

ABSTRACT

The manual chicken meat cutting activity at the Sahabat Pangan Sejahtera Poultry Slaughterhouse (RPA) remains a routine yet challenging task for operators. In addition to working long hours and maintaining a high work pace, workers are exposed to risks of musculoskeletal disorders (MSDs) due to non-ergonomic working postures and the use of uncomfortable cutting tools. These issues not only affect occupational health and safety but also reduce overall productivity. This study aims to design a more ergonomic chicken meat cutting tool that provides both comfort and efficiency for its users. The research adopts the Ergonomic Function Deployment (EFD) approach, integrating the Voice of Customer with ergonomic principles encapsulated in the ENASE framework (Effective, Comfortable, Safe, Healthy, and Efficient). Preliminary analysis was conducted using the Nordic Body Map (NBM) and Rapid Entire Body Assessment (REBA) methods to evaluate ergonomic risk levels. The initial REBA score of 8, which falls into the moderate-risk category, was successfully reduced to a score of 3 after implementing the newly designed tool. A physical prototype was developed and tested directly by the operators. Test results showed a significant increase in productivity, from an average of 125 cuts per day to approximately 422 cuts per day, with an average cutting time of only 1.12 minutes per piece. These findings demonstrate that an ergonomics-based design approach can effectively reduce the risk of injury while enhancing operator comfort and motivation. The proposed design is expected to serve as a practical solution for other chicken meat processing industries facing similar challenges.

Keywords: *Ergonomic Aspects, Chicken Meat Cutting Tool, Ergonomic Function Deployment, Musculoskeletal Disorders, Rapid Entire Body Assessment, Designed Assistive Device*