PSYCHIATRIC MORBIDITY IN PATIENTS UNDERGOING REHABILITATION AT ARMED FORCES INSTITUTE OF REHABILITATION MEDICINE

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ABSTRACT

Objective: Psychiatric morbidity is common among patients with physical disorders. This study aims to find out the frequency of psychiatric disorders in patients attending rehabilitation program at Armed Forces Institute of Rehabilitation Medicine. Impact of physical disability and personality on psychiatric morbidity was also studied.

Design: One hundred patients who were attending rehabilitation program were selected at random. All were administered Present State Examination, Functional Independence Measure. Psychiatric diagnosis was based on ICD-10 diagnostic criteria.

Place and duration: The study was conducted at Department of Psychiatry Military Hospital Rawalpindi in collaboration with Armed Forces Institute Of Rehabilitation Medicine, from March 99 to July 99.

Results: An overall frequency of 43% of psychiatric morbidity was found by the PSE-10 and ICD-10. Adjustment disorders (32.5%) were the largest group among the cases followed by mood disorders (27.8%). Psychiatric morbidity was comparatively higher among patients with spinal cord injury, stroke, burn injuries and amputations as compared to other categories. Mean FIM Scores were lower in cases (97.8) as compared to non- cases (108.8), this difference were statistically significant. Patients were also divided into those very severe disability and those with lesser functional impairment based on FIM scores. Calculation of the odds ratio revealed that people with severe disability were twice as likely to be suffering from psychiatric disorders as compared to those with lesser degree of disability.

Conclusion: This study indicates that a considerable proportion of patients (>40%) undergoing rehabilitation program were suffering from psychiatric disorders. Detection and treatment of psychiatric morbidity can improve the rehabilitation outcome as well as the quality of life.

Keywords: Psychiatric morbidity, FIM scores, rehabilitation

INTRODUCTION

Rehabilitation patients attending physical rehabilitation program constitute a heterogeneous population that suffer from different disorders such as chronic pain, stroke, spinal cord injuries, burns, amputation, rheumatoid arthritis, polyneuropathy and back pain etc. Their common problem is disability, which can be defined as the stable persistent limitation of physical or psychological function, which results from impairment and individuals psychological reaction to it [1]. Psychiatric disorder in patients with chronic medical conditions is associated with markedly worse quality of live [2] and may be a cause for poor compliance with rehabilitation treatment [3].

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Psychiatric disorders may aggravate disability [4] and affect the rehabilitation outcome [5]. Treatment of depression for example improves functional abilities [6] and is considered an integral component of pain management programs [7].

The biopsychosocial approach advocates the consideration of psychosocial management in all aspects of patient care [8]. Early psychological assessment in patients with a chronic illness or physical disability with a view to detect and treat psychiatric morbidity can greatly aid the rehabilitation process, ensuring early recovery and better quality of life for the patient, his family and the community at large.

The aim of this study was to evaluate the extent of psychiatric morbidity in patients under going rehabilitation program at the Armed Force Institute of Rehabilitation Medicine, with a view to detect and appropriately treat those who require psychiatric intervention.

PATIENTS AND METHODS

The study was conducted at department of psychiatry Military Hospital Rawalpindi in collaboration with Armed Forces Institute of Rehabilitation Medicine (AFIRM). One hundred patients who were attending rehabilitation program were selected for the study. The period of study was for four months and patients were selected randomly. They were explained the nature, purpose and the procedure of the project. They were than asked if they were interested to be included or not.

After obtaining informed consent, these patients were then interviewed by filling out a semi-structured proforma.

All patients were given the, Functional Independence Measure (FIM) [9] and the Present State Examination (PSE) [10]. FIM measures levels of disability regardless of the nature or extent of the underlying pathology or impairment. Scores in FIM can range from 18 to 126, with a higher score indicating greater independence in activities of daily functioning. Eighteen items are defined within six areas of functioning; self care, sphincter control, mobility, locomotion, communication and social cognition.

Urdu version of PSE (9) was used which is a 140-item semi structured diagnostic interview for psychiatric disorders. As it does not systematically collect historical information final psychiatric diagnosis was made at interview using ICD-10 (International Classification of Diseases 10th Edition) [12] and patients were classified into cases and non-cases. Differences on FIM scores between cases and non-cases were also recorded.

Statistical analysis was done using x 2 (Chi square) and t-test where applicable using SPSS version 10.0.

RESULTS

Demographic Features

The mean age of the sample was 37.6 years with range of 18 to 80 year. Of the total patients (n=100) 58 were male and 42 were female 83 were married, 5 were single and 12 were widows or widowers 52 belonged to urban and 48 to rural background 55 were from military background and 45 were civilians. Social status revealed 60 from lower class, 20 from lower middle class, 15 from upper middle class and 5 from upper class. Educational background showed that 39 were illiterate, 19 were educated up to primary, 18 were up to middle, 10 were matriculate, 6 were intermediate and 5 graduate and 2 were postgraduates. Twenty two subjects had significant life events in the past 6 months which have significant effect ($p<0.05$) and 6 had a positive family history of psychiatric disorders. The socio-demographic features and comparison between groups-I and II is given in (table-1).

Psychiatric Morbidity in Rehabilitation Patients

Forty three % of these patients were found to having psychiatric disorders based on PSE-9 and psychiatric interview using criteria as laid down in ICD-10 of 58 male patients 23(39.7%) had a psychiatric disorder whereas of 42 female 20(47.6%) suffered from psychiatric disorder. Three patients could not be administered PSE-9 because of their mental state. They were diagnosed as to be suffering from dementia (n=2) and delirium (n=1) based on clinical findings and mental state examination. Among the diagnostic categories assigned, adjustment disorder (32.5%) (n=14) constituted the largest group. Mood disorder, the next large group was diagnosed in 27.8% (n=12) subjects. Generalized anxiety disorder was diagnosed in 14% of patients and mixed anxiety and depressive disorder was seen in 7% of subjects. Detailed results are shown in the table at the end.

Association between Functional Independence Measure Scores and Psychiatric Morbidity

Functional Independence Measure (FIM) Scores for 100 rehabilitation patients ranged from 55 to 126, with greater scores depicting greater independence or lesser disability. In cases (n=43) the mean FIM score was 97.8(range 55-126;s.d=26.1). Where as the mean FIM score in non-cases was 108.8(range 60-126; s.d=10.2). Using t-test the differences between scores were statistically significant ($p<0.05$). Thus in our study the mean level of functional disability was statistically different between the psychiatrically ill and healthy subjects.

Psychiatric Morbidity in Lesser Functionally Disabled and More Severely Disabled Patients

Patients were further divided into more severely disabled and lesser functionally disabled based on their functional independence measure scores. Patients having scores between 55 and up to 80 (group 1) were classified as more severely disabled and those having scores from 81 to 126 (group 2) were classified as less severely disabled. Thirty patients belonged to the group-I and 70 patients to the group-II of the first group 17 had psychiatric morbidity and 26 had psychiatric morbidity from the second group. Based on these findings odds ratio was calculated for these groups which came out to be 2.2, i.e people with more severe level of disability were about 2 times as likely to be suffering from psychiatric disorder as compared to the less severely disabled individuals.

Table-1: Distribution of various socio demographic features and other characteristics

Socio Demographic Features	Total Sample (n=100)	Non Cases/ Group I (n=57)	Cases/ Group II (n=43)	P-value
Age	42 ± 18	40 ± 17	44 ± 19	>0.05
Sex				>0.05
Female	58	33	25	
Marital status				
Married	83	47	36	
Widows/Widowers	5	3	2	
Rural	48	23	25	
Military system				

Diagnostic Category of Rehabilitation Patients

Among the 100 patients studied, 21 (21%) patients suffered from osteoarthritis, 20 (20%) were other arthritis patients, 18 (18%) had stroked and 10(10%) patients suffered from spinal cord injury. Other clinical diagnoses included polyneuropathy6 (6%), ankylosing spondylitis 8(8%), burns 5(5%), shoulder injury 5(5%), while 2(2%) had amputation and 5(5%) were post-polio patients.

DISCUSSION

Patients in rehabilitation program suffer from a number of different disorders and have varying degrees of physical disabilities resulting from their physical conditions. Their physical disabilities are often complicated by psychiatric disorders that add to the miseries of already compromised physical functioning individuals. In addition combined physical and psychiatric morbidity may contribute towards even greater social and economic problems not only for the patient but also for his family and society at large. A frequency of 43% of psychiatric disorders was observed in our sample of rehabilitation patients. A study conducted in Japan [13] to examine the frequency and kinds of psychiatric and psychological symptoms in patients undergoing physical rehabilitation had similar results. Using a structured interview according to DSM III-R, they found out that 27(43.5%) out of 62 rehabilitation in-patients met the criteria for some form of psychiatric disorders.

Among the diagnostic categories assigned in our study adjustment disorder constituted the largest group [32.5%]. Hosaka [13] reported an incidence of 18.5% adjustment disorders in rehabilitation patients. High prevalence of adjustment disorders found by the researchers in this study of rehabilitation patients can have a several causes such as:

Table-2: ICD-10 diagnosis of the 43 cases identified in the study

Diagnosis	No.	% (Among cases)
Adjustment disorder	14	32.5%
Prolonged depressive reaction	5	
Mixed anxiety and depressive reaction	9	
Greneralized anxiety disorder	6	13.9%
Mixed anxiety and depressive disorder	3	6.97%
Ovsessive compulsive disorder	2	4.65%
Depressive episode	11	25.58%
Mild	8	
Moderate	2	
Severe	1	
Bipolar affective disorder (Current episode moderate depression)	1	2.32%
Anxious (avoidant) personality disorder	1	2.32%
Drug dependence	2	4.65%
Cannabis	1	
Benzodiazepines	1	
Dementia	2[1]	4.65%
Delirium	1[1]	2.32%

[1]PSE not performed

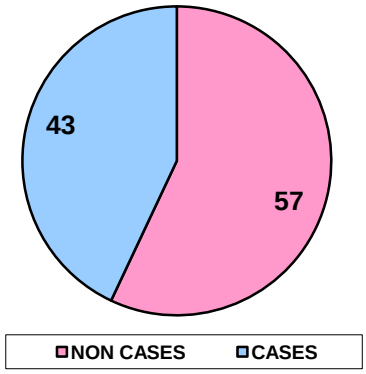

Fig. 1

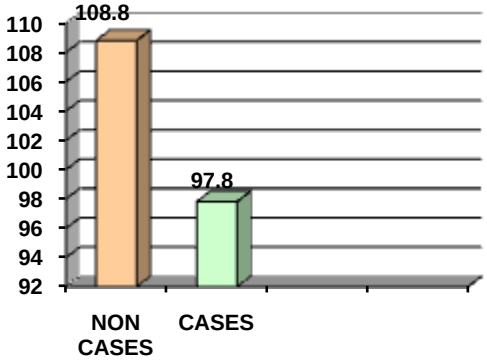

Fig. 2: Functional independence measures mean scores

- Direct result of disability.
- Life changes imposed by the disability.

- Individual vulnerability and personality factors which play a greater role in the risk of occurrence and the shaping of the manifestations of the adjustment disorders than it does in other conditions.

Mood disorder the next large group was diagnosed in 27.8% of subjects. Of these 11 (25.5%) patients suffered from depressive episode. Of these, one patient (2.32%) suffered from severe depressive episode, 2 (4.65%) were suffering from moderate depressive episode and 8 (18.6%) had mild depressive episode. History of bipolar affective disorder was positive in 1(2.32%) subject. In comparison Burwill et al – 1995, found out a 23% prevalence of depressive illness in stroke patients who were under going rehabilitation program. Of these patients 15% had major depression and 8% minor depression. Diamond et al [14] studied depression in acute in patient rehabilitation setting. He found a 29.4% prevalence of depression at admission in geriatric patients. It was found out that in 70 chronic low back pain patients, 25 patients were depressed. A 33% (44/132) of patients with chronic pain were found to be suffering from major depression according to DSMIV criteria. In spinal cord injuries (SCI) Scivoletto et al [15] found a 16% prevalence of depression in 100 SCI patients. In another study [14], it was found a prevalence of 22% (n=13) major depression and 8% (n = 5) minor depression in 60 patients with SCI.

Generalized anxiety disorder was diagnosed in 14% of patients and mixed anxiety and depressive disorder was seen in 7% of subjects. In comparison Scivolettlo et al [15] found anxiety in 13% of subjects who had SCI.

Interestingly no significant association was found between the degree of disability as measured by FIM and the prevalence of psychiatric morbidity in the whole patient population but subdivision of patients into lesser disabled patients and more severely disabled patients did reveal an increased frequency of psychiatric morbidity in more severely disabled patients. In comparison, Diamond et al [14], studied depression in acute geriatric rehabilitation in-patients. Depressed subjects had lower FIM scores at both admissions and discharge as compared to non-depressed subjects.

Djernes et al [6], found out that treatment of depression reduces functional disability in the elderly patients. Fuhrer et al (1993) in SCI patients did not find any relationship between level of depressive symptomatology assessed by Centre for Epidemiological Studies Depression Scale (CES – D) and degree of disability assessed by FIM scores.

CONCLUSION

This study indicates that a high proportion of patients undergoing rehabilitation suffer from psychiatric morbidity, who in the process of adjusting to their disabling illness develop psychological disturbances. Early psychological assessment with a view to detect and treat psychiatric morbidity can greatly aid the rehabilitation process, ensuring early recovery and better quality of live for the patient, his family and the society at large.

Clinical Implications and Limitations

Clinical Implications

- A significant number of rehabilitation patients do require psychiatric intervention.
- Increased attention should be paid to detect psychiatric morbidity in rehabilitation patients by the treating physicians.
- A liaison psychiatric service should be extended to these patients.

Limitations

- Cross-sectional design limits the possibility to draw causal conclusions.

- Psychiatric morbidity in different groups of rehabilitation patients e.g SCI patients, stroke, burns etc is not compared.
- One cannot infer from the findings that the increased risk of psychiatric morbidity in these patients is definitely due to the degree of disability.

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