



УДК 7.012:687.016

## INCLUSIVE CLOTHING FOR PEOPLE WITH HEALTH LIMITATIONS

SCRIPCENCO Angela<sup>1</sup>, PASHKEVYCH Kalyna<sup>2</sup>  
SCRIPCENCO Alexandr<sup>1</sup>

<sup>1</sup>Technical University of Moldova, Chisinau, Republic of Moldova

<sup>2</sup>Kiev National University of Technology and Design, Kyiv, Ukraine

***angela.scripcenco@dtm.utm.md***

*The paper consider the problem of designing inclusive clothing for people with disabilities, as invalides and aged people. The differences between adaptive and inclusive clothing are examined. The concept of an inclusive approach to product design is introduced, wich is focused on involving direct users in the development process on early stage. The results of studies the consumer requirements for clothing for such consumers are presented. Design and technological solutions and recommendations that should be taken into account at the design stage are formulated.*

***Key words:*** *inclusive approach, inclusive clothing.*

### INTRODUCTION

According to WHO, about 1.3 billion people, or 16% of the world's population, or one in six people in the world, suffer from significant health limitations [1]. The increasing prevalence of non-communicable diseases and the aging of the population, war are leading to an increase in their numbers. The rights of people with disabilities are protected by the Convention on the Rights of Persons with Disabilities, adopted by the UN in 2006 [2]. According to this document, the countries that signed it must provide people with disabilities with equality, accessibility, education and the opportunity to work, participation in cultural life and individual mobility.

From the point of view of an inclusive approach, disability is a social problem, and the concept of "disabled person" arises at the moment when a person with disabilities is faced with the inability to perform some actions due to environmental limitations. According to Cambridge dictionary "Inclusion is based on an idea that everyone should be able to use the same facilities, take part in the same activities, and enjoy the same experiences, including people who have a disability or other disadvantage" [5].

In an inclusive society, the environment is what it have to be changed, not the person. Thus, inclusion becomes a concept that covers not only infrastructure, but education, jobs, public spaces also become inclusive.



## **SETTING THE CHALLENGE**

The aim of this work is development of principles for designing inclusive clothing for people with health limitations such as disabled people and the elderly. To achieve this goal, it is necessary to apply the principles of inclusive design to the design of such products. Inclusive design is a projecting practice in which products and services are developed to be accessible to and serve as many people as possible, regardless of their age, gender or ability.

Inclusive design puts people at the center of the design process. It helps designers understand how to best meet human needs to achieve widespread ease of use.

## **RESULTS OF THE INVESTIGATION AND DISCUSSION**

An important area where inclusive design principles are applied is clothing. It should be comfortable for people with different needs, fit well and still be clothing, and not look like something like a disability uniform.

When solving the problem of designing clothing for people with disabilities, the most often resort to the principles of designing adaptive clothing. Adaptive clothing is clothing that is specially designed for people with disabilities and bedridden patients. [3] It is created taking into account the needs and capabilities of people with health limitations, primarily those with impaired functioning of the musculoskeletal system. More often these are orthopedic trousers, insulated leg covers, hudy, shirts, blouses, tunics with Velcro fasteners and even special non-slip socks - these are all examples of adaptive clothing for people with disabilities.

Adaptive clothing is always easy and simple to put on by the person with a disability or the person caring for him – minimum effort and time. However, there are two very significant disadvantages to adaptive clothing. The first minus is its appearance. Unfortunately, most models of adaptive clothing for people with disabilities do not look attractive. Often they don't even try to disguise such clothes as ordinary ones, and they look very specific. The second disadvantage is the cost. Adaptive clothing costs more than regular clothing, and significantly.

An alternative approach could be inclusive clothing – clothing that a healthy person can easily wear. But its design also takes into account the characteristics of people with disabilities, for example, a person in a wheelchair. Thus, clothing will satisfy one of the basic principles of “non-discrimination on the basis of disability.”

Therefore, applying the principles of “inclusive decision-making” which means an approach in which inclusive policy-making and decision-making actively involve those who are directly affected by it.

Inclusive decision making is a philosophical and practical approach to mutually recognizing problems and taking action to solve them. It helps to ensure that those affected by them and those responsible for their implementation are actively involved in the decision-making process.

In this case, the development of inclusive clothing requires multilateral cooperation between consumers of such clothing, caring staff and doctors. Identification of the requirements and features of the use of clothing is carried out using the method of sociological survey.

The study was conducted at the rehabilitation department of the Republican Institute of Neurology and Neurosurgery. In this department, patients with varying degrees of limited movement, most often acquired as a result of diseases of the



central nervous system, strokes, injuries of various types, etc., are hospitalized or undergoing planned rehabilitation.

Three groups of respondents took part in the questionnaire and social survey: participants, medical staff and caregivers. The results obtained make it possible to clarify the currently established set of requirements for the type and materials for its manufacture, taking into account the specifics of the functional and psychological state of patients in the rehabilitation department.

It has been established that wheelchair users must be accommodated in advance, which will not cause them inconvenience and discomfort. Since the majority of disabled people are not able to move, eat, or dress independently, they need the help of caregivers. Clothing should be comfortable for caring for staff, easy to put on and undress, as well as for various different procedures. The design should provide various fasteners that are necessary for quick access to the body. Pockets that will be not only a decorative element, but also functional, while the position of the pockets is slightly shifted to the bottom so that they are comfortable in a sitting position. Also, use a variety of hooks that are placed for safety purposes and provisions for securing various items. At the same time, the appearance of the product should not differ from ordinary everyday clothing [4].

The hygienic properties of clothing are important. Materials must be natural or mixed with the addition of synthetic fibers; products must not wrinkle or electrify; they must be elastic, resistant to washing and various frictions. And also keep warm in the cold season, absorb moisture, and be vapor permeable.

### **CONCLUSIONS**

Based on the research results, a set of products was manufactured in accordance with the requirements for everyday clothing for people with disabilities. When developing products, the most significant functional elements, silhouette, color, as well as types of clothing were taken into account. It can be assumed that this set, consisting of special trousers, a shirt and a cape, will satisfy the needs of people with limited mobility, and therefore will contribute to the formation of a positive psychological state and comfort.

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