

ABSTRACT

The Ciroyom Slaughterhouse is one of the large-scale beef slaughtering facilities under the supervision of the Food Security and Agriculture Office of Bandung City. As a beef slaughtering service provider, the Ciroyom Slaughterhouse is halal certified. However, The process of cutting beef bones and meat still uses conventional tools in the form of machetes. This poses potential risks of inefficiency and musculoskeletal disorders for operators. This study aims to design a bone and beef cutting tool that aligns with customer needs while applying ergonomic principles using the Quality Function Deployment (QFD) method. The application of this method in the study involves translating customer needs into technical product specifications. Data collection to support the success of the study included observations, interviews, and the distribution of questionnaires to operators at the Ciroyom Slaughterhouse. The design resulted in a bone and meat cutting tool with a mechanical cutting system based on the application of a slider crank mechanism, the use of battery power to make the tool portable, and an ergonomic design to minimize repetitive work activities. To validate the tool design, body posture was analyzed using the REBA method and physical complaints were assessed using the Nordic Body Map (NBM) method. The results showed a reduction in injury risk, with a moderate category in REBA and a low category in NBM. Thus, the design of the bone and meat cutting tool not only meets user needs but also minimizes the risk of musculoskeletal disorders among operators.

Keywords: Ciroyom Slaughterhouse, Bone and Meat Cutting Tool, Slider Crank Mechanism, Quality Function Deployment, Musculoskeletal Disorders, Ergonomics, REBA, NBM.