

ABSTRACT

This study focuses on the development of a coconut milk extractor design using an ergonomic approach to reduce the risk of Musculoskeletal Disorders (MSDs) among operators. The main issues identified in the existing machine design include poor ergonomics, such as a control panel positioned too low, a coconut milk container placed on the floor, and injury risks due to sharp edges on the machine cover. Postural analysis was conducted using the Rapid Entire Body Assessment (REBA) method to identify ergonomic risk levels in the current machine design. Furthermore, the Quality Function Deployment (QFD) method was applied to translate user needs into measurable technical specifications. User anthropometric data were used to determine the optimal machine dimensions, including the height of the control panel and the positioning of electrical components, to ensure the design suits the physical characteristics of the majority of users. The development results show that the new coconut milk extractor design is more ergonomic, safer, and improves operator comfort and productivity.

Keywords: Coconut Milk Extractor, Ergonomics, Musculoskeletal Disorders (MSDs), Quality Function Deployment (QFD), REBA, Product Development, Anthropometry