016, the recommendations regarding folic acid and calcium supplementation were removed from the guidelines [5–12]. The only mention left was that of no indications for vitamin and mineral supplementation in individuals without known deficiencies.

In 2017–2018, the position [13–14] regarding no indications for vitamin and mineral supplementation in

Table 4. Recommendations regarding protein intake

Year	Protein
2005	15–20%
2006	15–20%
2007	15–20%
2008	15–20%
2009	15–20%
2010	15–20%
2011	15–20%
2012	15–20%
2013	15–20%
2014	15–20%
2015	15–20%
2016	15–20%
2017	15–20%, excessive body weight and diabetes type 2 up to do 20–30%, chronic kidney disease 0.8–1 g/kg
2018	15–20%, excessive body weight and diabetes type 2 up to do 20–30%, chronic kidney disease 0.8–1 g/kg
2019	15–20%, excessive body weight and diabetes type 2 up to do 20–30%, chronic kidney disease 0.8–1 g/kg
2020	15–20%, excessive body weight and diabetes type 2 up to do 20–30%, chronic kidney disease 0.8–1 g/kg

patients without known deficiencies was upheld. However, two exceptions were vitamin D3 supplementation as recommended in the general population during the autumn and winter and supplementation of 400 μg/d of folic acid in pregnant women.

In 2019, a recommendation was added [15] for vitamin B12 supplementation in patients with confirmed vitamin B12 deficiency during chronic metformin therapy.

In 2020, it was also mentioned [16] that multivitamin supplementation may be necessary in the elderly, those on a vegetarian or vegan diet, and those on reduced-calorie diets.

Alcohol

In the first Polish Diabetes Society guidelines [1] of 2005, it was stated that low alcohol consumption may not necessarily lead to worse metabolic control of diabetes. It was recommended, however, that alcohol should be consumed with meals to avoid the risk of hypoglycaemia.

In 2006–2008, daily limits of alcohol consumption at the level of 20 g in women and 30 g in men were added to the above position [2–4]. The other recommendations remained unchanged.

Since 2009, alcohol consumption by diabetic patients has been considered [5] unadvisable. The guidelines also note that patients should be informed about blood glucose-lowering effect of alcohol that might lead to hypoglycaemia. The accepted limits of daily alcohol intake are 20 g in women and 30 g in men. The 2009 recommendations were upheld in 2010 [6].

In 2011, an information was added [7] that alcohol should not be consumed by individuals with hypertriglyceridemia, neuropathy, and pancreatitis. These recommendations have been retained to the present time, including the most recent 2020 guidelines [8–16].

Salt

In 2005–2009, the Polish Diabetes Society guidelines [1–5] did not include any recommendations on salt consumption by diabetic patients.

In 2010, a recommendation on sodium intake was added [6]. The recommended sodium intake was 2400–3000 mg/day. In patients with moderate hypertension, the recommended sodium intake was up to 2400 mg/day, and in those with hypertension and nephropathy up to 2000 mg/day.

In 2011, a recommendation was given [7] regarding salt consumption. It was recommended that daily salt consumption should not exceed 5000–6000 mg. In patients with moderate hypertension, salt consumption up to 4800 mg/day was recommended, and in those with hypertension and diabetic nephropathy up to 4000 mg/day. These recommendations were upheld until 2015 [8–11].

In 2016, these recommendations [12] were slightly modified, and it was recommended that salt consumption should not exceed 6 g/day. In addition, patients with hypertensions were advised to adhere to the DASH diet.

In 2017–2018, the maximum recommended [13. 14] level of salt consumption was reduced from 6 g/day to 5 g/day. The recommendation for dietary restrictions consistent with the DASH diet in patients with hypertension was not changed.

In 2019 and 2020, the recommendations regarding salt consumptions remained unchanged [15, 16]. It was noted, however, that the evidence for benefits from reducing sodium intake below 1500 mg/day is unclear.

Conclusions

Over the last 15 years, the nutritional recommendations were adjusted based on careful analysis of the most recent research to allow best metabolic control in diabetic patients. As noted, there were no major changes in the recommendations. The recommended intakes of dietary components underwent minor modifications. Often, the same recommendations regarding a given dietary component were kept for several years.

One of the most notable changes in the general recommendations is their individualization depending on such factors as physical activity or body weight.

The most dynamic changes occurred in the recommendations regarding carbohydrates and dietary fibre. In addition to the recommended dietary carbohydrate intake which was modified several times over the years, attention was also paid to such factors as carbohydrate quality, best measured by the glycaemic index and load, and dietary sources of carbohydrates. The recommendations regarding dietary carbohydrate intake are particularly important in diabetic patients. Appropriate dietary carbohydrate intake in terms of their quantity and quality may significantly affect blood glucose control, and for this reason the recommended upper limit of dietary fibre intake was significantly increased over time. The guidelines are lacking detailed information on how to calculate carbohydrate and protein-fat exchanges which are particularly important in the treatment of diabetes type 1.

Similarly, the recommendations regarding dietary fat were also modified several times. Over the years, the upper limit of recommended dietary intake was increased for both overall fat and MUFA, while the recommendations regarding the intake of omega-3 and omega-6 fatty acids were abandoned. Over time, attention was paid not only to the quantity but also to the quality of dietary fat, taking into account, among others, the beneficial effects of plant stanols and sterols. This is of a particular importance due to an increased cardiovascular risk in diabetic patients.

The recommendations regarding protein intake did not undergo major changes. The upper limit of recommended dietary intake remained the same in most patients. In the recent years, however, recommendations were added regarding increased protein intake in patients with excessive body weight and patients with diabetes, and reduction of protein intake in individuals with chronic kidney disease. It was also noted that there is insufficient evidence for unfavourable effects of high-protein diets in patients with diabetes.

The situation is similar regarding vitamins and minerals. The position of the Polish Diabetes Society remained generally unchanged, indicating no need for supplementation in individuals without known deficiencies, except for some situations. These exceptions include vitamin D3 supplementation in the autumn and winter period, folic acid supplementation in pregnant women, vitamin B12 supplementation in patients with confirmed vitamin B12 deficiency during chronic metformin therapy, and possible need for multivitamin supplementation in the elderly, those on a vegetarian or vegan diet, and those on reduced-calorie diets.

The position regarding alcohol consumption by diabetic patients also did not change much. In most recommendations, the daily limits for alcohol consumption were upheld. Over time, however, it was noted that alcohol consumption by diabetic individuals is inadvisable, particularly in patients with hypertriglyceridemia, neuropathy, and pancreatitis.

The recommendations regarding salt consumption were modified several times over the last 15 years. Initially, the Polish Diabetes Society guidelines did not include a recommendation regarding salt consumption by diabetic patients. The current upper limit of salt consumption was finally set in 2017 but the rationale for restrictive salt consumption in patients with hypertension remains unclear.

In summary, the changes in the recommendations were rather evolutionary than revolutionary. Over the last 15 years, they were modified to allow optimal diabetes control in accordance with the state-of-the-art knowledge.

The guidelines highlight some basic issues such as the strategy of nutritional treatment and the recommended intake of major dietary components. However, they lack more detailed patient guidance, for example regarding recommended or contraindicated food products, and the ways to implement these recommendations in the daily life.

None of the Polish Diabetes Society guidelines included recommendations on fluid intake. When various dietary components are considered, it would be worthwhile to indicate both the amount and the type of the recommended fluids. Such recommendations were included in the nutritional treatment guidelines by the Polish Society of Dietetics [17] and the dietary allowances for the Polish population developed by the National Food and Nutrition Institute [18].

It would also be worthwhile to provide more detailed recommendations regarding low-calorie sweeteners and polyols as alternative for simple sugars, as limiting sugar intake has been consistently recommended by the Polish Diabetes Society. Such recommendations were included, among others, in the Polish Society of Dietetics guidelines [17] and the American Diabetes Association guidelines [19].

Both the evolving guidelines of the Polish Diabetes Society and the guidelines by other societies, such as the Polish Society of Dietetics [17] and the American Diabetes Association [19], have highlighted the need for an individualized approach to the nutritional treatment of diabetes in terms of the most important aspects of nutritional therapy, such as the general strategy of nutritional treatment and the appropriate intake of specific dietary components.

Conflict of interests

The authors declare no conflicts of interests.

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