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THE APPLICATION OF NIOSH LIFTING EQUATION TO PREVENT MUSCULOSKELETAL DISORDERS RISK: THE CASE STUDY IN THAILAND

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Statement of the Problem: The common musculoskeletal disorders (MSDs) including low back pain or injury. Researchers have reported that the majority of the low back problem comes from heavy, frequent, or awkward lifting. The NIOSH lifting equation has been designed to assist in the identification of ergonomic solution for reducing the MSDs associated with manual lifting. The purpose of this study is to find the effects of NISOH lifting equation for preventing low back pain.

Methodology & Theoretical Orientation: Measuring the variable data about the manual lifting conditions as follows: the NIOSH lifting equation both the origin and destination with include the weight of the object lifted, the distance from the wrist in a horizontal line, the distance from the wrist in the vertical line, moving distance of the hands, the angle of the shoulder from usual posture, the frequency of lifting per minute, and the way of holding the object. The lifting index (LI) was analyzed by dividing the Recommended Weight Limit (RWL) with the object weight. If the LI < 1.0, the present object weight or lifting procedures does not have any affect to workers' health. If LI > 2.0 but does not exceed 3.0, is shows that the present manual lifting task risk to cause the low back pain symptoms, and is LI > 3.0, it shows the worst case handle lifting. It causes low back injury.

Findings: The work station redesigns were conducted training for workers on bringing the load closer, raising the height of objects placed to reduce the vertical distance, and moving the origin and destination of lifting closer together to reduce the angle twist. The final result was found the lifting index was safer (LI < 1.0).

Conclusion & Significance: NIOSH lifting equation guidelines are easy and economize expenses to improve working conditions. However, it should conduct training properly and combine with the other ergonomic tools.

Biography

Parvena Meepradit works as lecturer at Burapha University. She has expertise in evaluating the potential health hazards and passion in improving the workplace. Her open and contextual evaluation model based on responsive constructivists creates easy and economical pathways for improving work condition. She has built this model after a year of experience in research, evaluation, and teaching both in the University and other workplaces.

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