

DEMOGRAPHIC PROFILE OF DISABILITY ASSESSED PATIENTS IN TERTIARY CARE HOSPITAL IN PRATAPGARH DISTRICT OF UTTAR PRADESH**SACHIN KUMAR¹, VINEET SINGH², JITENDRA PRATAP SINGH³, MAHESH KUMAR NAVADAYA^{4*}**¹Department of Orthopedic, Autonomous State Medical College Pratapgarh, Uttar Pradesh, India. ²Department of Orthopedic, Rani Durgavati Medical College Banda Uttar Pradesh, India. ³Department of Forensic Medicine, NIIMS, Noida Uttar Pradesh, India. ⁴Department of Orthopedic, MLB Medical College Jhansi, Uttar Pradesh, India

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ABSTRACT

Objective: There is a lack of data regarding the demographic profile of acquired disability in hospital-admitted patients in Pratapgarh District. Therefore, the present study was conducted to know the demographic profile of disability-assessed patients in a tertiary care hospital of Pratapgarh district.

Methods: The present study is a record-based retrospective study in which 490 patients assessed by the investigator for disability in selected tertiary care hospitals in Pratapgarh district of Uttar Pradesh between 2020 and 2023 were taken into consideration. Demographic parameters like age, gender, number of admissions, duration of hospital stay, etc. were recorded in a Microsoft Excel sheet. Data were analyzed by descriptive statistics using SPSS version 23.0 and presented as graphs.

Results: Out of 490 cases, the majority (83.06%) were male, while 16.94% were female. The mean age of patients was 38.2±3.7 years. In the present study, males had a mean disability percentage of 28% (standard deviation, SD=24.9) and females had a mean disability percentage of 22% (SD=18.3). In the majority of patients (75.3%), one-time admission was observed. In the present study, the majority of cases (94.89%) had a history of road traffic accidents. About three-fourths of disabilities (75.51%) were found in brachial plexus injuries, followed by 46.94% of disabilities in spine injuries and 38.98% in head injuries.

Conclusion: The present study will help treating doctors, especially orthopedic surgeons, insurance companies, and governments understand the magnitude of the problem. The treating doctor, especially orthopedic surgeons, will be in a better position to explain to patients about disability through its assessment, and the benefits will be available to patients in the form of certification.

Keywords: Demographic Profile, Disability, Assessment, Impairment.

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INTRODUCTION

As per the Persons with Disabilities Act 1995 [1], disability means any restriction or lack (resulting from an impairment) of the ability to perform an activity in a manner or within a range considered normal for a human being. As per this act, a person suffering from not <40% of any disability certified by a medical authority is considered as person with disability. Various accidents may result in physical impairment leading to functional limitations, which ultimately result in handicap. Persons with Disability Act 2016 [2] has replaced the term "Handicap" with "Persons with Disability."

Due to disability, these persons are deprived of several basic requirements like education, access to health care facilities, employment opportunities, etc., which results in adverse socio-economic outcomes and poverty among persons with disabilities in comparison to people without disabilities. As per the Disability Act [1], the severity of disability can be classified as mild (<40%), moderate (40-74%), severe (75-99%), and profound (100%).

As per a world report on disability published by the WHO [3], about 15% of the total world population is disabled, out of which 80% live in developing countries. A study done by Gratton [4] shows that the prevalence of disability is higher among the older population. As per various studies [5,6], the female population, people with low socio-economic status, and discriminated people have a high prevalence of disability. A study published in the American Journal of Public Health [7]

shows that the prevalence of disability is higher among gays, lesbians, and bisexuals.

As per various literature [8,9] regarding disability, road traffic accidents are the leading cause of death among people, especially among youngsters. This results in functional limitations, causing unemployment during the most productive period of life. A disability certificate is required to avail government benefits as prescribed in the Disability Act and in medico-legal cases.

There is a lack of data regarding the demographic profile of acquired disability in hospital-admitted patients in Pratapgarh District. Therefore, the present study was conducted to know the demographic profile of disability-assessed patients in a tertiary care hospital in Pratapgarh district.

METHODS

The present study is a record-based retrospective study in which 490 patients assessed by the investigator for disability in selected tertiary care hospitals in Pratapgarh district of Uttar Pradesh between 2020 and 2023 were taken into consideration. Ethical Committee clearance was obtained from the Institutional Ethical Committee. For data collection, purposive sampling was adopted. Cases referred by treating doctors for the purpose of disability assessment were assessed by the investigator. Patients with acquired permanent physical disabilities were included in the present study, while patients with

congenital and temporary disabilities were excluded from the study. All cases were opined as non-progressive and not likely to improve by the investigator. Disability assessment was done using "Ministry of Social Justice and Empowerment [10], Department of Empowerment of Persons with Disabilities, Notification, GOI, New Delhi. The Textbook of Neurosurgery by Wilkins and Rangachari [11] was considered for head injury cases.

Demographic parameters like age, gender, number of admissions, duration of hospital stay, etc. were recorded in a Microsoft Excel sheet. Data were analyzed by descriptive statistics using SPSS version 23.0 and presented as graphs.

RESULTS

Table 1 shows the demographic profile of the cases in the present study. Out of 490 cases, the majority (83.06%) were male, while 16.94% were female. The mean age of patients was 38.2±3.7 years. In this study, males had a mean disability percentage of 28% (standard deviation, SD=24.9) and females had a mean disability percentage of 22% (SD=18.3). Overall disability was 27% (SD=16.4). In the majority of patients (75.3%), one-time admission was observed, followed by 16.32% of cases with two admissions and 5.51% of cases with three-time admissions at the time of disability assessment. In 2.85% of cases, more than three admissions were observed during disability assessment. The assessment was done on average 16 months (SD=12.4) after the incident. In the present study, the majority of cases (94.89%) had a history of road traffic accidents, followed by other causes in 2.65% of cases.

Table 2 describes the disability in the present study. About three-fourths of disabilities (75.51%) were found in brachial plexus injuries, followed by 46.94% of disabilities in spine injuries and 38.98% in head injuries.

Fig. 1 describes the spine-related disability in the present study. In maximum cases of spine-related disability (36%), cervical spines were involved, followed by the lumbar spine in 35% of cases. Thoracic spine was involved in 22% of cases, followed by sacral spine in 7% of cases.

Fig. 2 describes the locomotor disability in the present study. The maximum patients (28.5%) had left lower limb disability, followed by right lower limb disability in 27.1% of cases, and left upper limb disability in 24.77% of cases. 19.62% of cases had right upper limb disabilities.

In long bone fractures, the maximum (44.0%) were tibia and fibula fractures, followed by femur fractures in 27.3% of cases and radius bone fractures in 15.7% of cases. A humerus fracture was seen in 9.2% of cases, while in 3.8% of cases, a clavicle fracture was found (Fig. 3).

DISCUSSION

In the present study, males constituted 83% of disability assessment cases, outnumbering females, and road traffic accidents were the most common etiology among them. These findings coincide with the study done by Shetty [8]. A study done by Polinder *et al.* [12] showed that females had a 3-times higher risk of long-term disability in comparison to men. In the present study, the mean age of the patients was 38.2 years, which coincides with the study done by Jani *et al.* [13]. Literature shows that patients <20 years old usually have very good healing capacity and recover without much disability. In the present study, assessment was done on an average of 16 months after the incident. Baldry Currens and Coats [14] observed that 12 months is the best time to evaluate disability patients, as there are very little chances of improvement after that period. In the present study, the major cause of acquired disability was road traffic accident accounting for 94.89% of cases, followed by other causes in 2.65% of cases. Other causes were electric shock, railway accidents, falls, blast injuries, animal attacks, assault, strokes, peripheral vascular diseases, air crashes, snake bite, etc. Similar findings were observed by the studies done by Jani *et al.* [13] and Baldry Currens and Coats [14].

Table 1: Demographic profile of cases in the present study

Parameter	Number of cases (%)
Gender	
Male	407 (83.06)
Female	83 (16.94)
Mean age (years)	38.2±3.7
Mean disability % in male=28% with (SD±24.9)	
Mean disability % in female=22% with (SD±18.3)	
Admission details	
One time admission	369 (75.30)
Two time admission	80 (16.32)
Three time admission	27 (5.51)
>3 time admission	14 (2.85)
Causes of injury	
Road traffic accident	465 (94.89)
Injury related to workplace	12 (2.44)
Other causes	13 (2.65)

Table 2: Description of disability in the present study

Body part/area involved	Number of cases (%)
Face	69 (14.08)
Vision	146 (29.80)
Hearing	175 (35.71)
CNS	191 (38.98)
Spine	230 (46.94)
Brachial plexus	370 (75.51)
Left upper limb	106 (21.63)
Right upper limb	84 (17.14)
Left lower limb	122 (24.90)
Right lower limb	116 (23.67)

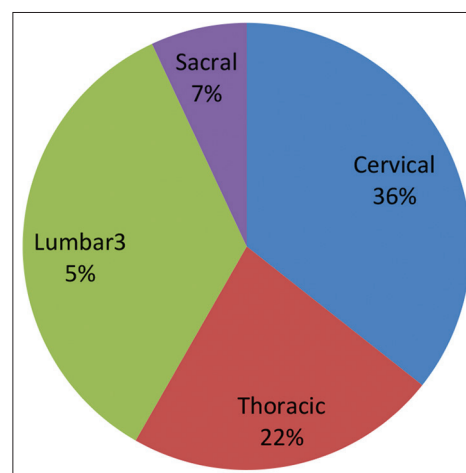


Fig. 1: Description of spinal disability in the present study

The present study shows that patients with multiple admissions and longer stays in hospitals had a higher percentage of disability. The average hospital stay was 15 days, causing significant physical and psychological hardship for the patient. Spinal cord injuries had the highest length of stay and a high percentage of disability. These findings correlate with the studies done by Shetty [8] and Padovani *et al.* [15]. About three-fourths of disabilities (75.51%) were found in brachial plexus injuries, followed by 46.94% in spine injuries and 38.98% in head injuries. Similar results were observed by Polinder *et al.* [12].

As per the Rights of Persons with Disabilities Act, locomotor disability means a person's inability to execute distinctive activities associated with movement of self and objects resulting from affliction of the musculoskeletal or nervous systems, or both. In the majority of cases (87.34%), locomotor disability was observed. The maximum patients

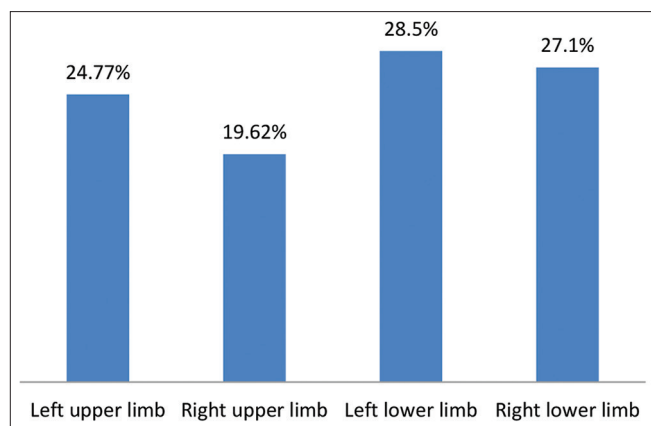


Fig. 2: Description of locomotor disability in the present study

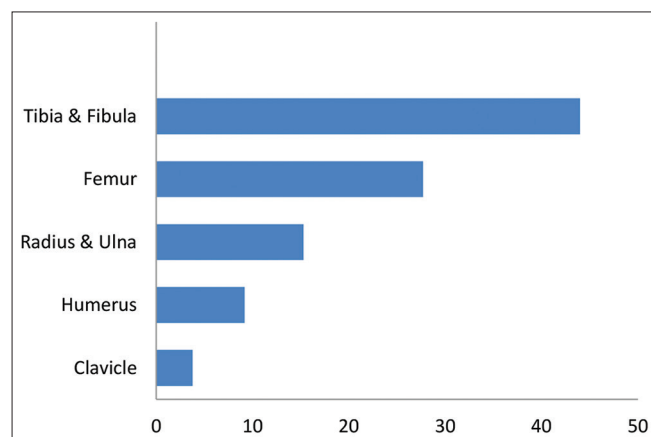


Fig. 3: Description of long bones fractured in the present study

(28.5%) had left lower limb disability, followed by right lower limb disability in 27.1% of cases, and left upper limb disability in 24.77% of cases. 19.62% of cases had right upper limb disabilities.

Fig. 1 describes the spine-related disability in the present study. In the maximum cases of spine-related disability (36%), cervical spines were involved, followed by the lumbar spine in 35% of cases. Thoracic spine was involved in 22% of cases, followed by sacral spine in 7% of cases. In long bone fractures, the maximum (44.0%) were tibia and fibula fractures, followed by femur fractures in 27.3% of cases and radius bone fractures in 15.7% of cases. A humerus fracture was seen in 9.2% of cases, while in 3.8% of cases, a clavicle fracture was found. In the present study, lower limbs were more involved in comparison to upper limbs, which can be due to the higher number of pedestrian and two-wheeler accidents.

Due to the present disability evaluation guidelines having subjectivity, about 5–10% variation could be observed between the different investigators. Through the constitution of the Disability Assessment Board, in which disability is assessed by a minimum of two doctors, subjective bias in disability evaluation guidelines can be minimized [1]. The Government of India brought out guidelines in 2001 and 2018 regarding disability assessment. A study done by Hetherington and Earlam [16] developed a reliable measure to assess functional disability by assessing both the motor and cognitive domains of a patient under six categories: self-care, sphincter control, transfers, locomotion, communication, and social cognition.

Limitations

1. The findings of the present study are very difficult to extrapolate to the general population, which has an additional burden of old age and congenital anomalies.

2. The findings may vary from place to place depending upon the standard of the health care system and the pattern of injuries.

The present study observed that there is a need for a more objective and scientific disability assessment system. A disability assessment system should be included in the teaching curriculum for young doctors, especially for post-graduates in surgical fields. Literature shows lacunae of knowledge in this area; therefore, there is a need for similar studies in different geographical regions to know the pattern of acquired disability cases.

CONCLUSION

The present study reveals that road traffic accidents are the most common cause of acquired permanent disability in the young and middle-aged population. This study will help treating doctors, especially orthopedic surgeons, insurance companies, and governments understand the magnitude of the problem. This will help the government allocate resources to a particular region of the country. The treating doctor, especially orthopedic surgeons, will be in a better position to explain to patients about disability through its assessment, and the benefits will be available to patients in the form of certification. Treating doctors will be in a better position while deposing in medico-legal cases.

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