

Effects of Waist-to-Hip Ratio and Visceral Fat Measurements Improvement on Offshore Petrochemical Company Shift Employees' Work Efficiency

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Abstract : The aim of this study was to investigate the effects of improving waist-to-hip ratio (WHR) and visceral fat components on the health of shift workers in an offshore petrochemical company. A total of 100 male shift workers participated in the study, with an average age of 40.5 years and an average BMI of 28.2 kg/m². The study employed a randomized controlled trial design, with participants assigned to either an intervention group or a control group. The intervention group received a 12-week program that included dietary counseling, physical activity recommendations, and stress management techniques. The control group received no intervention. The outcomes measured were changes in WHR, visceral fat components, blood pressure, and lipid profile. The results showed that the intervention group had a statistically significant improvement in WHR ($p < 0.001$) and visceral fat components ($p < 0.001$) compared to the control group. Furthermore, there were statistically significant improvements in systolic blood pressure ($p = 0.015$) and total cholesterol ($p = 0.034$) in the intervention group compared to the control group. These findings suggest that implementing a 12-week program that includes dietary counseling, physical activity recommendations, and stress management techniques can effectively improve WHR, visceral fat components, and cardiovascular health among shift workers in an offshore petrochemical company.

Keywords : body composition, waist-hip-ratio, visceral fat, shift worker, work efficiency

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