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OPTIMIZATION OF DESIGN AND TECHNOLOGICAL SOLUTIONS OF PATIENTS' CLOTHING

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Currently, the limited range of hospital gowns significantly affects the possibility of using high medical technologies, reduces the level of medical care and the quality of life of patients. Thus, the problem of forming a given level of quality for specialized clothing, corresponding to a set of consumer requirements, is of particular relevance, the most important of which is the cost of products, which determines the availability of this clothing for patients both in the Republic of Moldova and in other countries.

Key words: *patients' clothing, requirements of ergonomics and manufacturability.*

INTRODUCTION

In Moldova, for several years, at the Technical University of Moldova, the Faculty of Textile and Polygraphy, research has been carried out in development of comfortable and aesthetic hospital gowns with functional and structural elements that facilitate medical procedures for people suffering from various types of diseases. We are talking about clothing intended for use by patients during their treatment in hospitals or outpatient clinics, such clothing is subject to specific requirements

PURPOSE

Solving this problem requires the development of special design and technological solutions for certain topographic areas of the human body surface, taking into account the functional specifics determined by the characteristics of the course and treatment of the disease. The formation of a rational assortment of hospital gowns for clinics and an increase in the efficiency of the production process of its production is facilitated by the design of sets that are universal for a number of diseases.

The **purpose** of the work is to develop a universal set of clothing for patients, which is distinguished by a high level of comfort and economy.

The main tasks of the work that ensure the achievement of the set goal are analysis of the factors that influenced the comfort of patients' clothing; identifying the ergonomic indicators; development of ergonomic design; development of optimal technology for the clothing manufacture; assessment of manufacturability of clothing designs for patients.

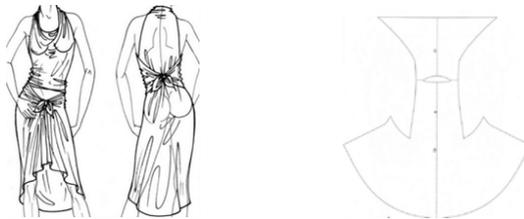


RESULTS AND DISCUSSION

As part of the research, we conducted a dynamic analysis of the range of clothing used by patients. It was found that the process of dressing and undressing causes the greatest difficulties, which is recommended to be replaced by covering - wrapping [4,7]. In this regard, seamless designs based on capes were proposed. Similar designs are periodically found in everyday clothes offered by modern designers [3]. Below are the seamless garments that are the prototypes of the patient garments we are developing, which can be used both at home and in the hospital.



a. Cape with belt



b. Dress, shirt, tunic

Fig. 1. Examples of seamless designs of shoulder clothing [3]

Seamless clothing can be attributed to ergonomic clothing, as it is convenient to use, it is convenient to take it off to put on, and the absence of seams eliminates possible skin irritation at the points of contact. At the same time, seamless clothing greatly simplifies the production processes at the stages of cutting and sewing, which characterizes the manufacturability of the design.

Development of designs for a set of clothes for patients that meet the requirements of ergonomics and manufacturability is a core of this work.

We have developed products included in the set of hospital gowns, namely, tunic, trousers, gown. The design is based on the principle of designing seamless products and simplified tailoring technology, which in general will make clothes comfortable and cheap for the consumer. Such a kit can be called universal,



meeting the requirements of ergonomics, aesthetics and cost-effectiveness of the design. The versatility of the kit is ensured by the fact that it is not associated with the type of disease and is designed for a group of sizes (at least 3 sizes).

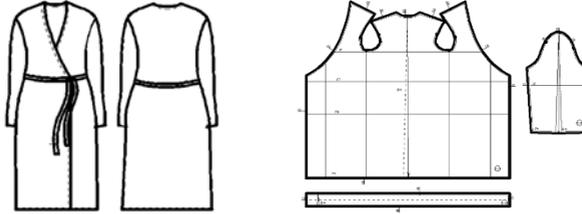


Fig. 2. Model and patterns of a women's dressing gown

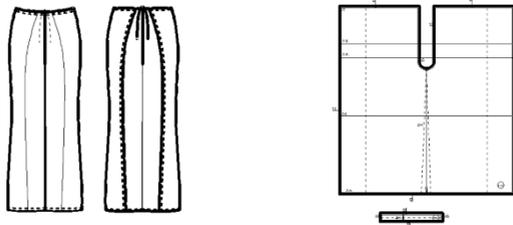


Fig. 3. Model and patterns for women's trousers



Fig. 4. Model and patterns of a women's tunic

Thus, the seamless designs of the proposed products for patients are ergonomic, since they do not restrict the movement of the patient, and are also technological, thereby reducing the cost of the product manufacturing process at the stage of cutting, preparing for sewing and sewing. At the same time, seamless construction will reduce material and labor costs for production, which significantly reduces the cost of finished products. The developed set of clothes for patients meets the requirements of ergonomics and cost-effectiveness, which will increase the availability of these products to a wide range of patients in need.



CONCLUSIONS

The results of the study will ensure that the needs of patients in special clothing in accordance with the requirements for materials and designs. The developed designs will enhance the positive therapeutic effect of the use of clothing due to the formation of a positive psychological state of the patient.

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