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У збірнику представлені матеріали міжнародної науково-практичної конференції «**Перспективні напрями розвитку сучасних медичних та фармацевтичних наук**». Розглядаються загальні проблеми клінічної та профілактичної медицини, питання фармацевтичної науки та інше.

Призначений для науковців, практиків, викладачів, аспірантів і студентів медичної, фармацевтичної та ветеринарної спеціальностей, а також для широкого кола читачів.

Усі матеріали подаються в авторській редакції.

## НАПРЯМ 3. ТЕНДЕНЦІЇ РОЗВИТКУ ПРОФІЛАКТИЧНОЇ МЕДИЦИНИ

### DIABETES SCREENING AMONG HIGH SCHOOL STUDENTS IN JAMAICA WHO ARE OBESE AND OVERWEIGHT

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**Introduction.** Diabetes mellitus is one of the four most common non- infectious diseases, and in terms of the number of deaths, this disease ranks 3rd after cardiovascular and oncological diseases. Every year, 3.8 million people die from the complications of diabetes. According to WHO, the incidence and prevalence of diabetes has steadily increased over the past few decades [2].

Type 1 diabetes is one of the most common diseases of children and adolescents. The fact that diabetes mellitus type 2 has recently been increasingly registered among children and adolescents is also alarming [1]. In some parts of the world, type 2 diabetes has become the main type of diabetes among children. There is every reason to believe that global growth in childhood obesity, incorrect nutrition and physical inactivity play a decisive role.

All of the above explains the need to analyze the major risk factor and look at possibly implementation measures of primary prevention of diabetes among adolescents and early detection of this pathology.

**The purpose** of the study to identify the major risk factors like overweight and obesity and how it has affected the incidence of Diabetes

Type 1 and Type 2. In addition to analyze national risk factors which are associated with obesity, overweight and diabetes mellitus.

**Materials and methods.** We analyzed data from annual medical reports the prevalence of Type 1 and Type 2 Diabetes, obesity and overweight, among adolescents in Jamaica aged 16–18 years.

**Results.** According to Registrar General Office diabetes is the second leading cause of death in Jamaica. More than 220,000 Jamaicans between 15 and 74 years old have diabetes. This translates to 13.6% of the population. Diabetes affects 17.9% of population 15 years and older, 90% Type 2, 10% Type 1. Type 2 diabetes has a higher prevalence among high school students than Type 1 in ages 17 and upwards. Jamaica Health and lifestyle Survey III (JHLS III) 2016/17 states that an additionally 12% of Jamaicans had pre-diabetes with a higher prevalence in women (13.3%) than men (10.7%) putting them at higher risk of developing diabetes. The overall prevalence of diabetes was 12% among persons 15 years and older. Among persons 15-74 years, the prevalence of diabetes was approximately 10% and this compares to 7.8% among the same age group in JHLS II, 2007/08.

The means that between a ten-year time span (i.e.) 2007-2017 the prevalence of diabetes among adolescence  $\geq 15$  years increased by 2.9% this indicates a growing crisis. In addition it must be noted that percentage of overweight individuals among adolescence  $\geq 15$  years also increased. One in two Jamaicans (54%) were classified as overweight (pre-obese or obese). Women were more affected by pre-obesity and obesity with two thirds of Jamaican women 15 years or older being classified as having pre-obesity or obesity. In addition recent lifestyle surveys indicates more sedentary lifestyle among teenagers, data coming from JHLS III 2016/17. This increase in overweight can be associated with the increase practice of selling candy and other fatty-food products outside the school gate, accessible to students throughout the school day. In addition more students opting to spend their free time playing video games rather than participating in physical activity. This fact is supported by the increase in number of game arcades in Jamaica and increase demand for gaming device by the youth population.

One possible solution, suggested in this abstract, is the possible benefit to be gain by having a Family Doctor serves and target high school students as a primary and secondary method of prevention. This

approach could take the form of a regional family doctor that serves schools, parish family doctor or having specific family doctor that serves specific school. The benefit of this is early detection, monitoring and intervention. In addition, this could serve to encourage future population to seek early invention when warning signs appear, as well as identifying that high risk population, such as those overweight and inactive young students. In addition, the deployment of glucose meters enough for every school could aid in early detection and monitoring and can have a positive effect on reducing the prevalence of Type 2 diabetes among adolescents.

**Conclusion.** Given the high prevalence of diabetes among adolescents in Jamaica, in the practice of a family doctor it is advisable to identify groups at high risk of developing diabetes. These groups should include adolescents with overweight and obesity. In this category of patients, along with modification of lifestyle and nutrition correction, it is necessary to control strictly the level of blood glucose, which is very convenient and easy to implement using glucometers.

### **References:**

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2. Standards of medical care in diabetes–2016 abridged for primary care providers. *Clin Diabetes*. 2016; 34: 3-21