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Tytuł pracy: Wpływ leczenia hipoglikemizującego na jakość życia chorych na cukrzycę typu 2

SUMMARY

Type 2 diabetes mellitus is one of most common chronic diseases of the 21st century. Its heterogeneous and progressive character necessitates complex pharmacological treatment and systematic use of other forms supporting the therapy: self-monitoring, diet, physical activity and education. Diabetes is associated with a number of acute (hypo- and hyperglycaemia) and chronic (micro- and macroangiopathies) complications. Complex treatment, the presence of complications and self-monitoring are part of the patient's life forever. The objective of the work was to evaluate health-related quality of life with consideration of different methods of hypoglycaemizing treatment in patients with type 2 diabetes mellitus. So as to achieve the objective, the following specific aims were formulated:

1. Objective evaluation of health of patients with type 2 diabetes mellitus.
2. Participants' subjective evaluation of the quality of life and satisfaction with their health status and treatment used.
3. Evaluation of the impact of patients' health status (metabolic control, acute and chronic complications) on the perceived quality of life and treatment satisfaction.
4. Evaluation of the impact of the treatment method on patients' quality of life and satisfaction with health and treatment.
5. Evaluation of the impact of health-related behaviours (self-monitoring and keeping the diet) on the quality of life.
6. Evaluation of the impact of socio-demographic factors on the participants' quality of life.

The study was carried out at the Provincial Diabetes Clinic of J. Śniadecki Independent Public United Hospital in Białystok between July 2010 and January 2012. The

participants were adults above age 18, suffering from type 2 diabetes mellitus diagnosed not later than 3 months before the inclusion in the study, following various patterns of hypoglycaemizing treatment, who had expressed their written consent to participate in the study. A total of 300 people were qualified for the study. They were divided into 3 groups depending on the applied treatment methods: group 1 (129 persons) was people taking oral hypoglycaemic drugs, group 2 (74 persons) – those with intensive insulinotherapy (multiple daily injections of insulin), and group 3 (97 persons) – patients treated with conventional insulinotherapy (1-2 insulin injections a day). Most of the participants treated with insulin received metformin preparations, and some – sulphonylurea derivatives. Questionnaires were used as part of subjective evaluation of quality of life: specific ones DTSQs and ADDQOL 19 by Clare Bradley, and a generic one WHOQOL-BREF, recommended by WHO. The objective evaluation involved data from the patients' medical history and the analysis of their medical documentation. In statistical analysis, Shapiro-Wilk test, Mann-Whitney test and Kruskal-Wallis test were used, supplemented with post hoc tests by Dwass, Steele, and Critchlow-Flinger; also, Spearman's rank correlation coefficients Person's χ^2 test for independence were applied. All the statistical hypotheses were verified at the level of significance $\alpha=0.05$. Most calculations were carried out on the basis of the statistical package Statistica 8.0 from StatSoft. For Dwass, Steele and Critchlow-Flinger tests, Microsoft Excel was used.

The mean HbA_{1c} concentration in the participants was 7.13%±1.14 (median 6.80). The best metabolic control of diabetes was observed in patients using oral therapy with the shortest course of the disease (8.3 years±5.7, median 7): mean HbA_{1c} concentration: 6.60%±0.69, median 6.50; mean fasting glucose concentration: 121.4 mg/dl±23.7, median 117; mean postprandial glycaemia: 134.0 mg/dl±33.3, median 127.5. The worst parameters of metabolic control were found in patients on intensive insulinotherapy with longest duration of the disease (15.2 years±7.3, median 15): HbA_{1c}: 7.83%±1.35, median 7.70; fasting glycaemia: 157.5mg/dl±58.5, median 141.5; postprandial glycaemia 177.2mg/dl±61.7, median 165.

The highest rates of general treatment satisfaction were given by patients taking oral drugs (30.51±4.82; median 31.0). Quality of life in the basic areas (based on WHOQOL-BREF) was also found to be best among people with oral treatment. Their mean rates (from highest to lowest) referred to: social, environmental, psychological and somatic areas, and were, respectively: 15.45±2.49, median 16.00; 15.19±2.18, median 15.00; 13.88±1.79, median 14.00; 13.21±1.64, median 13.14. Among those treated with insulin, evaluation of

the quality of life in all the areas is similar regardless of the insulinotherapy method. The most negative impact of diabetes on the quality of life (based on ADDQOL 19) was found in the group of patients with intensive insulinotherapy, where mean AWI was -3.33 ± 1.82 , median -3.23 . The quality of life was best assessed by those with oral treatment: the mean AWI was -2.02 ± 1.67 , median -1.63 . Dietary restrictions have the most negative impact on the quality of life. The mean rate for this element in the oral treatment group is -3.75 ± 3.01 , median -4 , in the intensive insulinotherapy group, -4.74 ± 2.99 , median -4 , and in the conventional insulinotherapy group, -4.87 ± 3.10 , median 4 . Chronic complications contributed to lowering the quality of life and satisfaction with treatment among the investigated population of type 2 diabetics. The quality of life was given lowest rates by (arranged from the worst): those on intensive insulinotherapy (without complications, the AWI was: -2.28 ± 1.54 , median -2.40 , and with complications: -3.42 ± 1.82 , median -3.31); those on oral drugs (without complications: mean AWI: -1.61 ± 1.46 , median -1.16 ; with complications: -2.08 ± 1.70 , median -1.72), and conventional insulin treatment (AWI: without complications: mean -1.29 ± 1.69 , median -0.72 ; with complications: -3.11 ± 1.73 , median -3.09). In the case of chronic complications, the differences between the evaluations of people with oral treatment and insulinotherapy were statistically significant regardless of the method of insulinotherapy ($p < 0.001$). In the investigated population, acute complications such as hypo- and hyperglycaemia mostly occurred among those treated with insulin. The frequency of glycaemia self-monitoring differed between the participants. Daily self-monitoring of glycaemia was related to lower quality in life of the investigated population and positively correlated with AWI ($r = 0.16$). The best quality of life was observed in the case of the shortest duration of diabetes (1-5 years; AWI = -1.92 ± 1.52 , median -1.67). The study did not show an impact of sex on the evaluation of quality of life or treatment satisfaction. People with primary education were least satisfied with their treatment. The most negative impact of diabetes on the quality of life was also seen in this group (AWI: -3.31 ± 1.59 , median -3.33). The lowest rates of treatment satisfaction and quality of life were observed in participants over 60 years of age.

Conclusions:

1. The investigated type 2 diabetics demonstrate good metabolic control of diabetes. The best parameters of metabolic control expressed with fasting and postprandial glycaemia and HbA1c are observed in the group taking oral drugs with the shortest course of the disease.

2. Metabolic control of diabetes influences one's quality of life; the better the metabolic control, the higher the quality of life.
3. The therapy of diabetes is positively evaluated by the participants irrespective of the method used. The evaluation of intensive insulinotherapy is comparable to that of the conventional method.
4. The method of diabetes treatment affects the patients' quality of life. The highest quality of life is represented by persons treated with oral hypoglycaemic drugs.
5. Self-monitoring of glycaemia affects the patients' quality of life. Daily measurements of glycaemia are related to lower quality of life.
6. Dietary restrictions lower the patients' quality of life the most.
7. Quality of life decreases with the duration of the disease; it refers to all the areas and is strongest in the somatic and psychological areas. People suffering from the disease for more than 20 years evaluate their quality of life in those areas the lowest.
8. The occurrence of chronic diabetes complications definitely lowers the participants' quality of life.
9. Acute diabetes complications – hypo- and hyperglycaemias – lower the quality of life of patients with oral treatment. Rarely occurring hypoglycaemias do not lower the quality of life.
10. Low education level contributes to the low level of quality of life.
11. Quality of life decreases with the patients' age.