

PERANCANGAN ALAT BANTU *ADJUSTABLE* *ERGONOMIC MOTORCYCLE BACKREST* UNTUK MENGURANGI KELUHAN MUSKULOSKELETAL PADA PENGEMUDI OJEK *ONLINE*

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ABSTRAK

Pengemudi ojek online berisiko mengalami keluhan muskuloskeletal akibat durasi kerja yang panjang, posisi duduk statis, serta postur berkendara yang kurang ergonomis. Penelitian ini bertujuan merancang Adjustable Ergonomic Motorcycle Backrest sebagai alat bantu ergonomis untuk mengurangi keluhan muskuloskeletal pada pengemudi ojek online. Metode yang digunakan adalah ergonomi partisipatori melalui observasi, wawancara, Focus Group Discussion (FGD), Nordic Musculoskeletal Questionnaire (NMQ), Nordic Body Map (NBM), Rapid Upper Limb Assessment (RULA), serta data antropometri sebagai dasar perancangan. Hasil NMQ menunjukkan keluhan dominan terdapat pada punggung bawah sebesar 93,18%, pinggul sebesar 88,64%, dan pergelangan tangan sebesar 75,00%. Hasil NBM menunjukkan rata-rata skor keluhan meningkat berdasarkan durasi kerja, yaitu 31,59 pada kelompok 7–8 jam, 36,47 pada kelompok 9 jam, dan 47,38 pada kelompok 10–12 jam. Perancangan alat dilakukan dengan mempertimbangkan kebutuhan pengguna, dimensi antropometri, serta area tubuh yang mengalami keluhan dominan. Evaluasi RULA menunjukkan skor sebelum perbaikan sebesar 5 dan menurun menjadi 2 setelah penggunaan alat bantu. Dengan demikian, rancangan Adjustable Ergonomic Motorcycle Backrest mampu memperbaiki postur duduk, memberikan dukungan pada area punggung dan pinggang, serta berpotensi mengurangi risiko keluhan muskuloskeletal pada pengemudi ojek online.

Kata Kunci: *antropometri, ergonomi partisipatori, NBM, NMQ, RULA*

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ABSTRACT

Online motorcycle taxi drivers are at risk of musculoskeletal complaints due to long working hours, static sitting positions, and non-ergonomic riding postures. This study aims to design an Adjustable Ergonomic Motorcycle Backrest as an ergonomic support device to reduce musculoskeletal complaints among online motorcycle taxi drivers. The method used was participatory ergonomics through observation, interviews, Focus Group Discussion (FGD), Nordic Musculoskeletal Questionnaire (NMQ), Nordic Body Map (NBM), Rapid Upper Limb Assessment (RULA), and anthropometric data as the basis for design. The NMQ results showed dominant complaints in the lower back at 93.18%, hips at 88.64%, and wrists at 75.00%. The NBM results indicated that the average complaint score increased based on working duration, namely 31.59 in the 7–8 hour group, 36.47 in the 9 hour group, and 47.38 in the 10–12 hour group. The design was developed by considering user needs, anthropometric dimensions, and body areas with dominant complaints. The RULA evaluation showed a score of 5 before improvement and decreased to 2 after using the support device. Therefore, the proposed Adjustable Ergonomic Motorcycle Backrest can improve sitting posture, support the back and waist areas, and potentially reduce the risk of musculoskeletal complaints among online motorcycle taxi drivers.

Keywords: *anthropometry, participatory ergonomics, NBM, NMQ, RULA*