

RANCANG BANGUN KURSI GRAVIDA UNTUK IBU DALAM FASE KEHAMILAN

Idham Meilana Gustianto

ABSTRAK

Kehamilan menyebabkan perubahan fisiologis dan postural yang sering menimbulkan ketidaknyamanan, termasuk kesulitan untuk berdiri dari posisi duduk, terutama pada *trimester* akhir. Penelitian ini merancang dan membangun *prototipe* kursi *gravida* yang ergonomis berdasarkan antropometri ibu hamil di Indonesia, dengan rangka kayu mahoni dan sistem penggerak *linear aktuator*. Proses penelitian meliputi identifikasi kebutuhan menggunakan *House of Quality*, perancangan *CAD*, pemilihan desain terbaik, proses manufaktur, serta pengujian kekuatan struktur dan aktuator. Hasil menunjukkan bahwa desain ABK 1 merupakan varian terbaik dan kursi yang dihasilkan mampu menahan beban hingga $667N$ dengan faktor keamanan 4,99. Kursi ini terbukti membantu mengurangi risiko ketidaknyamanan postural dan mempermudah ibu hamil ketika berpindah dari posisi duduk ke berdiri.

Kata Kunci: kursi gravida, ibu hamil, ergonomi, antropometri, linear aktuator, rancang bangun.

DESIGN AND CONSTRUCTION OF A GRAVID CHAIR FOR MOTHERS IN PREGNANCY

Idham Meilana Gustianto

ABSTRACT

Pregnancy causes physiological and postural changes that often cause discomfort, including difficulty standing from a sitting position, especially in the final trimester. This study designed and built an ergonomic pregnancy chair prototype based on the anthropometry of pregnant women in Indonesia, with a mahogany wood frame and a linear actuator drive system. The research process included needs identification using the House of Quality, CAD design, selection of the best design, manufacturing process, and structural and actuator strength testing. The results showed that the ABK 1 design was the best variant, and the resulting chair could withstand loads of up to 667 N with a safety factor of 4.99. This chair has been proven to help reduce the risk of postural discomfort and make it easier for pregnant women to move from a sitting to a standing position.

Keywords: *pregnancy chair, pregnant women, ergonomics, anthropometry, linear actuator, design.*