

HELPING PATIENT WITH DIABETES THROUGH PHYSICAL ACTIVITY

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Abstract

Sedentary life style and limited spare time influenced the faster grow of the number of diabetics. Those individuals feel tired, without enthusiasm or motivation, have non qualitative life and this is the primary reason of inactivity, followed by organic complains which advance vital problems. The goal of our study is to apply physical activity with the purpose of improving glycemy value, improvement of muscular strength and improvement of diabetic neuropathy. Study has included 45 patients with diabetes mellitus of different ages, 30 of them belonging to the working group and 15 of them to the control group. For one month these individuals were followed for: glycemy, neuropathy signs, muscular strength, improvement of muscular strength, improvement of subjective state. Quality of life has improved in all working group with slogan “BE ACTIVE LIVE THE LIFE”.

Keywords:

Diabetes, Physical activity

Introduction

Sedentary life style and limited spare time influenced the faster grow of the number of diabetics. Those individuals feel tired, without enthusiasm or motivation, have non qualitative life and this is the primary reason of inactivity, followed by organic complains which advance vital problems

Objectives

Objectives of this study are improvement of glycemy, muscular strength, subjective condition, life quality.

Methodology

This study was implemented in Service of Endocrinology in Intern Clinic and Clinic of Orthopedic and Physiatrist, University Clinical Center in Kosovo, Pristina. To implement this study a protocol in questioner template was drafted based on experience of service onf Endocrinology of Intern Clinic and Clinic of Orthopedic and Physiatrist, University Clinical Center in Kosovo, Pristine and based on formats of western countries.

For every taken is study was taken a confirmation and prior approval of patients, by explaining the aim of study.

Study has include 45 patients with diabetes mellitus type 1 and 2 of different ages, 30 of them working group and 15 controlled group (that are treated only by drug therapy) were was don psychological preparation and training based on standard protocol of physical activity for patients with diabetes mellitus.

Working group were followed for one month: glycemy, muscular strength (manual test 0-5), neuropathy signs and subjective condition (from 1-4 good, 5-7 very good, 8-10 excellent) before and after physical activity that was applied by free exercise, steptredmil and progressive load exercise.

Study has not included patients with serious: malignant arterial hypertension, cardiac insufficiency, cerebrovascular insult, renal insufficiency, retinopathy proliferative and aged over 65 years. In order not to cause serious complication because chance of the prospect of tracking all these complications was technically not possible and reason of not provoking eventual deterioration, we had made a choice of patients with diabetes mellitus without those complications.

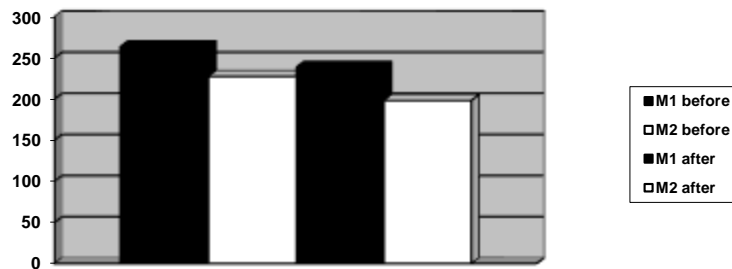
Determination and data measurement

Determination of glycemy was done Accutrend apparatuses – with track test of company Boehringer Mannheim. Blood for examination was taking from fourth finger after cleaning with water and soap. The second blood drop was taken for examination and evaluation was done in mg/dcl. Subjective condition was valued based in data of patients with evaluated points from 1 to 10 (evaluation was done based on answers of patients 1, 2, 3 – weak, 4, 5, 6 – good, 7, 8 – very good 9, 10 – excellent). Muscular strength was defined based on manual test with grade of 0-5 based on Lowett (grade 0 tell that does

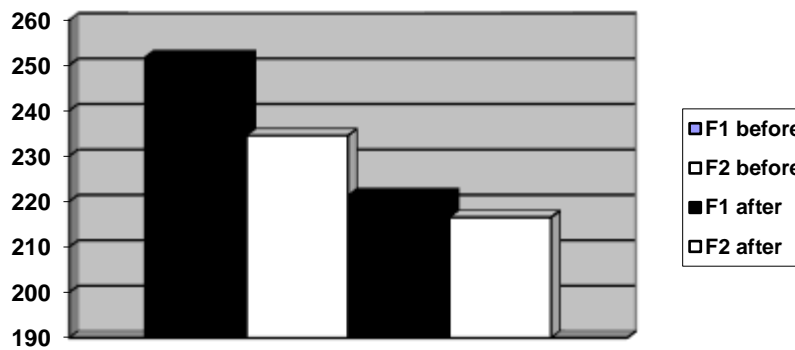
not have muscular activity, grade 1 muscular activity is on trail and through palpation can be noticed, grade 2 muscular activity can be developed if the earth gravitation is avoided, grade 3 muscular contraction is possible without earth gravitation and can be noticed through palpation, 4 muscular contraction can afford full move without connection of earth gravitation, grade 5 tell that muscle can afford full move and despite maximum resistance of therapist.

RESULTS

Report of glycemia into patients with diabetes, type 1 and type 2 in male gender, before and after physical activity.

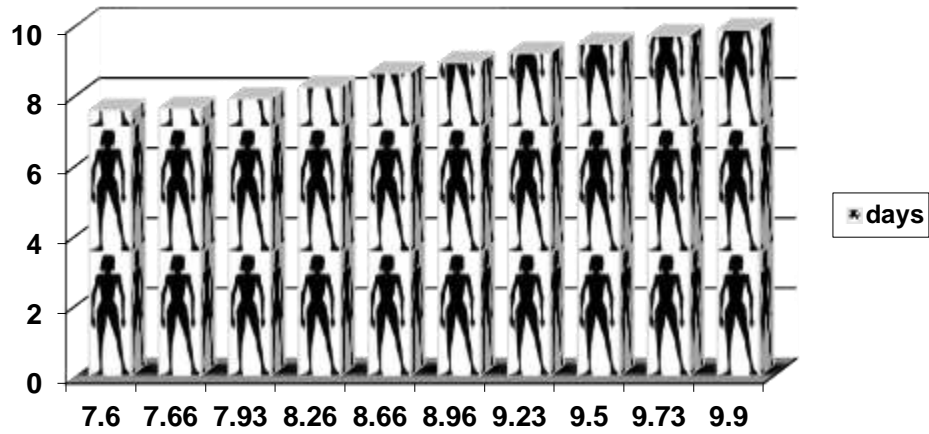


Report of glycemia into patients with diabetes type 1 and type 2, to female gender before and after physical activity.

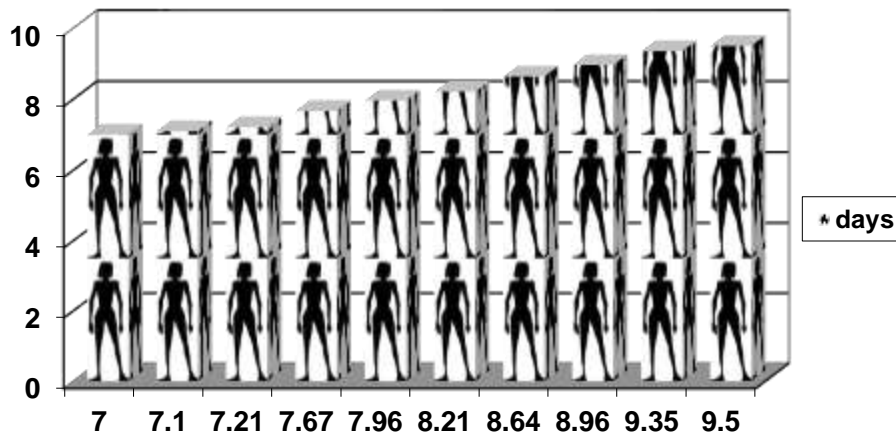


Subjective condition

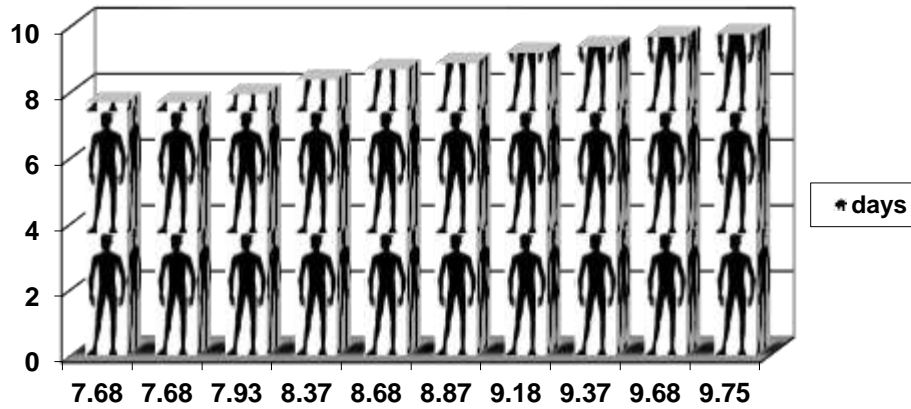
Subjective condition to patients with diabetes mellitus type 1 female



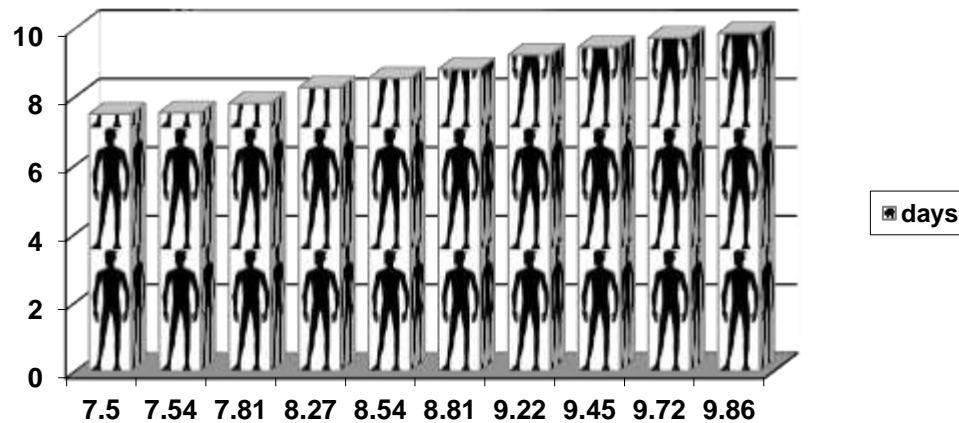
Subjective condition to patients with diabetes mellitus type 2 female



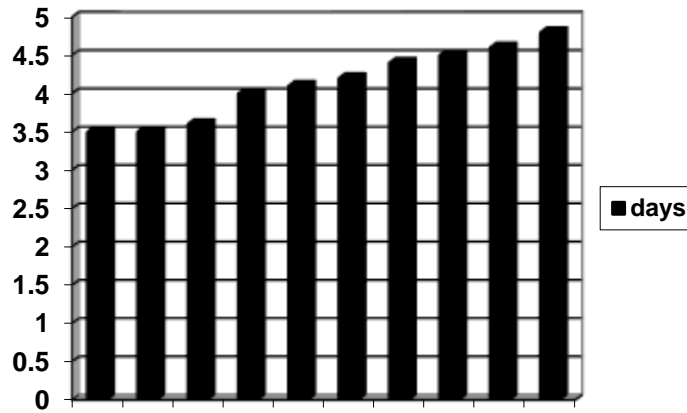
Subjective condition to patients with diabetes mellitus type 1 male



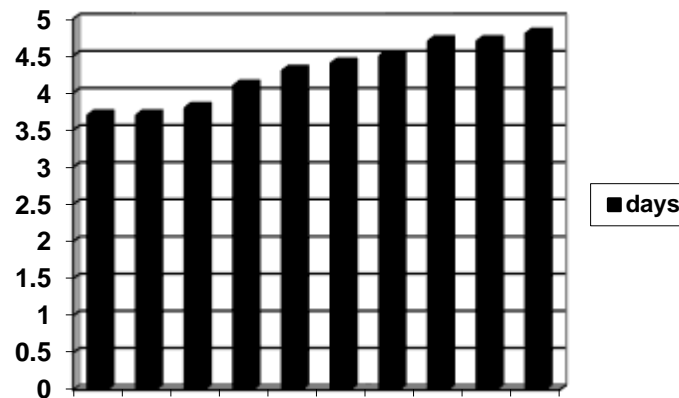
Subjective condition to patients with diabetes mellitus type 2 male



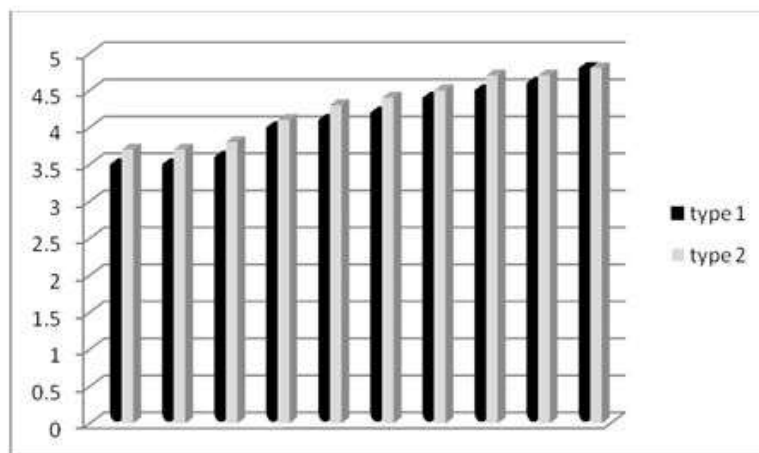
Muscular strength

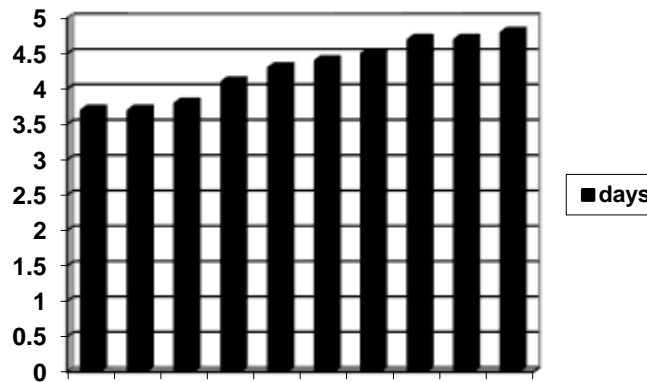


Assessment of physical activity to females with diabetes mellitus type 1 on muscular strength

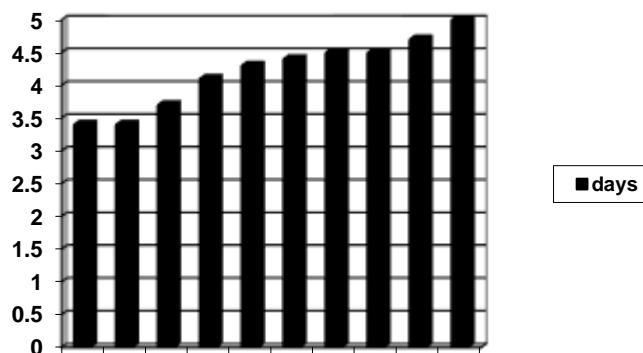


Assessment of physical activity to females with diabetes mellitus type 2 on muscular strength





Assessment of physical activity to males with diabetes mellitus type 1 on muscular strength



Assessment of physical activity to males with diabetes mellitus type 2 on muscular strength

Discussion

Results verified that physical activity effect positively in subjective condition that raise optimism and improve quality of life in general. This is an important element of patients with diabetes mellitus, by knowing that good mood impact on level of sugar in blood.

Based on results that we gained from study, physical activity has its own benefits on improvement of psycho-emotional condition in both genders and types of diabetes.

High values of glycemy brings a bad mood, inactivity and those conditions indicate on increasing more of glycemy values, gradually or in fats way comes muscle weakness (indicates muscular hypotonic and hypertrophy) that deepens more health condition in general. Muscular strength is an important parameter on keeping life vitality in general and by applying physical activity gradually restore muscular strength and organic vitality, as its seen on study that we have growth of muscular strength that at the same time results with improvement of neuropathy signs. After application of physical activity all patients with neuropathy signs had improvements with different intensity, depending on type of exercise and duration. Suggested exercise were applied by will and desire from persons taken in study because exercise were attractive, exercise in group effected fruitfully in physical and psycho emotional condition everyday more. Physical activity to patients with diabetes increase energy and enthusiasm of wellbeing, improve level of depression and decrease obtaining drugs. In contest

of this are talking researches and works of other authors that certify that diabetic's insulin hinge can improve sensitivity from insulin during physical activity. By taking in consideration factors that link life and disease, application of physical activity in daily basis has its own socio economic benefits that increase optimism, decrease symptom of sickness, absence from work, reducing drug costs, the avoidance of frequent medical visits, facilitates economic difficulties, psychosocial patient, family and society. In contest physical activity has its special importance on improvement of quality of life by not allowing the patient to feel lonely and closed, this way indication is positively on improvement of life quality. By application of physical activity we reduce danger factors, prevent illness progression and as well feeling of being ill. Decreasing of glycemiy values tells that the important effect of physical activity in our study. This explains that skeleton muscles are tissues that take glucose under the influence of insulin. Exercise improves muscle sensitivity for insulin. Physical activity was applied for a period of 15 minutes with sub maximal load that has resulted with normalization of glycemiy values, which together with endocrinologist have the opportunity to decrease insulin values and oral hypoglycemia during the study. Based on results at type 1 and 2 we have decrease of glycemiy before and after physical activity and based on Anovas table we notice effectiveness of physical activity on decreasing glycemiy values after that shows statistical negligible $P < 0.0001$.

During this time period of exercise at the same time we had improvement of muscular strength with permanent exercise increase muscular measure. Those diabetics that feel tiredness, pessimism before starting the program of physical activity, by increasing days of exercise start to have more condition, self-esteem and become more optimistic. Based on results is seen that two types of diabetics and both genders have improvements on muscular strength. Using Anova to review change on muscular strength before and after it doesn't result with any statistical negligible $P > 0.05$. In parameters of subjective condition, results shows that have an important benefit for patients with diabetes mellitus. Based on statistical analyses and based on comparison of average with Anove its seen that there is no difference between before and after physical activity, there has no statistical negligible $P > 0.05$. During application of physical activity in period of benefits, it's seen on graphics. During physical activity persons taken in study are advice about therapy, food uptake, keeping reserves of glucose along, adequate clothes, the way of rest.

Conclusion

Physical activity has to be an important part of patient with diabetes mellitus. Reduces feeling of depression and anxiety, renew confidence. It should start with low intensity that grows gradually. It can be applied at any age and any time. It is very attractive way and it doesn't require special conditions, high cost, improve quality of life. Exercise – For active life.

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