INTEGRATING MUSCULOSKELETAL DISORDER ASSESSMENT ON BACK AND NECK ON THE DEVELOPMENT OF THE ERGONOMICALLY DESIGNED CHAIR AND BACK REST FOR THE ELDERLY

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ABSTRACT

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The study was conducted at the province of Cavite on August 2017 to April 2018. Generally the study covered the evaluation on how to design and develop an ergonomic chair and back rest for the elderly. Specifically, the study aimed to: 1. determine the anthropometric measurements of the respondents; 2. determine the musculoskeletal disorders experienced by the respondents; 3. design and develop an ergonomic chair for the elderly; and 4. evaluate the developed ergonomically designed chair for the elderly in terms of user satisfaction levels. Descriptive research was utilized and the survey questionnaire technique was used for data gathering. The initial survey was consisted of 45 respondents and a total of 150 elderly assessed the ergonomically designed chair. The researchers used Define, Measure, Analyze, Design, and Verify (DMADV) as a process to be able to design and develop an ergonomic chair for the elderly.

The problems encountered on the present chair were: inappropriate materials, lack of neck supports, lack of elbow supports, poor design, cause MSD's, uncomfortable, lack of features, poor cushioning. After identifying the problems, the researchers came up with the customer requirements and transformed it into technical requirements to satisfy the users' needs. The researchers gathered anthropometric measurements of the body points and identify the discomforts experienced by the elderly.

The proposed ergonomically designed chair could help to prevent the MSD's that the elderly experienced. The ergonomic chair features consists of back support, head support, and comfortable cushioning foam. The researchers also added the "One-Click Messenger" for the innovation of the ergonomically designed chair for elderly.

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