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The effect of silver treated fabrics in achieving some clothing comfort characteristics for diabetic female patients

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Abstract:
Diabetes is considered one of the most prevalent diseases and represents a huge threat to the health of many categories of people and negatively affects body's organs causing many changes and problems, for instance, skin problems, notably bacterial skin infections.

There is a strong relationship between clothes and the health of people. As clothes come into direct contact with the skin and can be a fertile environment for the growth of all microbes types. With the aim to ensure a healthy and safe environment for the skin of the diabetic patient, this necessitates the appropriate choice of clothing and textile fabrics materials in order to be able to deal with the biological changes that inflect the skin as a result of any change occurring as a result of the surrounding environment. In accordance with the tremendous scientific development in the field of preparing fabrics and textile materials and improving their functional properties with the aim to resist the growth of microorganisms represented in bacteria and prevent their growth and reproduction that harms human the health and the environment, it has been necessary to pay attention to the production of anti-bacterial clothing which is silver-enriched.

This research aimed at studying the effect of commercially prepared silver-treated fabrics on achieving clothing comfort and bacterial resistance.

The research used the experimental approach in conducting the laboratory tests on some commercially prepared silver-treated fabrics represented in (physical and mechanical tests and bacterial testing of two types of bacteria (Escherichia Coli, Staphylococcus Aureus).

The results of the research showed that there are differences of statistical significance between silver-treated fabrics and the bacterial resistance. They also showed that the cotton cloth mixed with 5% nylon is the best treated-fabrics in terms of their resistance to bacteria and air permeability and thus it can be used to improve the clothing comfort of diabetic patients and to reduce the effects of skin diseases as well.

The study recommends the necessity of conducting more researches on fabrics treated with modern technologies such as gold and zinc to ensure their effectiveness against bacteria and to benefit from them in improving patients’ clothing comfort in particular.

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