DISTRIBUTION OF LOWER LIMB EDEMA IN PREGNANT WOMEN

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Summary

Introduction: Lower limb edema is a common problem during pregnancy. The aim of the study: to determine the incidence of edema of the lower limbs in pregnant women during the second and third trimesters. Methodology: The studied group consisted of 230 pregnant women, aged between 15 and 43 years. The criteria for inclusion are: pregnant women in the second and third trimesters. The survey was conducted for the period January-March 2017 in 18th diagnostic and consultative center, Hospital "Sheynovo" and University Obstetrics and Gynecology Hospital "Maichin Dom". Results: 40% of the women reported lower limb edema during second and third trimester of pregnancy. The most often affected area is the ankle (52,4%), followed by the feet (36.3%), 9,1% change their foot size, 18,3% of the women have varicose veins, 50,9% reported muscle cramps. In this study, the results associated with the presence of edema, the degree of edema and its localization, the condition of the lower limbs and the presence of varicose veins, foot ache, lower limb muscularization, and concomitant diseases were analyzed. Characteristics of women in the study were made according to their age, parity, profession, pre-pregnancy, Body Mass Index (BMI), blood pressure values, motor activity, etc. Discussion: Even if the lower limb edema is not painful, it can be uncomfortable and swelling may make it difficult to put on socks or shoes. It can make also walking difficult and decrease the quality of life.

Key words: physiotherapy, pregnancy, lower limb edema

Introduction:

The presence of lower limb edema is a common complaint of pregnant women. (Muzzafar, M., 1998; Mohaupt, M., 2004; Popov, N., 2012). Physiological changes taking part during the pregnancy within the body, are the main reason for their appearance, and gravity is to be responsible for them to be mainly placed in the limbs. The most prone to edema are the feet and the ankles, compared to – the shanks, the knees, the palms and the fingers, which are affected to a lesser extent. Mostly, the pregnant women have those clearly formed edemas appearing during the third trimester. Usually, there is no danger of their appearance during the late stage of pregnancy, but in some cases, they could be an indication of serious, hidden pathological problems and caused by them complications.

Aim and Objectives of the study:

The aim of this research is to track the spread of the edema of the lower limbs among the pregnant women in second and third trimester.

Methods:

The research is carried out for the period January – April 2017 among pregnant patients, visiting the women's consultation – Second SAGBAL "Sheynovo", as well as 18 Diagnostic Consultative Centre and University Hospital "Maichin Dom". Only women in second and third trimester of the pregnancy with not complicated and normal pregnancy up to the moment are chosen for the research. The number of participants for the set period is 230. The age of the persons in the research varies from 15 up to 45 years old. The chosen method of research is through a poll. The questionnaire consists of 20 questions. The first a few questions give you basic information for the people in the research – age, profession, parity, trimester. The rest of the questions are concerned about the presence of edema, its localization, the change in the feet, the presence of cramping and varicose veins, blood pressure values, Body Mass Index (BMI), ongoing illnesses, practice and type of physical activity and etc.

Results:

The statistical method for one – dimensional frequency distribution is used to process the results. The results from the age distribution of the women have been presented on Fig. 1. Of the total surveyed, 230 pregnant women in second and third trimesters, with the lowest percentage being those over the age of 40–3%, followed by the women in the age group below the age of 20–5%. Most are

pregnant in the age range between 30 and 40 years – 51% and those between 20 and 30 years – 41%.

Fig. 1. Age distribution of the pregnant women

The distribution as per the trimester shows that from those being surveyed in third trimester are 67%, and those in second are – 33% (Figure 2).

Fig. 2. The distribution of the women as per the trimester

Figure 3. presents the results as to whether the edema is only present on one of the lower limbs or is present in both. Nearly all of the people reported swelling of both lower limbs – 91%. A small percentage – 9% of them indicated edema of only one of the lower limbs.

Fig. 3. Unilateral / bilateral spread of swelling.

On Figure 4 and 5 is presented in which part of the pregnant women in the second and third trimesters of pregnancy respectively there is a swelling. About a quarter (23%) of women in the first group have this complaint, whereas almost half of women in the third trimester have swollen swellings.

Fig.4 Presence of swelling – second trimester

Fig.5 Presence of swelling – third trimester

Depending on their duration, we classify swellings as permanent (more lenient, difficult to respond) and temporary or variable (appear after a longer sitting / standing, etc.), soon after they disappear on their own and respond easily to the starting positions). 91 of the pregnant respondents (81%) characterized their swellings as temporary and varying. The remaining 19% complain of edema, which persists for a longer period of time (Fig. 6).

Fig. 6 Edema classification as per its longevity.

There may be more than one answer to the question of localization of swellings, so the percentages in the chart exceed 100%. The results shown in Fig. 7 show that the largest share is ankle response – 72.2%, followed by feet – 50%. Lower legs and

thighs are equal – 7.8%.

Fig. 7. Localization of edema

Localization of edema also varies according to the three months. Given the large incidence of swelling in the ankle, Figures 8 and 9 reflect the appearance of it during pregnancy. 11% of the respondents are in the second trimester and 37% in the third.

Fig.8 Localization of edema in the ankles – second trimester

Fig.9 Localization of edema in the ankles – third trimester.

A subjective degree of discomfort in the lower limbs experienced by respondents in the trimester is shown in Fig.10 and Fig.11. A higher percentage of women in the second trimester of

pregnancy did not report discomfort in their lower limbs – 45%. With a slight degree of sensation of weight are 36% and moderate – 19%. There are not those who have experienced a lot of discomfort. In respondents from the third trimester, the percentage of lack of discomfort was the highest – 41%. The percentage ratio between the mild and moderate severity of the lower limbs is almost the same – 27% and 31%, respectively. Only two of the pregnant (1%) responded that they had a heavy burden during this period, which caused them a problem in their everyday lives.

Fig.10 Subjective degree of discomfort – second trimester

Fig.11 Subjective degree of discomfort – third trimester

Discussion:

The lower limb edema can make walking difficult and decrease the quality of life. Although the presence of swelling is a common problem during pregnancy, it often remains in the background. In the mass information sources (pregnancy sites, forums) it is mentioned that about 75% of pregnant women experience swelling. Typically, the issue is not considered on its own, but it is in addition to other types of research without having detailed characteristics. Similar to our survey was conducted by

M. Lebech et al. (1996). The authors track the presence of headache, fatigue and swelling of the lower limbs in pregnant women through a questionnaire filled out daily from the 30th week of gestation to birth. Although the presence of edema is a common problem during the pregnancy, it is often left on behind. In mass media (online sites for pregnant women, forums) it is mentioned that around 75% from the pregnant women have those swellings. Usually, the problematic issue is not considered on its own, but as an application to other kinds of research, without having been reached detailed characteristics. Similar to our poll research is done by M. Lebech et al. (1996). The authors track the presence of headache, fatigue and swelling of the lower limbs in pregnant women through a questionnaire filled out daily from the 30th week of gestation to birth. The weekly incidence of swelling increased significantly from 20% at week 31 and up to 60% in 42nd, 42% of women did not report edema during the third trimester. These results correspond to the data obtained from our study.

Interesting information is provided by a study conducted among Nigerian pregnant women belonging to the Igbo ethnic group (Nkwo P., 2009). The age of the subjects varies from 17 years to 45 years. The overall incidence of lower limb swelling during pregnancy is 8.5%. The earliest gestational age, when first appeared during pregnancy, was the 24th week. These results are compared with data on the incidence of edema among Caucasian pregnant women, where the values are about 75% – 80%.

Our results with regard to the incidence of edema of the lower limbs may have been influenced by its duration. Since the study covers the winter months – January and February, and two of the spring – March and April, we believe lower temperatures could be seen as the reason for the lesser spread of swellings among the respondents than the wide-spread data. The high percentage of those characterized as temporary / varying swellings (81%) also correlated with the study season as well as the sin-

gle cases reporting severe discomfort. Other possible causes for differences in the results obtained may be related to quality of life, nutrition, motor activity, etc.

Conclusion.

The data from the survey shown that about one-quarter of the pregnant women in the second trimester have swelling, and those in thirds are about half (1/2). Typically, swelling is present in both lower limbs, in only one case only one is affected. In a large percentage of cases swelling does not cause discomfort and, if so, it is basically mild or moderate. Future studies could cover hot months and prevalence according to the body weight and physical activity of the respondents.

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