

THE ROLE OF TACTILITY IN THE DEVELOPMENT OF CLOTHES FOR PREGNANT WOMEN

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Annotation

In designing of clothes for pregnant women important factor is the account of features of anthropometric data changes, depending on the period of pregnancy. Clothes for pregnant women should have a rational constructive solution taking into account properties of used polymeric materials.

Keywords: clothes for pregnant women, polymeric materials, anthropometric parameters of figure.

In Uzbekistan today, one of the priorities is to solve the demographic problem, so providing pregnant women with adequate, comfortable clothing is an important task for the clothing industry. An analysis of the range of clothes for pregnant women presented on the Russian market showed that the issue of producing inexpensive and high-quality clothes is still relevant. Today, the range of products for pregnant women is represented mainly by models of foreign manufacturers (Germany, England, Belgium, France, USA, Turkey). Their major disadvantage is their high price.

Designing clothes for pregnant women is a complex problem, its solution is at the intersection of a number of disciplines: obstetrics, physiology, demography, design, anthropology, marketing, etc. A necessary condition for a successful process of designing clothes for pregnant women is the availability of information that is reliable in terms of volume and content about the features of the physique of the figure, which, together with other conditions, will ensure the manufacture of high-quality clothes in industrial production. A number of studies related to the design of clothes for pregnant women make it possible to judge the changes in the main dimensional features of the figure in each trimester. The purpose of this study was the design of women's clothing, taking into account the period of pregnancy, from polymeric materials. For the study, 30 pregnant women aged 20 to 33 years with a gestational age of 5 to 40 weeks were selected.

In the course of conducting marketing research, using observation, polling and questioning in antenatal clinics and social networks, the following was revealed:

1. By occupation, the majority of young mothers work as specialists in various areas of production - 33.4%; 30% are students; temporarily unemployed - 20% of women; senior manager - 3.3% and entrepreneurs - 3.3%. 10% of women noted that they are currently on maternity leave. Today, a fairly large number of pregnant women are working and need business clothes throughout the entire pregnancy. At the same time, the number of young mothers is growing, the young are more relaxed, and youth products should be more daring.
2. Special clothes for pregnant women are purchased by approximately 76.7% of the respondents and 23.3% do not purchase them.

3. The choice of colors in products for pregnant women is important for 73.3% of young women and does not matter for 20%. For 6.7% of women, the choice of colors depends on the mood. Of those women for whom color plays an important role when choosing clothes, moderately bright shades - 62.5% and 29.1% - prefer calm pastel colors. 4.2% of women choose emotional bright colors in clothes, and the same number noted that they do not care.

4. In matters of choosing clothes, the main criterion for respondents is the appearance of the product - 32.6%, in second place is the price - 26.7%, the choice of fabric based on the hygienic properties of the material - 25.6%, ergonomics - 11.5%. In last place is the brand of clothing - 1.2%. Also, 1.2% of the votes noted that clothes should be of high quality and it would be possible to wear them after childbirth.

5. In the choice of materials for the design of special clothing for pregnant women - 32.9% of respondents prefer natural polymers (cotton and linen fabrics). It was also noted that it could be natural cotton jersey - 31.5%; 12.3% of the votes were cast for natural wool and silk, 6.9% preferred viscose (100%), and 6.9% for a mixture of cotton and viscose fiber. 4.1% of the votes for knitwear with viscose and for synthetics with the addition of cotton.

Therefore, the polymeric materials that make up the clothing package must meet, first of all, the following requirements:

- Ergonomic. The group of ergonomic requirements includes, first of all, the requirements for the hygienic properties of the material, which create the comfort of the underwear layer (humidity, water absorption, vapor and air permeability, thermal conductivity or total thermal resistance, electrification, dust capacity, etc.). Materials should be easy to handle and as indelible as possible; Also, the material from which the product is made should be easily erased. Materials for the manufacture of clothing for pregnant women should have a high percentage of natural fibers that easily transmit heat. In women during pregnancy, the metabolism is slightly increased, and the body produces more heat than usual. In clothes made of synthetic fabrics, a woman may suffer from overheating; in addition, a charge of static electricity often accumulates in synthetic fabrics, which creates certain inconveniences and unpleasant sensations [1].

Materials must be hygroscopic and breathable.

- Reliability of the material - designed to ensure its durability, dimensional stability, dimensional stability and preservation of appearance in conditions of wear for the required period of pregnancy.

- Aesthetic - should correspond to modern fashion trends for this season in terms of texture, range of colors, brilliance, pattern.

- Economic - designed to ensure the rational use of material and cutting cloths (rational width); competitiveness of the product (grade, optimal cost).

- Design and technological. The group of design and technological requirements for polymeric materials includes requirements for properties that affect the design of the product and the parameters of its technological processing (thickness, surface density, extensibility and shedding of fabric threads, components of complete deformation, extensibility and permanent deformation of knitwear, shrinkage, heat resistance, drape, rigidity, crease resistance, etc.) [2].

It should be noted that it is recommended to design clothes for pregnant women from natural polymeric materials, because the skin of many pregnant women becomes much more sensitive. Constant contact with synthetics can lead to irritation. It is important that air can circulate freely through the clothing. The most suitable materials for pregnant women are options such as wool, flannel, poplin, voile, linen, etc. When choosing materials, the pattern of the fabric must also be taken into account: no clear geometric lines, angles

and stripes. Only small, soft shapes, various patterns, abstractions and floral motifs that will emphasize all the femininity and elegance of the appearance of a pregnant woman.

6. When choosing a constructive solution for products for pregnant women, the preferred silhouette in clothing is semi-adjacent - 66.7%, trapezoid - 20%, for the adjacent silhouette - 6.7% of the respondents, and behind the straight line - 3.3%. And also 3.3% noted that the silhouette does not matter.

7. As a result of the survey, we also identified a range of products for pregnant women. 35.4% of respondents prefer dresses, in second place are T-shirts and various kinds of tunics - 27.9%, 15.2% - for trousers and leggings. And only 6.3% was given for skirts. Thus, when purchasing wardrobe items, a pregnant woman takes into account two basic principles - comfort and safety for her and her unborn child.

Therefore, it is necessary to pay more attention not only to the appearance of the product, but also to the cut and quality of the polymeric materials used, from which clothes for pregnant women will be made. When designing clothes for pregnant women, an important factor is to take into account the changes in anthropometric data depending on the period of pregnancy. Dimensional signs of the female figure during pregnancy (from 16-18 to 38-40 weeks) undergo changes, and for each specific figure, these changes are individual [3].

Note that in 2021-2022. TsNIIShP conducted an anthropometric examination of 1600 women in the second trimester (5-7 months) of pregnancy. Namely, during this period, many changes occur in the woman's body, because the body works with an increased load, the metabolism changes and thereby the external shape of the body changes. The collected data made it possible to establish the relationship between the gestational age and a number of dimensional signs. The processing of the data obtained by the method of mathematical statistics made it possible to develop a classification of typical figures of pregnant women.

The typical figure of a pregnant woman is determined by the following dimensional features: - growth with an indifference interval of 6.0 (\pm 3.0 cm); - third chest girth with an indifference interval of 4.0 (\pm 2.0 cm); - girth of the abdomen with an interval of indifference between sizes - 4.0 (\pm 2.0 cm), between fullness - 3.0 (\pm 1.5 cm). The designation of sizes on the product label is made by the full values of the leading dimensional characteristics in the sequence: chest circumference-abdomen circumference, for example: 164-96-91. For pregnant women, two complete groups are distinguished, regardless of the gestational age. The first complete group is the figures at the 5th month, the second complete group - at the 7th month of pregnancy. Sizes for chest girth from 84 to 116 cm, height - from 152 to 182 cm.

The girth of the abdomen, measured horizontally at the level of the waistline through the most protruding point of the abdomen, is taken as a full indicator of the figure [4]. As you know, the entire gestation period is conditionally divided into three periods: 1-3, 4-6 and 7-9 months. Accordingly, the wardrobe for a pregnant woman can be conditionally divided into three parts: for the first, second and third trimester of pregnancy. Changes in the anthropometric features of the figure in these periods are quite significant. From the standpoint of the price attractiveness of the product, it is advisable to design clothes for pregnant women from polymeric materials for the full term, so it is necessary to take into account changes in the anthropometric parameters of the figure depending on the period of pregnancy.

And in this case, there are two ways to ensure the anthropometric conformity of the product to the size and shape of the body: the first is to search for an option for transforming the entire product or any part of it, the possibility of regulating the product in shape and size; the second - taking into account the dynamics of changes in anthropometric characteristics due to a reasonable increase in gains. According to the developed method for measuring dimensional characteristics, measurements of the main dimensional characteristics of

pregnant women were carried out, starting from the 5th week to the 37th, approximately every 4 weeks (Fig. 2, 3). At certain stages of the work, the method of observation was used.

In the course of the study, it was found that at different stages of pregnancy, dimensional signs change with different intensity, which is confirmed by numerous studies. This made it possible to divide the entire period of pregnancy into three parts: the first period - from 0 to 16 weeks, when there is no increase in dimensional signs; the second period - from 16 to 28 weeks, when there is a slight and very smooth increase in the main dimensional features; the third period - from 28 to 37-40 weeks - is characterized by an intensive increase in dimensional characteristics and maximum growth. In the course of the study, we found that the most variable signs of the physique of pregnant women are the first chest girth (Og1), the second chest girth (Og2), the third chest girth (Og3), the waist circumference, taking into account the protrusion of the abdomen (From), the hips girth (Ob), protrusion of the abdomen (Vzh), height of the bulge of the abdomen, chest height (Br), waist length in front (Dtp2), horizontal bust arc through the protruding points of the mammary glands, the center of the chest, which play an important role in the design parameters of the product when designing clothes.

In addition, body weight (Mt) increases significantly. The rest of the dimensional features for the study period remained practically unchanged or changed within insignificant limits (7%). It should be noted that a distinctive feature of the basic design of clothing for pregnant women is the deviation of the half-skid line from the vertical, the presence of additional tucks for the bulge of the abdomen and the lengthening of the shelf to maintain the horizontal position of the bottom line. Since an increase in the size of the chest, abdomen and a change in posture during pregnancy leads to a violation of the overall balance of the device, it is necessary to take into account an additional increase in the anterior-posterior balance [5].

When designing clothes for pregnant women, one should take into account all changes in the anthropometric parameters of the figure identified during the study (values of the protrusion of the abdomen by quarters of the pregnancy period, chest girths, waist, hips, length of the back and front to the waist, chest width, back width). Clothing for pregnant women in the first trimester: during the first trimester, significant changes in the figure of a woman do not occur, however, from the first days of pregnancy, a woman's breasts increase by almost a size.

Synthetic underwear should be abandoned, since during the period of hormonal adjustment it can cause an allergic reaction on the skin; it is better that the underwear is made of cotton fabric that allows the skin to breathe. Clothes for pregnant women in the second trimester: the figure of a woman changes markedly. During the first two trimesters of pregnancy, the fetus grows and develops rapidly. First, the waist is smoothed, then the stomach is rounded.

During this period, it is worth abandoning tight and tight things. It is advisable to carry out clothes for pregnant women in a voluminous, free cut. It is this cut that is the most comfortable - it does not constrain movements, does not squeeze soft tissues and organs.[8] As shoulder products, it is better to wear spacious blouses or tunics made of natural fabrics that fall in the abdomen. Such wardrobe items will allow you to maintain satisfactory parameters of the underwear microclimate and will not disturb the blood supply. Any clothes for pregnant women should be spacious, without hard elements, tight elastic bands.

Clothing should not interfere with normal blood circulation in the tissues. It is not recommended to wear products that put pressure on the stomach or cut the waist, so preference should be given to trousers and skirts with a special "spread" belt. You should also pay attention to special jeans for pregnant women.[6] The design of these trousers differs from standard models, first of all, by the ability to adjust them in the waist line. These trousers are complemented by an insert made of soft, elastic material - it is comfortable and

practical Clothes for pregnant women in the third trimester: the third trimester is the most difficult period of pregnancy in terms of physiological changes in a woman's body. Significantly increased weight. Edema may occur. The load on the musculoskeletal system increases. A bulging belly makes a woman clumsy.[7]

That is why maternity clothes for this period should be chosen with great care. Thus, the designed clothes for pregnant women should have a rational design solution, taking into account changes in the anthropometric parameters of the figure. These can be models with different arrangements of reliefs, undercuts, etc. Clothes for pregnant women, first of all, should be comfortable to wear and use, easy to put on and take off, not constrain the body and growing belly, and provide freedom of movement.[9] Various structural divisions on the shelf, depending on the properties of the polymer materials used, make it possible to achieve a free fit of the product in the abdomen and diversify the range of clothes for pregnant women.

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