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Analysis of Weight Gain in Pregnant Women in the Family Medicine Outpatient Clinic – Is It A Significant Problem?

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Abstract

Background: *Obesity is a multifactorial disease, difficult to treat, associated with strong social stigma. For many patients, the use of a traditional reduced-calorie diet and physical activity is ineffective or results in only short-term weight loss.*

Objectives: *The aim of the study was to assess changes in body weight at the time of diagnosis of pregnancy and in the 36th week of pregnancy in a group of patients in National Medical Institute of the Ministry of the Interior and Administration in Warsaw (PIM MSWiA).*

Material and methods: *40 pregnant women under the care of a general practitioner in Family Medicine Outpatient Clinic in PIM MSWiA were included into the retrospective study. The body weight of women at the time of diagnosis of pregnancy and in the 36th week of pregnancy was analyzed.*

Results: *The average age of the analyzed women was 32.9+/-5.05 years. For 80% of the women, it was the first pregnancy. Baseline body mass index (BMI) was 21.67+/-2.03 kg/m^2. The average body weight before pregnancy was 61.7+/-7.67 kg, and at 36 weeks of gestation, it was 73.48+/-7.64 kg. The mean weight gain at 36 weeks of gestation was 11.97+/-3.99 kg. Two patients who were overweight in the early stages of pregnancy gained weight of 2 and 11 kg, respectively. Only three women with normal weight before pregnancy gained more than 18 kg during pregnancy. Gestational diabetes mellitus was diagnosed in three women, whose pre-pregnancy body weight was 62, 53, 67 kg and BMI was 22.23, 18.55 and 22.12 kg/m^2, respectively.*

Conclusions: *In primary health care in PIM MSWiA, the majority of pregnant women are of normal weight and achieve normal weight gain during pregnancy. Education in the field of proper lifestyle should be an essential element of patient care especially in primary health care.*

Key words: *pregnancy, body weight, family medicine*

Introduction and objective

According to the World Health Organization (2016), approximately two billion adults worldwide are currently overweight, of which 650 million are considered obese (BMI ≥30 kg/m^2) [1]. Obesity is a complex, multifactorial, and difficult to treat disease associated with strong social stigma. For many patients, traditional reduced-calorie diets and physical activity are ineffective or result in only short-term weight loss. Therefore, effectiveness of obesity treatment may depend on the use of a proper strategy. Obesity is one of the entities that pose a risk and are associated with short- and long-term, specific to the mother and the offspring [2]. In fact, there is a global pandemic of obesity, particularly among women of childbearing age and pregnant women. PE, which is characterized by maternal hypertension, proteinuria, and complications, affects 2–4% of pregnancies worldwide, posing significant risks to maternal and perinatal health [3]. Treatment strategies for obesity are typically divided into conservative and invasive options. The management of obesity requires long-term approaches ranging from population-based public health and economic initiatives to individual nutritional, behavioral, or surgical interventions [4]. Conservative treatment focuses on lifestyle modification, which involves systematic work on changing one's diet and increasing physical activity. A conservative treatment's effectiveness depends on the quality of specialist support and can be enhanced with appropriate dietary supplements or pharmacological agents. Meanwhile, an invasive treatment refers largely to bariatric interventions and is preceded by a conservative approach. Apart from the negative consequences of obesity suffered by the patient, there is also growing concern over the broader public health implications of obesity. These include the increasing expenses related to the treatment of obesity and its complications, as well as the impact of obesity on the environment, such as the costs associated with excessive food production and consumption [5]. The aim of the study was to examine changes in body weight between diagnosing pregnancy and its 36th week in a group of patients at National Medical Institute of the Ministry of the Interior and Administration in Warsaw.

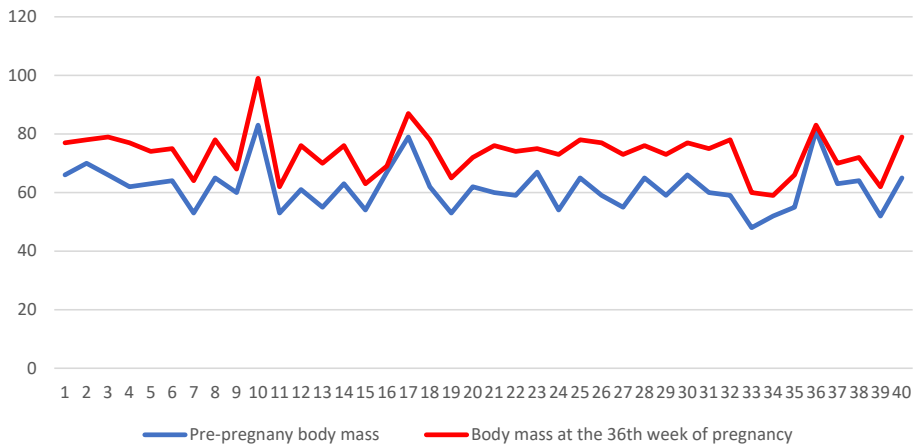
Materials and method

This retrospective study included a group of 40 pregnant women who received care from a general practitioner at the Family Medicine Outpatient Clinic in National Medical Institute of the Ministry of the Interior and Administration in Warsaw. The study analyzed the women's body weight at the time of pregnancy diagnosis and in the 36th week of pregnancy. Physician analyzed the health status of the pregnant women and weight measures were performer by nurses, the same device was used for the measurements. The documentation was analyzed retrospectively and activities routinely undertaken by medical staff as standard medical care were analyzed; for this reason, the consent of the bioethics committee was not taken into account. The women in the study became pregnant in January and February 2022, and medical data were obtained by analyzing their medical records.

Results

The average age of the women analyzed was 32.9 ± 5.05 years. It was a first pregnancy for the majority of them with only eight respondents being in their second one. All pregnancies were singles. The study involved women who had not undergone treatment for infertility and had not been treated for chronic diseases. The baseline body mass index (BMI) was 21.67 ± 2.03 kg/m^2. Only two women were overweight while the rest of the patients had a normal weight. The average body weight before pregnancy was 61.7 ± 7.67 kg, and at 36 weeks of gestation, it was 73.48 ± 7.64 kg. The mean weight gain at 36 weeks of gestation was 11.97 ± 3.99 kg. Two patients who were overweight in the early stages of pregnancy gained 2 kg and 11 kg, respectively. Only three women with a normal weight before pregnancy gained more than 18 kg during pregnancy. Figure 1 shows the body weight before pregnancy and at 36 weeks of gestation. Gestational diabetes mellitus was diagnosed in three women whose pre-pregnancy body weight was 62 kg, 53 kg, and 67 kg, respectively, and their BMI was 22.23 kg/m^2, 18.55 kg/m^2, and 22.12 kg/m^2, respectively.

Figure 1. The body weight before pregnancy and at 36 weeks of pregnancy



Source: own elaboration.

Discussion

In the primary care physician's office, a significant amount of time is dedicated to educating patients on various topics such as proper nutrition, cancer prevention, age appropriate physical activity, or safe use of medications. While incorrect eating habits are the most common cause of obesity, it can also be associated with some endocrine syndromes such as polycystic ovary syndrome, Cushing's syndrome, and hypothyroidism. Therefore, efforts should be made to determine underlying causes of obesity and appropriate treatment should be applied prior to pregnancy in cases where obesity is recognized as a secondary condition [6]. First of all, it should be emphasized once again that the ideal time for counseling is before pregnancy. Pregnancy provides a unique opportunity to modify one's lifestyle. Pregnant women are more willing to adopt a healthy lifestyle, have better and more frequent access to medical care, and are under strict medical supervision [7].

Midwives typically monitor body weight as one of the fundamental measurements before each visit with the attending physician, strictly recording any weight gain in the patient's pregnancy chart. Controlling weight gain

during pregnancy is important and can be accomplished through a healthy diet and adequate exercise, which also promotes positive health outcomes for the mother and the baby [2].

Body weight control is one of the basic activities performed by midwives before each visit with an attending physician. Its increase should be strictly controlled and recorded in patient's pregnancy chart [8].

Based on pre-pregnancy BMI, the recommended weight gain during pregnancy according to the National Institute of Medicine should be the following:

- <18.5kg/m2: underweight – weight gain of 12.5–18 kg during pregnancy;
- 18.5–24.9 kg/m2: normal weight – weight gain of 11.5–16 kg;
- 25–29.9 kg/m2: overweight – weight gain of 7.0–11.5 kg;
- >29.9 kg/m2: obesity – weight gain should not exceeds 9 kg [9].

In our study, most women had a normal range of weight gain during pregnancy as per the recommended guidelines. This may be at least partially attributed to the extensive patient education program provided in our organization. European studies have shown that the epidemic of overweight and obesity affects patients in various age groups, including pregnant women. According to studies conducted in Great Britain, obesity was found in 16–19% of pregnant women during their first pregnancy visit [10]. Currently, overweight and obesity in pregnant women are considered one of the most important obstetric problems, increasing the risk of maternal and fetal complications [7, 11–13]. The care of a pregnant woman with an increased BMI focuses on assessing additional risk factors and planning delivery. Weight loss during pregnancy, regardless of the baseline BMI, is not recommended. However, preventing excessive weight gain during this period may reduce the risk of obstetric complications [14]. It has also been proven that excessive weight gain during pregnancy increases the risk of long-term obesity in the mother and child, thus increasing the risk of related diseases [15–17]. Elevated BMI increases the risk of gestational diabetes mellitus, pregnancy-induced hypertension, and thromboembolism [18–20]. Moreover, the number of premature births and caesarean sections increases with the increase in BMI [21, 22]. Obesity during pregnancy is a risk factor for obstetric complications such as miscarriage, preeclampsia, thromboembolic complications, fetal macrosomia, operative

delivery, perinatal hemorrhage, stillbirth intrauterine fetal (in the second half of pregnancy), birth defects, increased neonatal morbidity and mortality. Neural tube defects are particularly common in obese people in a group of mothers' children [23]. Ouzounian et al. found a positive relationship between pre-pregnancy BMI, excessive weight gain (according to the Institute of Medicine (USA) recommendations), and the incidence of macrosomia in pregnant women with gestational diabetes mellitus. The authors reported that the percentage of macrosomia was 7.4% in patients with normal body mass, 11.4% in those who were overweight, and 19.0% in those who were obese. They also stated that the group of pregnant women with excessive weight gain had a three-fold increase in the risk of macrosomia [24]. These findings were confirmed by another study that also focused on women diagnosed with gestational diabetes mellitus [25].

Conclusions

In primary health care in National Medical Institute of the Ministry of the Interior and Administration in Warsaw, the majority of pregnant women are of normal weight and achieve normal weight gain during pregnancy. Education in the field of proper lifestyle should be an essential element of patient care especially in primary health care.

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