**Introduction:** Depression often accompanies various physical illnesses. **Objectives:** Screening for unidentified depression in patients diagnosed with Diabetes mellitus. **Design and method:** a retrospective, descriptive study. **Subjects:** 100 diabetic patients, 53% female and 47% male, age group 18-85. Hopkins Symptom Checklist-25 questionnaire was used on a random sample of diabetic patients in two family medicine outpatient clinics in Health Centre Ilidza and Center, Sarajevo, in period February-May 2007. The cutoff score of ≥ 1.75 was used. The occurrence of depression was analyzed with respect to the duration of Diabetes mellitus, type of treatment and average value of fasting blood glucose over the last six months. **Results:** 36% of subjects scored positive for depression symptoms, 31% of subjects in the group having the illness up to one year, 80% in the group having the illness for 11-15 years. There is a statistically significant difference in depression positive score between the group of patients using insulin, and to the group using oral hypoglycemic therapy, 73% vs. 20% (p< 0.05). In the group with average value of fasting blood glucose ≤ 7 mmol/l, 15% of the patients have a positive depression score, versus 66% of them in the group with blood glucose levels of 13-15 mmol/l. **Conclusion:** The number of newly found depressions in diabetic patients increases with the duration of Diabetes mellitus and with higher levels of fasting blood glucose. A systematic screening by family doctors can help identify diabetes-related depression. **Key words:** screening, depression, Diabetes mellitus.

1. **INTRODUCTION**

Depression is old as mankind and the earliest described disease in medical history. For centuries it represented a severe psychiatric disorder, but only recently was recognized its true morbidity, mortality and the enormous price that health and society around the world pays for this disease. Depressive morbidity is accompanied by the massive suffering of patients, suffering their family members, significantly reducing their quality of life, aggravation of comorbid diseases, and an important reason for suicide (up to 15%).

According to the results of the World Health Organization (WHO), depression is the fourth global health problem, and in 2020 will be the second global health problem. The lifetime prevalence for women is 10% and 6% for men, and it is the biggest cause of work disability among adults. A large part of the everyday work of doctors of family medicine refers to the work and care of people with mental health problems. Epidemiological studies have shown that in nearly 50% of subjects during life occur at least one psychiatric disorder. Most often it is depression and anxiety, and the two conditions often exist simultaneously.

The average English family doctor who takes care of 2000 patients, may have 60-100 depressed patients, 70-80 with present anxiety and other neuroses, 50-60 with situational disorders, 6-7 with affective psychoses, 4-12 schizophrenic patients, 4-5 patients with organic dementia and 5-6 with alcohol or other drug addiction (1). In countries where recent events were a war, it is clear that the prevalence of mental illness is widespread in society and often has a chronic course.

Despite the known high prevalence of depression in the general population, it is the frequent observation that patients with this disorder are often undiagnosed and not receiving adequate treatment. It happens that the doctor impressed by the primary physical illness, forget to pay adequate attention to the existence of depression which is a common companion of various physical illnesses. People with diabetes normally have a range of comorbid conditions.

Diabetics with depression require more effort, more progressive and more intensive treatment of diabetes (2). Discovery and widespread use of antidepressants acting solely on serotonin up-
take, significantly improved the therapeutic possibilities of family medicine doctor, since it is non-toxic, effective and safe drug that can be easily administered (3, 4). In addition to continuing medical education of doctors in family medicine, a good knowledge of the patients from the team, good cooperation with the patient, is another significant reason that the diagnosis and treatment of depressive disorders more frequently is performed at the level of primary care physicians, and that only a small portion of patients is referred psychiatrists for specialist treatment.

Diabetes mellitus represent a significant and very common problem in the work of family medicine teams. Besides the need to regulate blood glucose levels needed is adequate prevention of acute and chronic complications of diabetes. The task is more difficult as the disease appears earlier in life (5). A patient for whom is estimated to have moderate to severe physical disease (diabetes mellitus, myocardial infarction, malignant disease, CVD, osteoarthritis), has five times less chances that the depression will be recognized than those with no physical illness (6).

Untreated depression has significantly negative influence on the prognosis of physical illness. Recognizing depression is the first and important step in the healing process.

2. GOAL
Conduct screening for unrecognized depression in patients diagnosed with diabetes.

3. MATERIAL AND METHODS
The method is of research type, conducted is a survey study using questionnaire Hopkins Symptom Checklist (HSCL-25) for diagnosing depression (part for depression), with randomly selected respondents. The survey was voluntary. Respondents with a final score ≥1.75 had a positive score—considered to be symptomatic. HSCL-25 is a sensitive indicator for major, minor and subsyndromal depression. The survey was conducted in the outpatient clinic of the Primary Health care centers, Sarajevo Center and Ilidza. We interviewed 100 patients during the period February-May 2007. Inclusion criteria were patients diagnosed with diabetes mellitus. Exclusion criteria were patients from a particular group with the diagnosis of depression, acute mental status and dementia. Parameters of the investigation: family status, socioeconomic status, duration of diabetes, the average value of a blood glucose in the last 6 months, type of diabetes therapy, diabetes mellitus associated with other diseases. Data were statistically analyzed using the X² test.

4. RESULTS AND DISCUSSION
From the total number of respondents, Diabetes mellitus type 2 has 96% with the average age of 64.9 (SD 15.8), Diabetes mellitus type 1 has 4% with the average age of 21.75 (SD 4.4). In our study, positive symptom score test of depression is present at 36% of respondents (N=100); 32% men and 39% women.

According to data from other articles, also is recorded a higher percentage of depression among women, using different types of tests to examine the incidence of depression in diabetics (7).

The largest number of respondents with a positive test score on depression is in the group aged 51-80 years. We were interested and the number of family members of patients according to the presence of a positive symptoms by score-test for depression, because the old people, if they live alone, require greater involvement of family medicine teams in case of home care, hospitalization, scheduling visits at a higher level of health care etc. If an old person living with a spouse or in multi-member family, usually there is cooperation of the family during treatment, which makes our job easier (8).

Figure 1. shows the increase in positive tests with age of patients, and the Figure 2. shows a high percentage of diabetics 66%, with positive symptom score-test for depression, living alone, compared to those who live in a two members or multi-member family.

Analyzing the socio-economic status of diabetics in relation to the presence of a positive symptom-score test of depression we notice high percentage of unemployed persons and refugees, but also with half of employed diabetics. Quality of life has for long been recognized as an important health outcome in chronic diseases, and determines the effects of medical treatment.

In 31% of respondents in the group with diabetes duration up to one year, has a positive symptom score-test for depression and 80% in the group of patients in whom the disease lasts from 11-15 years. The research by Pibernik M. et al. which have compared the two tests (short and longer version) for screening of depressive symptoms in diabetics reached similar results. Percentage of diabetics with positive symptom score increased with the duration of diabetes (10±5 vs.10±7) (7).

Analyzing the average value of blood glucose—HSCL-25 of diabetics in the group of patients with a mean value of fasting blood glucose ≤7 mmol/l, 15% have a positive score for depression; 66% in the group with blood glucose of 13-15 mg/l and 80% in the group with blood glucose >15 mg/l.
Statistically significant difference exists for a positive score for depression in patients who use insulin in the treatment of diabetes in relation to the group using oral therapy 73% vs. 20% (p <0.05).

The prevalence of depression may be even higher in patients with diabetes who have multiple complications (9, 10). That is why the Depression in diabetes is often inadequately treated in primary care (11).

Figure 6 shows that 77% diabetics with hypertension and complications of diabetes, has a positive symptom score test of depression, and all respondents who beside diagnosis of diabetes had a myocardial infarction and cancer. The results of research by Leslie S. Kinder et al. indicate that diabetics with more comorbidity were initially more depressed than patients with less associated diseases. From experience they have priority for the intervention in relation to the care in diabetics with less comorbidity (12).

Recently are interesting works dealing with the analysis of various tests and short-form tests of emotional health among diabetics (13).

According to the report of Primary Health Care Centers Sarajevo in 2006 about the work of family medicine teams (n=164) Diabetes is at the fifth place among diseases in the age group of 19-64 years and in third place after the age of 64 years. Teams have reported a total of 10,074 patients with diabetes from a total of 360,000 Sarajevo citizens older than 14 years (14).

The prevalence of major problems in people with diabetes is approximately two times higher than in the general population, and may undesirably affect the patient’s health and quality of life (15). Depression can be an important barrier to effective management of patients with diabetes.

According the report and the daily work of family medicine teams, it is necessary to pay attention to the existence of significant comorbidity, in addition to guidelines for treatment of patients with diabetes and to improve the management of diabetes mellitus. Timely intervention, despite all the difficulties, cooperation in the care of depressed patients with diabetes, indicates that it is in conjunction with improved clinical outcome without major outpatient costs (according to saved medical costs in patient’s intervention) (16).

5. CONCLUSION

This study found an association between Diabetes mellitus as underlying disease, with other diseases (comorbidity) in patients in the tested sample. The number of newly diagnosed depression cases in diabetic patients increases with duration of diabetes, high levels of fasting blood glucose, and patients who in addition to the primary disease have other associated diseases. Significant difference for a positive score for depression is at the patients who use insulin in the treatment of diabetes in relation to the group using oral therapy–73% vs. 20%.

By systematic screening in practice of family physicians can be recognized depression with diabetes, and adequately treated it as well as the somatic disease.

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