

"The efficacy of the suitability and compatibility between the anatomical nature of the wearing positions of the woman's body and the glass jewellery".

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Abstract

The study of the anatomical nature of women's body wear, in terms of mobility and physical endurance, is the most important criteria for the achievement of ergonomics in the design of glass jewellery, as this contributes to the achievement of the best functional performance.

This research is related to the study of compatibility and suitability between the anatomical nature of the woman's body in terms of movement and physical ability, and the glass jewellery design, the development of considerations to overcome the restrictions of movement in the place of wear, and the Overweight of the glass jewellery, in order to avoid the damage, and to achieve comfort and safety during use.

The problem of research is the lack of information needed to study the effectiveness of suitability and compatibility between the anatomical nature of women's wear and glass jewellery in terms of movement and physical ability.

Therefore, the aim of the research was to identify the most important considerations of compatibility and suitability between the anatomical nature of the positions of wearing with the woman's body and the glass jewellery design, in terms of movement and physical ability.

Thus, the hypothesis of research is that the identification of the most appropriate compatibility and suitability between the anatomical nature of women's wear and glass jewellery, in terms of movement and physical ability, contributes to their best functional performance.

The research presented several main axes, tried to achieve the goal of research, including a descriptive historical study of the compatibility and suitability between the anatomical nature of women's body and glass jewelry in terms of: movement and physical ability to endure.

The second axis is a descriptive study of the movement and physical ability as an anatomical nature of the wearing positions of the woman's body.

The third axis also identified the most important considerations for compatibility and suitability between movement and physical ability as an anatomical nature of wearing positions and glass jewellery, to achieve comfort and safety when used.

the most important results of the research is the study of the design of glass jewellery according to the anatomical movement of positions to wear with the woman's body, as well as the situation to overcome the restrictions on the movement of wearing, and increase the weight of glass jewellery, through the role of design and technology, to achieve the Ergonomics standards and safety When used.

The first axis:

a descriptive historical study of the compatibility and suitability between the anatomical nature of women's body and glass jewellery, in terms of movement and physical ability to endure.

The era of ancient Egypt is characterized by the period in which the basic principles of jewelry formation have evolved, as they were produced according to the anatomical nature, so as to correspond with the body of the woman, and set standards, so as not to disrupt the movement of the position or function.

The ancient Egyptian period has seen varied and evolving in the earrings shapes, especially the methods of hanging them in the ear, after using the hook earrings, round earrings appeared, known as "buttons", the center of her back with a thin leg inserted into the hole of the earlobe.

The old Egyptian has taken care of the weakness of the ear lobe, and its endurance,

I produce lightweight earrings, after the use of large-sized earrings, and heavy weight, during the era of the modern state, which led to the deformation of the earlobe.



Fig. (1) Heavyweight Earrings - Eighteenth Dynasty (1550-1295) BC.

The second axis:

A descriptive study of the anatomical nature of women's wearing positions in terms of movement and physical ability to endure.

The anatomical foundations of wear and the nature of the work of bones and joints should be studied in order to achieve compatibility and compatibility between the objects of glass jewelry and the places of wear, in order to achieve the best functional performance according to human needs.

First: Movement:

Movement is a human need, while restriction represents a disabling of a function of the body. Movement varies in places of wear, between bending and spacing, spacing, rounding, rotation, and oceanic movement.

Eye movement, movement of the neck, movement of the shoulder joint, movement of the elbow joint, movement of Carpel joint, movement of the fingers of the hand, movement of the joint eyelid, the movement of Knee joint, the movement of ankle joint.



Fig. (2) Jewellery restrict the movement of the fingers



Fig. (3) jewellery restrict Carpel joint movement

Second: Physical ability to endure:

Requires comfort and safety in use, as one of the considerations of achieving ergonomics, Consider the impact of the weight of the piece of glass on the physical ability to endure of the wear position, as the increase in weight leads to loss of elements of comfort and safety when used.

Physical strength of the earlobe: The earlobe, the lower part of the outer ear, is a hanging earring, and consists of fibrous and greasy tissue does not contain cartilage, so the increase in the weight of the earrings from the limit allowed to cut and cut, the weight must be determined according to the ability of earrings The heavy earrings worn over long periods of time lead to the expansion of the earlobe and sometimes rupture, as well as the change of the shape of the ear hole from the ring shape to the rectangular shape.



Fig. (4) The shape of the earlobes is cut with heavy, thick earrings

Axis III: considerations of compatibility and suitability between the anatomical nature of the positions of wearing with the woman's body and the glass jewellery design, in terms of movement and physical ability.

1- Considerations to overcome the restriction of joint movement between wear positions.

The design has an effective role in overcoming the barriers to achieving ergonomics in glass jewellery, such as restricting the movement of joints between wear positions, requiring movement in the wear position, movement and flexibility in the glass jewellery.

- Design solutions to overcome the restriction of joint movement between the fingers:

1 - Overcome the restriction of the movement of the abduction and adduction between the fingers.

Develop design ideas that achieve flexibility and movement when combining two positions to overcome the restriction of the abduction and adduction between the fingers, to achieve compatibility with the wear position, and to provide comfort and safety when used.

Including the use of space in the design of the glass ring to combine the two fingers without restricting the movements of the abduction and adduction between them.

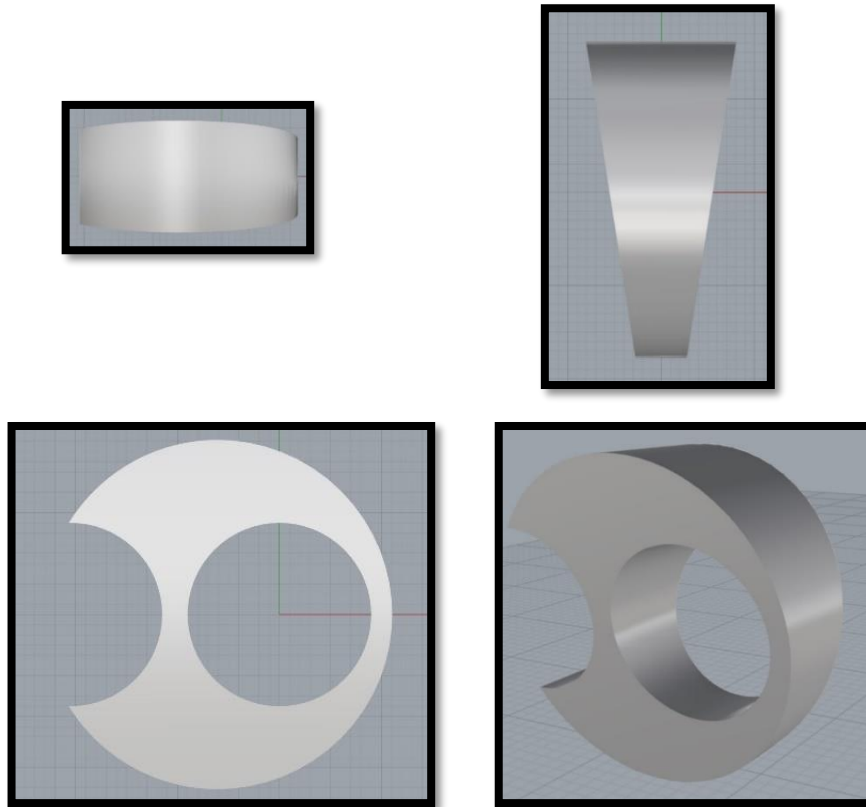


Fig. (5) The use of space in the design of the glass ring to overcome the restriction of the movements of the abduction and adduction of the joint between the fingers

2 - Overcome the restriction of the movement of bending and stretching between the fingers: Develop design ideas that achieve flexibility when combining two positions of the fingers to overcome the restriction of flexion and extension movements to achieve suitability, comfort and safety when used.

The movement can be employed in the glass ring construction body to achieve flexibility to overcome flexion and extension restriction when combining two phalanges together, by using patterns of glass lobes or structural structures between the parts of the ring, providing hinges to allow movement between the positions of each phalanges.

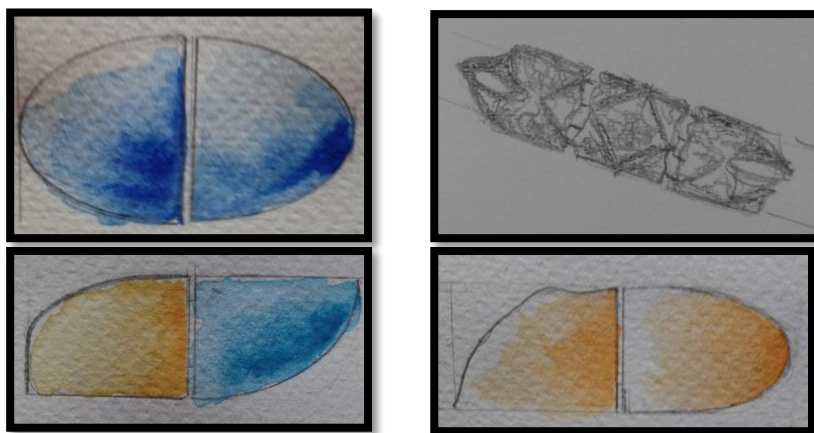


Fig. (6) Movement in the structure of the ring and provided with hinges to overcome the restriction movement of the joint

1 - Overcoming the restriction of the movement of palmar flexion and dorsiflexion of the hand:

In the design of the hand metacarpal jewellery, which combines the position of the wrist and the fingers of the hand, it should be flexible enough to form, so as not to restrict the movement of the palmar flexion and dorsiflexion of the hand, to achieve comfort and safety in use, such as: jewellery that combines bracelets and hand rings.

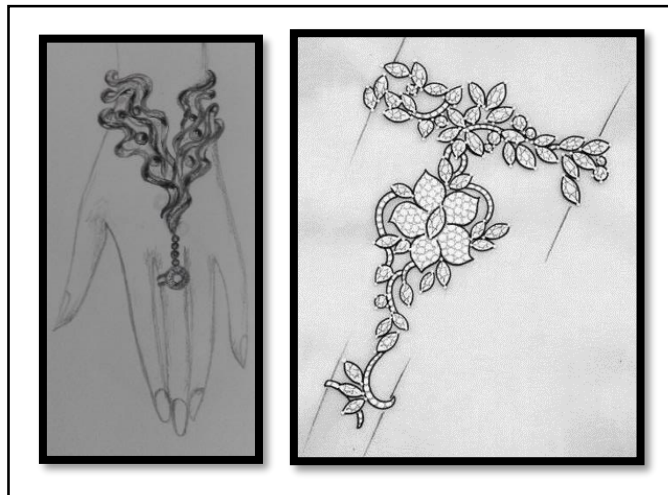


Fig. (7) Jewellery has the flexibility to connect bracelets and finger rings

Second: Consider overcoming weight in glass jewellery:

The standers of comfort and safety in use is one of the most important objectives of achieving the ergonomics in glass jewellery. The excessive weight in glass jewellery is considered to be the physical ability of the wear and it is an obstacle to use. The design has a role in developing solutions to overcome these obstacles,

First: Design hollow glass jewelry Hollow glass jewellery:

Hollow shapes can be used to produce lightweight pieces of glass jewellery for comfort and safety when used.

Design of a glass pendant with an assembly structure of hollow parts, which is produced by reforming a glass tubs on the Lamp working by Blowing.



Fig. (8) Jewellery hollow glass

Second: Design of glass jewellery using hollow shapes:

The use of hollow shapes in glass jewellery is a design solution to overcome excess weight, to form products that provide comfort and safety when used.

The design of a glass pendent with a structural structure in hollow shapes to overcome the excess weight for safety and comfort in use, is produced by reforming a glass in Kiln Glass by glass fusing.

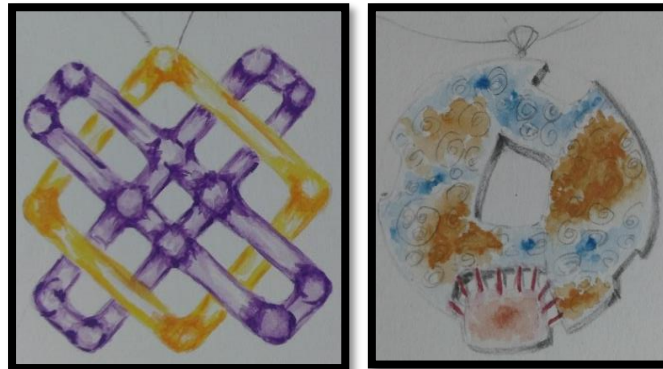


Fig. (9) Hollow shapes in glass jewellery

- The effect of dimensions and measurements on the weight of glass pieces:

The relationship of weight to size (dimensions and measurements of the piece) and size change should be studied when the weight is stable, to suitability with body measurements.

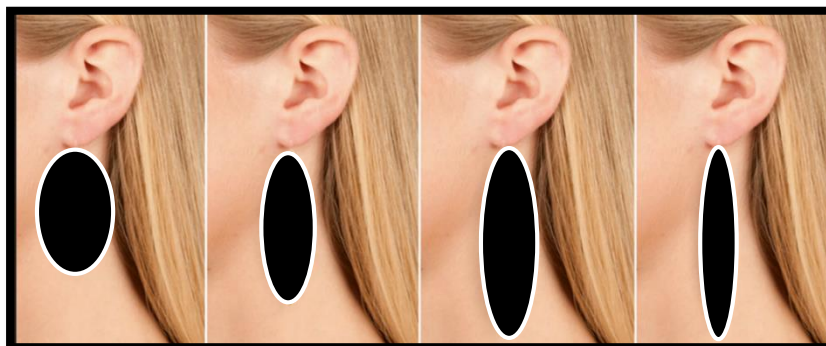


Fig. (10) A glass earring with different dimensions to overcome weight and bring comfort when used.

Results:

Through this study it was possible to reach:

1. The need to design glass jewellery in accordance with the anatomical nature of women's wearing positions, and to overcome the restriction of movement in the places of wear and weight, in addition to activating the role of design and technology, to achieve the standards of Ergonomics such as comfort and safety when used.
2. Restricting the movement of the wear positions and increasing the weight of the piece of glass jewellery from the physical capacity of the position is considered to be an obstruction that affects the safety and comfort of use.
3. Technical detection and its impact on overcoming excess weight in glass jewellery.
4. Designs with hollow and hollow shapes contribute to weight reduction in glass jewellery.

Recommendations:

1. Supporting research trends in the achievement of ergonomics in the design and production of glass jewellery.
2. The measurements and anatomical nature of women's bodies should be used in the design of glass jewellery for different age groups.
3. The role of design and technology in achieving the ergonomics standards in the design of glass jewellery should be further studied in terms of comfort, safety and ease of use.

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