

# Pengaruh program intervensi terhadap cara kerja ergonomi dan keluhan low back pain pada pekerja mekanik di perusahaan alat berat = The effect of intervention programs on how to ergonomic work and low back pain complaints in mechanical workers in heavy equipment companies

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## Abstrak

Latar Belakang. Berdasarkan hasil penelitian di PT.X yang dilakukan pada tahun 2018 didapatkan sebanyak 160 (59%) pekerja mekanik pernah melaporkan keluhan nyeri punggung bawah (NPB). Posisi kerja janggal (jongkok, bungkuk) dan mengangkat beban berat secara manual merupakan faktor risiko NPB pada pekerja mekanik dimana 61% bekerja dengan posisi jongkok >1 jam/hari, 49% bekerja dengan posisi membungkuk >1 jam/hari, 39% mengangkat benda berat secara manual (manual handling) >20 kg dan 18 pekerja didiagnosis positif NPB oleh dokter spesialis okupasi yang merupakan kasus PAK. Berdasarkan data tersebut peneliti dibantu tim internal di PT.X melakukan program intervensi. Penelitian ini untuk mengetahui apakah ada penurunan keluhan NPB pada pekerja mekanik setelah dilakukan intervensi pada kelompok intervensi dan kelompok kontrol. Metode Penelitian. Desain penelitian ini adalah quasi experimental, program intervensi dilakukan selama 1 tahun untuk mengetahui perubahan cara kerja dan perbandingan perubahan keluhan NPB pada pekerja mekanik yaitu antara lokasi kerja yang mendapatkan program intervensi perubahan perilaku berupa edukasi dengan pemasangan poster pengetahuan mengenai NPB pada kelompok kontrol dengan lokasi kerja yang mendapatkan program intervensi perubahan perilaku tambahan pelatihan ergonomik berupa peregangan otot dan senam secara teratur pada kelompok intervensi dengan masing-masing sebanyak 35 sampel. Hasil. Didapatkan perbedaan bermakna pada keluhan NPB kronis antara kelompok intervensi dan kontrol dengan nilai  $p < 0.003$ . Didapatkan perbedaan bermakna pada kategori lama kerja dengan posisi jongkok dengan nilai  $p < 0.001$ , posisi bungkuk dengan nilai  $p < 0.0012$ . Didapatkan hubungan tidak bermakna faktor risiko individu yaitu usia, masa kerja, status merokok dan hubungan bermakna faktor risiko pekerjaan yaitu lama kerja posisi jongkok dengan keluhan NPB dengan nilai  $p < 0.041$ . Kesimpulan. Program intervensi dapat menurunkan keluhan NPB secara bermakna sebesar 43%. Didapatkan perubahan cara kerja dimana terjadi penurunan bermakna pada lama kerja >1 jam pada posisi jongkok sebesar 3.6 kali dan posisi bungkuk sebesar 1.4 kali. Faktor risiko perancu (usia, masa kerja, status merokok) tidak terbukti dapat meningkatkan keluhan NPB, faktor risiko pekerjaan (lama kerja posisi jongkok) terbukti dapat meningkatkan keluhan NPB sebesar 32%.

.....Background. Based on research results at PT.X conducted in 2018, there were 160 (59%) mechanical workers who reported low back pain (LBP) complaints. Odd working positions (squatting, bending) and lifting heavy loads manually are LBP risk factors in mechanical workers where 61% work in squatting positions > 1 hour/day and 49% work in bending positions > 1 hour/day, 39% lift heavy objects manually (manual handling) > 20 kg and 18 mechanical worker are diagnosed positively LBP by occupational medicine specialist which is a case of PAK. Based on these data the researcher was assisted by an internal team at PT.X conducting an intervention program. This research is to find out whether there is a decrease in

LBP complaints in mechanical workers after intervention in the intervention and control groups. Research methods. The design of this study is quasi experimental, the intervention program is carried out for 1 year to find out the comparison of changes in LBP complaints to mechanical workers between work locations that get the intervention program in the form of education by installing poster LBP awareness in the controls group with work sites that get additional behavioral change intervention programs in the form of ergonomics training, muscle stretching and regular exercise at work in the intervention group with 35 samples each. Results. Significant differences were found in chronic LBP complaints for the intervention and control groups with a p value of 0.003. Significant differences were obtained in the long work category with squat posture with p value 0,000, hunched posture with p value 0.0012. There was no significant relationship between confounding risk factors including age, years of service, smoking status and a meaningful relationship between occupational risk factors for the length of time the squat position worked with LBP complaints with p value of 0.041. Conclusion. The intervention program can significantly reduce LBP complaints by 43%. There is change on ways of working where found significant decrease in the length of work > 1 hour in the squatting position by 3.6 times and the bending position by 1.4 times. Confounding risk factors (age, years of service, smoking status) were not proven to increase LBP complaints, occupational risk factors (length of work in squatting positions) were proven to increase LBP complaints by 32%.