

A descriptive study of medical textiles, their safe utilisation of medical staff, and enhancing their therapeutic capacity

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Abstract:

Traditional textiles used in the medical field are still unable to meet the needs of society, so technological development has allowed the use of functional textiles that provide new levels of interaction with biological tissues. Hence, medical products made of textiles began to spread, and it is a safe way to prevent, treat and heal patients.

The efforts of industrialists, doctors and specialised scientists to develop modern technology that help improve the biocompatibility that allows organ transplantation as a new trend with the help of histology.

It turns out that the most important characteristic of medical textiles is their ability to provide high resistance. As medical textiles are characterised by durability and flexibility, and the most important properties related to medical products are the properties that protect individuals, be safe from the risks of transmission of infection, and be harmless to the environment.

The physical properties of medical tissue, which are strength, torsion, air permeability and moisture, are great importance in the medical field. Medical textiles have played a vital role in the medical and health care sector. These textiles include traditional products such as dressings covering wounds and types of traditional sutures to help speed healing and cure. Then medical textiles developed and included modern technologies that contributed to many medical aspects of treatment, using tissues of manufactured materials and raw materials that are widely used, which is a strong synthetic fibre used to promote cell growth and the work of stents.

key words:

medical textiles- protection- processing fabrics- safe from dangers

Introduction:

Medical textiles is the product of a combination of spinning and weaving technology and medical sciences, and it is a natural development of the development of new fibers and modern technologies for manufacturing yarns and fabrics. It has been proven that textiles made of natural fibers are more susceptible to the growth and attack of microbes, fungi and viruses, which ultimately leads to distortion of the formative properties of the cloth and the accompanying negative impact on human health. The medical textile sector in Egypt is still a small sector compared to other public sectors in the spinning industry. and Egyptian weaving. While in some developed countries, we find that medical textiles are one of the large sectors in the field of modern technical textiles and the demand for them is constantly increasing, and the majority of medical textiles are imported, and medical textiles include many products that contribute significantly to meeting the needs of the medical sector. Medical textiles have also become widely used in medical care, and the importance of medical textiles is due to their

physical properties of strength, durability, flexibility and air permeability. Competitive centers in the field of medical textiles have been established with the aim of providing sufficient knowledge and experience in the medical, microbiological and textile fields. The greater the development in that industry, the greater the demand for advanced specialized products. The increasing importance has come to pay attention to this field and its development to ensure the use of safe, environmentally friendly materials and raw materials, not only to take care of the health of medical staff and technicians involved in medical specialization, but also to manufacturers, producers and consumers of medical products due to the damages and risks they are affected by. These days, the health care environment includes many products and applications that depend in their manufacture on the textile component that is safe from any harm.

Research problem:

- Increasing risks and damages facing medical staff, especially with the spread of new epidemics.
- The increase in Egypt's consumption of medical textiles, and this indicates the weakness of investment in this field. Hence, the problem of research appears in monitoring the slow development of the medical textile industry in Egypt to limit its import.

research aims:

- Developing the safe medical textile industry, taking into account the selection of appropriate materials that depend on the textile component.
- Knowledge of modern textile technologies related to medical textiles and benefiting from them in the development of these textiles.

Achieving self-sufficiency in medical textiles to reach the ranks of developed countries in this field.

research importance:

Providing safe clothing for medical staff using modern textile technologies.

- Developing medical textiles and manufacturing them with fabrics to treat patients and to protect the medical staff.

Keeping pace with the advanced and developing world of therapeutic medical textiles.

search limits:

- Medical category that uses woven fabrics for safe protection and treatment.

Research Methodology:

The research follows: the descriptive analytical method.

Research hypotheses:

- There are differences proven by scientific studies and research in the effect of bacterial permeability in medical textiles manufactured with treated raw materials on their medical users.

Results:

Make sure that the frequent use of medical gowns and masks leads to the transmission and spread of bacteria.

- All research studies confirmed that the textile fibers used in the medical field must be safe, non-toxic and non-allergic or carcinogenic.
- Non-woven medical fabrics are better than woven fabrics in terms of ease of disposal and that they are not harmful to the environment.
- Research confirmed the ability of textile fibers used in the medical field to be sterilized without changing their physical and chemical properties.
- Scientific studies confirmed that medical non-woven fabrics are more resistant to bacteria.

Recommendations:

- Increasing studies and tests on medical textiles to ensure that they are not permeable to bacteria and that they are equipped to protect the medical category.
- Ensure that the medical clothing is disposed of in a safe manner that guarantees the preservation of the environment.
- considerate

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