IJARSCT



International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 2, Issue 4, May 2022

Development of Automatic Level Track and Height Adjustable Stretcher for Hospital Application: A Prototype Approach

Mahesh B. More¹, Shivam S. Patil², Shaikh S. Abdul Hanif³, Digambar V. Jadhav⁴, Dr. Krupal Pawar⁵
Students, Final Year, Department of Mechanical Engineering^{1,2,3,4}
Project Guide & Professor, Department of Mechanical Engineering⁵
Rajiv Gandhi College of Engineering, Ahmednagar, Maharashtra, India

Abstract: This paper is related to development of automatic level track and height adjustable stretcher for hospital application by prototype approach. In India mobility aids are useful for patients for transportation and a replacement for walking especially in indoor and outdoor environment. Stretchers are the most commonly used medical equipment for the transportation of patients. Transferring the patients from stretcher or to the medical bed is always an issue for the attendant or nurse during climbing inclined surface. Understanding the various issues regarding the mobility equipment and introducing a better design will be an asset for the medical field and a helping hand for disabled individuals moving on inclined surface. There is a need for a level adjusting stretcher to facilitate the disabled patient's mobility and to provide novel medical equipment for use in the Indian hospitals. Adopting various kinds of research methods helped to obtain more information about hospital mobility aids and for data collection. It has been observed that every year the numbers of disabled individuals are increasing by different kinds of accidents. The presently old stretcher designed is not meeting the user's need. From the identified need, new features like level adjustable stretcher which can be introduced.

Keywords: Adjustable Stretcher, Hospital Application, Prototype Approach, Medical Equipment

REFERENCES

- [1]. Sang, L., Yamamura, M., Dong, F., Gan, Z., Fu, J., Wang, H., & Tian, Y. (2019). Analysis, design, and experimental research of a novel wheelchair-stretcher assistive robot. Applied Sciences, 10(1), 264.
- [2]. Deshmukh, P. V. M. (2019). Designing of the Smart Patient Transportation System. i-Manager's Journal on Embedded Systems, 8(1), 24.
- [3]. Park, K. H., Bien, Z., Lee, J. J., Kim, B. K., Lim, J. T., Kim, J. O., ... & Lee, W. J. (2007). Robotic smart house to assist people with movement disabilities. Autonomous Robots, 22(2), 183-198.
- [4]. Campos, A., Cortés, E., Martins, D., Ferre, M., & Contreras, A. (2021). Development of a flexible rehabilitation system for bedridden patients. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 43(7), 1-19.
- [5]. Elsokah, M. M., & Zerek, A. R. (2019, March). Next generation of medical care bed with internet of things solutions. In 2019 19th international conference on sciences and techniques of automatic control and computer engineering (STA) (pp. 84-89). IEEE.

DOI: 10.48175/IJARSCT-3881