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## **Trend analysis of common disabilities and causes among in-patients of paraplegic center Peshawar during last five year**

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**Abstract**--Objectives: To assess the trend of common disabilities in paraplegic Centre Peshawar during last 5 years. To assess the trend of common causes of disabilities in Paraplegic Centre Peshawar. Methodology: - A retrospective study was conducted in The Paraplegic Centre Peshawar irrespective of age and gender to assess the common disabilities, causes and which gender, age and occupational group is more susceptible in the patients presented during last 5 years. The

Data was collected manually through chart review. The data was collected from 600 charts. All relevant data will be recorded and analyzed using the SPSS 19.0 Software package. Results: A total of 500 patients including both Genders of all age groups & profession were included in this study. Male were the most commonly affected gender (77.6%) Followed by Female (22.4%). Disability was found highest among age group 21-30 third decade (33.4%). Disability is common in uneducated people (45.2 %). Among disabilities type paraplegia was most common (79.6%) followed by tetraplegia (20%) & others (0.4%). In all disabilities the most important cause was Fall from height. Conclusion: The most commonly affected were male of age group 21-30 (33.4%) most of them were labour belong to Distt Peshawar and among the disabilities most common cause was Fall from height or weight fallen over common in Distt DIR. followed by, RTA & Firearm in Distt Peshawar, Mardan, Charsada, Sawabi.

**Keywords**---DALYS, paraplegic, monoplegia.

## **Introduction**

Medical technology, treatment, and rehabilitation methods, particularly in specialized facilities for those with unique health issues, have all made great strides forward in recent years. Paraplegic Centers are prominent examples of these facilities because of their dedication to providing all-encompassing treatment for people with paraplegia, a disorder defined by immobility of the lower extremities and, frequently, the trunk, as a result of spinal cord injury <sup>1-3</sup>. There are several reasons why it is crucial to investigate the nature and causes of disability among Paraplegic Center in-patients. First, it helps doctors and therapists better understand the health patterns of this specific group of people and adjust their methods of care and rehabilitation accordingly <sup>4</sup>. Second, it aids in the research of paraplegia's causes, which is useful for public health initiatives and preventative actions. Last but not least, this type of trend research helps allocate resources wisely and mold policies that meet the changing requirements of people with paraplegia <sup>5, 6</sup>.

Clinically significant psychological consequences, such as depression, coexist with non-pathological outcomes, such life satisfaction and adaptation, following spinal cord injury (SCI). Both of these outcomes matter for people with SCI's quality of life and functioning. One's own sense of well-being, is a crucial consideration while dealing with the chronically ill and disabled <sup>7</sup>. However, the lack of an explicit explanation of the term "well-being" at the onset of the investigation and the lack of uniformity in the methods of assessing the phenomena were two key challenges experienced through the research on well-being. There has been no substantial investigation into the lives of people living with spinal cord injuries in Pakistan, either in terms of quadriplegia or paraplegia. Two quality-of-life studies focused on the well-being of individuals with SCI were discovered in an extensive evaluation of research on the subject conducted in Asian nations <sup>8</sup>.

The first looked into the meaning and constituent parts of "quality of life" from a qualitative perspective. According to Hampton and Qin-Hilliard, quality of life is affected in four main areas: one's physical health, one's mental health, one's financial situation, and one's social life<sup>8</sup>. The second study<sup>9</sup>, found that rehabilitation improved quality of life in individuals with SCI by helping them develop a more optimistic and practical attitude on life. The majority of the research implies that paraplegics' perspectives should be factored in when reviewing or evaluating any intervention designed for this population<sup>10-12</sup>.

This study aims to conduct a comprehensive trend analysis of common disabilities and their causes among in-patients of a renowned Paraplegic Center. By analyzing a substantial dataset of patient records spanning several years, we seek to identify potential shifts in the landscape of disabilities and causative factors. The multifaceted nature of paraplegia, often influenced by diverse factors such as traumatic accidents, medical conditions, and congenital anomalies, necessitates a holistic approach to understanding its prevalence and determinants.

## **Methodology**

A retrospective study was conducted in The Paraplegic Centre Peshawar irrespective of age and gender to assess the common disabilities, causes and which gender, age and occupational group was more susceptible in the patients presented during last 5 years. The Data was collected manually through chart review. The data was collected from 600 charts. All relevant data were recorded and analyzed using the SPSS 19.0 Software package. Ethical Consideration i.e consent was taken from relevant authorities and all the health information will be protected and will not be disclose to any third party. Disability was defined as a restriction or lack (resulting from any impairment) of ability to perform an activity in the manner or within the range considered normal for a human being. DALYS (Disability Adjusted Life years) was measured of the burden of disease in a defined population. (One DALY is one lost year of life)  $DALY = \text{Years of life lost (YLL)} + \text{Years live with disability (YLD)}$ . QALYS (Quality Adjusted Life Years): It is a generic measure of disease burden, including both the quality and quantity of life lived. (One QALY equates to one year in perfect health). Paraplegia: It is an impairment in motor or sensory function of the lower extremities. Monoplegia: paralysis restricted to one limb or region of the body. Hemiplegia: paralysis of one side of the body. Tetraplegia: paralysis caused by illness that results in the partial or total loss of use of all four limbs.

## **Results**

A total of 500 patients including both Genders of all age groups & profession were included in this study. Male were the most commonly affected gender (77.6%) Followed by Female (22.4%). Disability was found highest among age group 21-30 third decade (33.4%) followed by age group 31-40 (22.2%) & the least affected age group was of 1st decade (1.8%). The most commonly affected profession was labors (21%) followed by house lady (19%) & students (17.2%) The least affected profession was businessman (2.6%). Disability is common in uneducated people (45.2 %) & among educated people most commonly affected were matriculated

(16.8%) & the least affected were those having master degree (1%). Only one Hafiz Quran was affected (0.2%). Most of the patients received by PRP were belong to District Peshawar (16.4%) followed by District DIR (12.4%) followed by Charsadda and Swabi (8%) and least patients received were from Baluchistan (0.8%) In all disabilities the most important cause was Fall from height & weight fallen over (44%) followed by RTA (21.2%) followed by firearm (20.6%) & the least common cause was explosion (1.6%) & other causes like disease contribute (9.4%). All of the patients have progressive disability, and their careers were affected

Table 1  
Distribution of Education

EDUCATION STATUS	FREQUENCY	PERCENTAGE
Primary	64	12.8
Middle	62	12.4
Matric	84	16.8
Inter	35	7.0
Graduate	23	4.6
Master	5	1.0
Hafiz	1	0.2
Nil	226	45.2
Total	500	100

Table 2  
Distribution of Age Groups

AGE GROUPS	FREQUENCY	PERCENTAGES
1-10	8	1.6
11-20	90	18.0
21-30	167	33.4
31-40	111	22.2
41-50	59	11.8
51-60	29	5.8
Above	39	7.2
Total	500	100

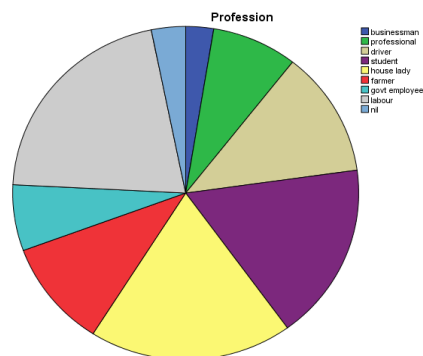


Chart 1. Distribution of Profession

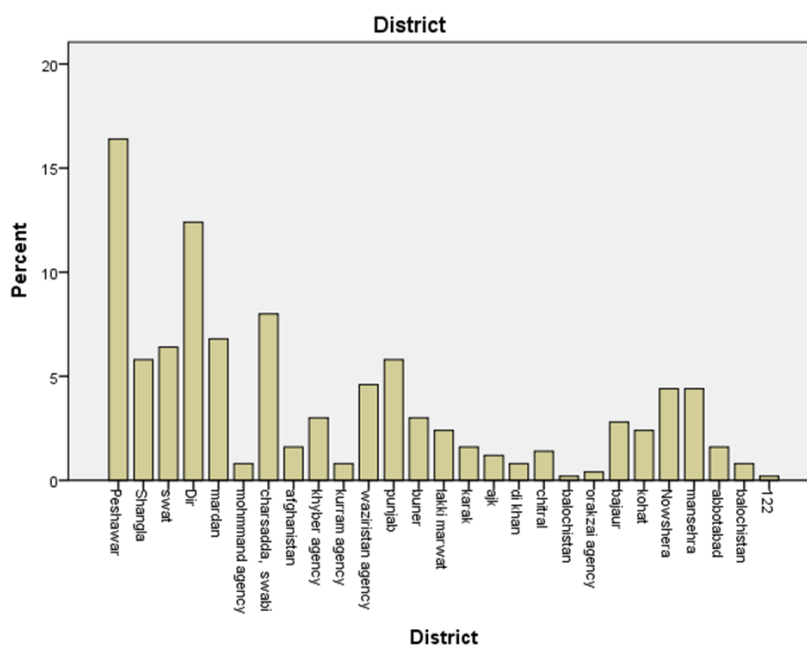


Chart 2. District Wise Distribution

Table 3  
Frequency of Acquired disability

DISABILITY TYPE	FREQUENCY	PERCENTAGE
TETRAPLEGIA	100	20
PARAPLEGIA	398	79.6
NORMAL	2	0.4
TOTAL	500	100

Table 4  
Etiology of Acquired disability

CAUSES	FREQUENCY	PERCENTAGES
RTA	106	21.2
Firearm	103	20.6
Fall	220	44.0
Disease	15	3.0
Explosives	9	1.8
Other	47	9.4
TOTAL	500	100

## Discussion

Our study as well as other studies from Pakistan regarding disabilities show various aspects and relative frequencies of different types of disabilities. Our study shows that as males are the mostly earners of their family for that purpose most of them do Labour work, driving, mining and other work which are prone to injuries and accidents that lead to disability, so our study also shows that males were the most commonly affected gender (77.6%) Followed by Female (22.4%). Patients' mental health is severely compromised due to the severity of their injuries, the extent of their physical disability, the early age at which they occur, and the suddenness with which they occur. Therefore, the economic standing of the society suffers because fewer young, healthy people are contributing to the economy. Finding out what factors lead to these mishaps and taking measures to stop them is crucial. Rehabilitating patients and gauging their level of contentment are both crucial if they are to recover and once again contribute positively to society.

According to American research, crashes involving cars are the most common source of spinal cord injuries as of 2002 <sup>13</sup>. However, automobile accidents rank third among leading causes of death in Pakistan. Despite the widespread absence of stringent traffic restrictions, the relatively low number of RTAs within Pakistan comparable to other wealthy countries may be cause for optimism <sup>14</sup>. However, it is possible that RTAs haven't been accurately recorded. Many people who are injured in RTAs may not survive the collision and are therefore not included in SCI estimations. It's also possible that this is the case because victims of RTAs in Pakistan often suffer from injuries other than spinal cord injuries, such as broken bones. Due to the country's subpar infrastructure and unsuitable roadways, RTAs might not be widely used in Pakistan. In the West, alcohol usage is a major contributor to road traffic accidents (RTAs), but this isn't prevalent in Pakistan. In industrialized nations, violence and firearm injuries accounted for the second leading cause of injury <sup>14</sup>.

Such injuries may be reduced if the general state of governance was improved and citizens were provided with security. A study showed that males are disproportionately harmed by such injuries compared to females. This is because women in Pakistan are significantly less likely to be actively engaged in public life than men. In contrast, men make up the share the huge part of labor force in industries like construction, transportation, and the handling of large objects, and they are disproportionately affected by the horrific acts of violence that occur in this country <sup>15</sup>. The strength of our study is that we collected the data of five years (2013-2018) moreover our study shows relative frequencies of different type of disabilities and the most common cause of disability. The limitations of our study are that we conducted our study on patient charts only from the patients that presented to Paraplegic Rehabilitation Centre Peshawar so we cannot generalize our result to overall population.

## Conclusion

The most commonly affected were male of age group 21-30 (33.4%) most of them were labour belong to Distt Peshawar and among the disabilities most common

cause was Fall from height or weight fallen over common in Distt DIR. followed by, RTA & Firearm in Districtt Peshawar, Mardan, Charsada, Swabi.

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