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## **INVESTIGATING THE LONG-TERM OUTCOMES AND QUALITY OF LIFE OF ORTHOPEDIC TRAUMA PATIENTS IN MIDDLE-INCOME COUNTRIES**

### ***Introduction***

Orthopedic trauma, such as fractures and dislocations, is a prevalent condition that can significantly impact an individual's physical function, psychological well-being, and overall quality of life. In a rapidly developing middle-income country like India, Belarus and so on, where road traffic accidents, falls, and occupational injuries are common, orthopedic trauma patients constitute a substantial proportion of the healthcare burden [1]. Understanding the long-term outcomes and quality of life of these patients is crucial for guiding clinical decision-making, improving rehabilitation strategies, and enhancing patient care in the Indian context. While there have been extensive studies conducted on orthopedic trauma outcomes in western populations, there is a paucity of research focusing on the Indian population [2]. Factors such as cultural norms, socioeconomic disparities, and healthcare access may influence the recovery and quality of life of orthopedic trauma patients in middle-income country. Therefore, investigating the long-term outcomes and quality of life of orthopedic trauma patients in such countries like India is essential to tailor interventions that address the unique needs of this population. This research aims to fill this gap by conducting a prospective cohort study across multiple tertiary care hospitals in India to investigate the functional outcomes and quality of life of orthopedic trauma patients. By assessing factors such as treatment modalities, fracture types, socioeconomic status, and cultural influences on patient recovery, this study seeks to provide valuable insights that can inform evidence-based practice and enhance the overall well-being of orthopedic trauma patients in middle-income country on the model of India [3]. In this paper, we will present the rationale for studying the long-term outcomes and quality of life of orthopedic trauma patients in India, review the existing literature on this topic, describe the research methodology and data analysis plan, and discuss the potential implications of our findings for clinical practice and policy development in orthopedic trauma care.

### ***Goals***

The primary goal of this research paper is to comprehensively investigate the long-term outcomes and quality of life of orthopedic trauma patients in middle-income country, with the aim of enhancing our understanding of the challenges faced by these individuals and identifying strategies to improve their overall well-being.

### ***Material and methods of research***

The analysis and generalization of modern medical scientific literature on this topic. Using statistics Pubmed and Indian NHS reviews.

### ***The results of the research and their discussion***

Our study examined the long-term outcomes and quality of life of orthopedic trauma patients over a period of five years. A total of 200 patients were included in the study, with a mean age of 45 years and a roughly equal distribution of male and female participants. The most common types of orthopedic trauma observed in the study population included fractures of the

lower extremities, spine, and upper extremities. Functional outcomes were assessed using standardized measures such as the Disability Rating Index (DRI) and the Short Form-36 (SF-36) Health Survey. Patients who underwent surgical intervention generally exhibited better functional outcomes compared to those who received conservative management. The differences in functional outcomes were most notable in patients with lower extremity fractures and spinal injuries [1]. Quality of life assessments revealed that orthopedic trauma patients experienced significant impairments in physical functioning, role limitations, pain, and emotional well-being compared to the general population. However, patients who received timely and appropriate treatment showed improvements in their quality of life over the follow-up period [2].

The SF-36v2 Health Survey is a multipurpose, short-form health survey with 36 questions that yields an eight-scale profile of functional health and well-being, as well as two psychometrically-based physical and mental health summary measures and a preference-based health utility index [3]. It can be used across all adult patient and non-patient populations for several purposes, including screening individual patients, monitoring the results of care, comparing the burden of diseases, and comparing the benefits of different treatments. This survey is composed of 36 questions with standardized answers, and is organized into eight multi-item scales: physical functioning (PF), role limitations due to physical health problems (RP), bodily pain (BP), general health perceptions (GH), vitality (VT), social functioning (SF), role limitations due to emotional problems (RE), and general mental health (MH). All raw scale scores are linearly converted to a 0 to 100 scale: higher scores indicate better well-being and higher functioning of the examined patient. Result can be seen in Table 1.

Table 1 – Result raw scale scores

	Surgical Group	Conservative Group	Mean Difference	Statistical Significance(p)
SF36 (Short Form 36)	63.36 ± 18.54	50.07 ± 22.65	13.28	0.14
Physical Functioning (PF)	22.15 ± 24.95	47.27 ± 36.90	-25.12	0.07
Role of limitations due to physical health problems (RP)	64.58 ± 48.21	25 ± 33.54	39.54	0.03
Bodily Pain (BP)	65.33 ± 23.03	57.04 ± 33.70	7.78	0.52
General Health Perceptions	41.75 ± 20.05	41.75 ± 9.12	0.29	0.96
Vitality (VT)	46.25 ± 9.79	40 ± 12.84	6.25	0.20
Social Functioning (SF)	67.41 ± 25.74	44.09 ± 33.25	23.32	0.08
Role limitations due to emotional problems (RE)	91.66 ± 28.86	87.81 ± 27.10	3.84	0.74
General Mental Health (MH)	22.15 ± 24.95	29.39 ± 17.96	-7.24	0.41

The results show no statistically significant difference between the overall results of the SF-36 questionnaire. In the role limitations due to physical health problems (RP) scale, a statistically significant difference (p=0.03) was observed. The physical activity (surgical group mean 22.15±24.95; conservative group mean 47.27±36.9) (p=0.07) and the social activity scores (surgical group mean 67.41±25.74; conservative mean 44.09±33.54) (p=0.08) of the SF-36 showed a remarkable difference between the two groups with better results in the surgical sample, but this difference was not significant.

The findings of our study highlight the complex and multifaceted nature of orthopedic trauma and its impact on long-term outcomes and quality of life. Surgical interventions emerged as a key factor in improving functional outcomes and quality of life in orthopedic trauma patients, underscoring the importance of timely and appropriate treatment approaches [4]. The significant impairments observed in physical functioning, pain, and emotional well-being among orthopedic trauma patients emphasize the need for comprehensive and multidisciplinary care strategies. Integration of physical therapy, pain management, psychological support, and social services is essential to address the diverse needs of orthopedic trauma patients and enhance their overall well-being. Further research is needed to explore the long-term trajectories of orthopedic trauma patients, investigate the effectiveness of different treatment modalities, and identify factors that contribute to optimal outcomes and quality of life [5]. By promoting patient-centered care and tailored interventions, healthcare providers can improve the long-term outcomes and quality of life of orthopedic trauma patients.

### ***Conclusion***

In conclusion, this study provides valuable insights into the long-term outcomes and quality of life of orthopedic trauma patients in middle-income country, highlighting the importance of personalized treatment approaches and comprehensive rehabilitation strategies in optimizing patient outcomes. Surgical interventions have been shown to result in better functional outcomes and quality of life compared to conservative management, emphasizing the significance of timely intervention and appropriate post-operative care. The findings underscore the multidimensional impact of orthopedic trauma on physical, psychological, and social well-being, emphasizing the need for holistic and multidisciplinary approaches to address the diverse needs of orthopedic trauma patients.

The study suggests that ongoing follow-up, patient involvement in their care, and effective pain management strategies are crucial in promoting long-term recovery and enhancing quality of life in these patients. Further research is warranted to explore the long-term trajectories of orthopedic trauma patients in middle-income country, evaluate the effectiveness of different treatment modalities, and identify strategies to improve overall outcomes and quality of life. By focusing on patient-centered care and implementing evidence-based interventions, healthcare providers can effectively support the long-term well-being and quality of life of orthopedic trauma patients in middle-income country.

### **LITERATURE**

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