

after training ($P=0.044$). For the control group, $10-45^\circ$ and $45-90^\circ$ posture before and after training showed no significant different ($P=0.169$ and $P>0.25$). Fatigue symptoms at lumbar area in the experimental group showed higher responses before training than after training ($P=0.037$). The back strength in both group after lifting was significant less than before lifting ($P<0.005$). Back strength which decreased from lifting before and after training showed no significant different ($P=0.059$). However, after training the back strength had decreased in the experimental group less than the control group ($P<0.005$).

It is recommended from this study that bending more than 45° should be avoided when lifting and back strength should be used to screen the new lifting workers. It is also suggested that research study should be conducted in tolerance limitation of the workers in order to reduce and prevent the disorder and injury in the musculoskeletal system.