FINDRISC scale as a common tool to assess the risk of diabetes type 2

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RUNNING TITLE
FINDRISC scale

KEYWORDS
myoma, pregnancy, impacted submucosal myoma

WORD COUNT
907

CONFLICT OF INTERESTS
no conflicts of interest

ABSTRACT

Background: The aim of the study was to evaluate the risk of developing type 2 diabetes among middle-aged and elderly with the use of FINDRISC scale.

Material and methods: The study involved 200 people. Those participating in the study were given the form representing the scale of developing diabetes risk, based on FINDRISC scale and classified into one of five groups of risk of developing type 2 diabetes within 10 years.

Results: 47% of examined patients are of a moderate, high or very high risk of developing diabetes type 2. There was no significant difference between men and women. The correlation between age and the risk of developing diabetes type 2 appeared insignificant. The correlation between BMI and the risk as well as waist circumference and the risk appeared to be high, positive.

Conclusions: FINDRISC scale is a simple tool to rank the risk of developing diabetes in the general population, among the overweight or obese patients having positive family history of developing diabetes.
BACKGROUND

According to the International Diabetes Federation (IDF) data in 2015 the number of people with diabetes in the world amounted to 415 million and by the end of 2040 IDF predicts the increase of this number up to 642 million. It has a direct relationship with the obesity epidemic and the aging of the population. The annual cost of treating patients with diabetes in the world accounts for US $ 673 trillion, including $ 156 trillion in Europe. Currently, in Europe, 30.8% of the general population are people between 50 and 79 years of age and it is expected that this number will increase up to 35.6% by 2040. In Poland there are over 3 million people with diabetes, about 800,000 do not know about their disease, while the number of people with prediabetes symptoms is similar to or higher than the number of people with diabetes [1]. On the basis of previous studies, it is already known that in the period of prediabetes the complications may develop typical for diabetes: diseases of the cardiovascular system, retinopathy, diabetic nephropathy and neuropathy. They can significantly shorten the survival time and be the cause of increased mortality [2,3,4]. It is also known that hyperglycaemia and hyperinsulinemia accelerate the aging process of cells and may also increase the risk of cancer [5].

Therefore, the assessment of the risk of developing diabetes and taking measures which could hamper its development are becoming more and more critical. More than 10 years ago FINDRISC scale (Finnish Diabetes Risk Score) was developed in Finland enabling to assess the risk of developing diabetes [6].

The aim of the study was to evaluate the risk of developing type 2 diabetes among middle-aged and elderly with the use of FINDRISC scale.

MATERIAL AND METHODS

The study involved 200 people aged over 45, an average of 62, participants of the University of the Third Age. Among the persons participating in the study there were 66 men and 134 women, the average BMI was 26.65 kg/m². Those participating in the study were given the form representing the scale of developing diabetes, enables early implementation of

Group 1: less than 7 points - low risk - 1 in 100 will develop disease,
Group 2: 7-11 points - slightly increased risk - 1 in 25 will develop disease,
Group 3: 12-13 points - moderate risk - 1 in 6 will develop disease,
Group 4: 14-20 points - high risk - 1 in 3 will develop disease,
Group 5: above 20 points - very high risk - 1 in 2 will develop disease.

RESULTS

1. 47% of examined patients are of a moderate, high or very high risk of developing diabetes type 2. (Fig 2)
2. There was no significant difference between men and women.
3. The correlation between age and the risk of developing diabetes type 2 appeared insignificant.
4. The correlation between BMI and the risk as well as waist circumference and the risk appeared to be high, positive.

DISCUSSION

Several scales have been worked out to assess the development of diabetes in the general population and in the group of overweight or obese people. In Europe, for the assessment of risk of developing diabetes most often FINDRISC scale is applied. The scale is available in almost all European languages, allowing to determine the risk of developing type 2 diabetes within 10 years - including asymptomatic diabetes and abnormal glucose tolerance with an accuracy of about 85% [6, 7].

The European Society of Cardiology guidelines on diabetes, prediabetes and diseases of the cardiovascular system developed in collaboration with the European Society for the Study of Diabetes revealed that the appropriate strategy of screening is to start diagnostics from the application of the scale of assessment of the risk of developing diabetes [8]. Moreover, despite the recommendations FINDRISC scale is not popular to evaluate the risk of developing type 2 diabetes among polish population.

It should be especially recommended for those who are overweight, obese, with a family history of diabetes and with suspected metabolic disorders. It can be performed in the family physician’s office, it can be promoted among the families of patients treated in diabetes clinics or departments of internal medicine as well as can be performed independently by all interested persons directly on the website. FINDRISC scale allows to estimate the risk of developing diabetes, enables early implementation of
prophylactics and for those with a high score leads to the performance of the oral glucose tolerance test quickly, determination of glycated haemoglobin and fasting glucose.

CONCLUSION

FINDRISC scale is a simple tool to rank the risk of developing diabetes in the general population, among the overweight or obese patients having positive family history of developing diabetes. It should be promoted both in the office of the family physician as well as among specialist doctors.

CITE THIS AS

MEDtube Science 2016, Mar 1(4), 8 - 10

FIG. 1. TYPE 2 DIABETES RISK ASSESSMENT FORM

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