

Original Article

Profile of Patients Attending at the Department of Physical Medicine and Rehabilitation in a Specialized Hospital of Bangladesh

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Abstract

Physician's documentation has become the critical component in rehabilitation of patients. The scope of Physical Medicine and Rehabilitation (PMR) encompasses more than a single organ system. Attention to the whole person is paramount. The aim of the study was to appraise the disease pattern and demographic information of the patients received outpatient rehabilitation services at the department of PMR, National Institution of Neuroscience and Hospital, Dhaka, Bangladesh. This is a retrospective study carried out for the period of two years July 2013 to June 2015. Total number of patients was 29678, among them 57.02% were male and 42.98% were female. Maximum patients (26.15%) were in age group 41-50 years and in housewife (37.76%) in occupation, where majority

(56.33%) of them came from Dhaka city. Regarding disease pattern, 56.32% was neurological, 33.46% was musculoskeletal and 7.25% of patients were suffering from rheumatologic problem. Among leading diseases, largest disease group was stroke (20.02%), 10.48% was non-specific low back pain, 9.92% was Bell's palsy, 5.35% was lumbar spondylosis, 5.13% was carpal tunnel syndrome, 4.11% was prolapsed lumber inter-vertebral disk (PLID), 3.72% was cerebral palsy. Knowledge about the existing disease pattern and health seeking behavior is essential to provide need based health care delivery to any population.

Keywords: Profile, Diseases, National Institution of Neuroscience and Hospital, PMR.

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INTRODUCTION:

Physical medicine and Rehabilitation (PMR) focuses on the restoration of function and the subsequent reintegration of the patient into the community. As with other branches of medicine, the cornerstone of PMR is a meticulous and thorough clinical evaluation of the patient. Consequently, the evaluation must assess not only the disease but also the way the disease affects and is affected by the person's family and social environment, vocational responsibilities and economic state, avocational interests, hopes, and dreams. Traditionally, the in-patient rehabilitation unit or the outpatient psychiatry clinic has been the optimal setting for a comprehensive evaluation by the entire rehabilitation team.¹ Determining the degree to which a person's life is impacted by a medical condition is complex and in part perplexing. Physicians, and particularly psychiatrists, are often burdened with the task of being the key interpreter.² The experienced psychiatrist develops an intuition for how much detail is needed for each patient given a particular presentation and setting. Assessment of some or all of these elements is required for a complete understanding of the patient's state of health and the illness for which he or she is being seen. These elements also form the basis for a treatment plan.³ However, it is believed that the pattern of medical diseases in developing countries is different from that of the developed ones.⁴

National Institute of Neuro-sciences (NINS) in Bangladesh was established with the vision of making this institute as the center of excellence not only in this country but also for others. It is a matter of pride that the institute has started

functioning from September 2012. There are more than fifteen departments. Physical Medicine and Rehabilitation is one of them. This department tries to correlate with other departments in providing facilities, faith and satisfaction to the patients. The total number of patients at Physical Medicine Department has been increasing day by day. Almost all the patients coming to this department were from different areas of Bangladesh by themselves or referred by physicians from different department of National Institution of Neuroscience and Hospital. In July-2013 to June- 2015 about 29678 patients were treated by PMR department of National Institution of Neuroscience and Hospital.

MATERIALS AND METHODS:

To attain disease profile and demographic information (age, sex, catchment area and occupation), we undertook a retrospective review of the records at Physical Medicine and Rehabilitation department of National Institute of Neuroscience and Hospital, Dhaka over a period of two year

from first July 2013 to thirtieth June 2015 and determined the various diagnoses of attending patients. Information was extracted from the patients' hospital records by means of a questionnaire assessing the participants' demographics and diagnoses. The subjects were enrolled on an individual basis, despite the varying number of visits by a given patient during the period of study. After collection of the data in a standardized proforma, all the data were analyzed and presented in simple statistical percentage using Microsoft Excel.

RESULTS:

Table I shows the total number of 29678 patients received Psychiatric management during the study period, among them 57.02% (16922) was male and 42.98% (12756) was female; 26.15% (7761) were in age range of 41-50 years. Catchment areas were 56.33% (16718) Dhaka city and 43.67% (12960) outside Dhaka city; where 37.76% (11206) of the studied population were housewives.

Table- I. Socio-demographic characteristics of patients (n=29678)

Characteristics		Number of patients	Percentage (%)
Sex	Male	16922	57.02
	Female	12756	42.98
Age (in years)	0-10 years	795	2.68
	10-20 years	947	3.19
	21-30 years	5110	17.22
	31-40 years	6853	23.09
	41-50 years	7761	26.15
	51-60 years	5375	18.11
	60-70 years	2498	8.42
	Above 70 years	339	1.14
Catchment area (Residency)	Dhaka city	16718	56.33
	Outside Dhaka city	12960	43.67
Occupation of patient	Service holder	6832	23.02
	Retired Service holder	1896	6.39
	Housewife	11206	37.76
	Laborer	1290	4.35
	Farmer	2120	7.14
	Businessman	1935	6.52
	Student	1707	5.75
	Unemployed	1366	4.60
	Others	1326	4.47

Figure-1 shows the psychiatric services provided in the department, 56.32% were neurological, 33.46% were musculoskeletal and 7.25% patients were rheumatologic condition.

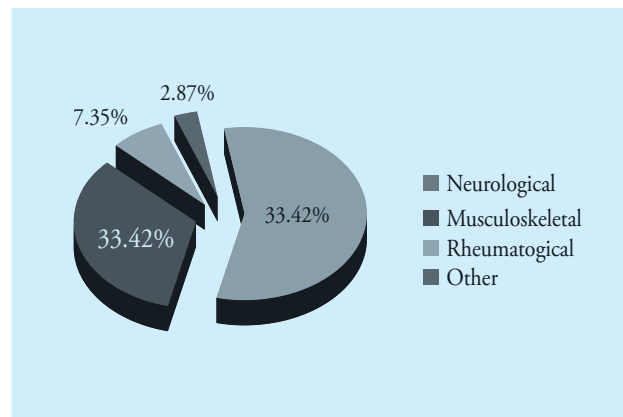


Figure-1: Psychiatric services provided to the patients

Table- II emphasizes the results related to the 29678 patients' profile of Neurological diseases. Ischemic stroke was 29.03% encountered highest among neurological diseases. Next come Bell's palsy was 17.62%.

Table-II: Neurological diseases:

Serial Number	Disease	Number of patients	Percentage (%) for whole patients(n=29678)	Percentage (%) for Neurological diseases(n=16715)
1	Ischaemic Stroke	4852	16.35	29.03
2	Bell's palsy	2945	9.92	17.62
3	Carpal Tunnel Syndrome	1523	5.13	9.11
4	Cerebral Palsy	1105	3.72	6.61
5	Hemorrhagic Stroke	1087	3.66	6.50
6	Guillain Barre Syndrome	764	2.57	4.57
7	Myopathy	712	2.40	4.26
8	Motor Neuron Disease	502	1.69	3.00
9	Parkinson's Disease	465	1.57	2.78
10	Transverse Myelitis	357	1.20	2.14
11	Nerve injury	156	0.53	0.93
12	Brachial plexopathy	155	0.52	0.93
13	Seizure disorder	28	0.09	0.17
14	Others	2064	6.95	12.35
Total		16715	56.32%	100%

Table- III presents the Musculoskeletal diseases as there Low back pain (non specific) was (31.32%), Lumbar spondylosis 15.98%, prolapsed Lumbar Inter-vertebral disc was 12.30%, Cervical spondylosis and Osteo-arthritis of knee presented almost the same 10.84% and 10.57% respectively.

Table-III: Musculoskeletal diseases

Serial Number	Disease	Number of patients	Percentage (%) for whole patients(n=29678)	Percentage (%) for Musculoskeletal diseases(n=9930)
1	Low Back Pain (Non-specific)	3110	10.48	31.32
2	Lumbar spondylosis	1587	5.35	15.98
3	Prolapsed Lumbar Intervertebral Disc (PLID)	1221	4.11	12.30
4	Cervical Spondylosis	1076	3.63	10.84
5	Osteo-arthritis of Knee joint	1050	3.54	10.57
6	Neck Pain(sprain/strain)	583	1.96	5.87
7	Lumbar radiculopathy	455	1.53	4.58
8	Cervical Radiculopathy	206	0.69	2.07
9	Spondylolisthesis (Lumbar)	203	0.68	2.04
10	Osteoporosis	24	0.08	0.24
11	Others	435	1.47	4.38
Total		9930	33.46%	100%

Table- IV describes the Rheumatological diseases. Adhesive Capsulitis / Periarthritis of shoulder joint was found 36.41%, then represented planter fasciitis 15.73%, polyarthritis was 14.12%, spondylo-arthritis was 11.83% and tennis elbow was 10.22% and the rest percentages were minimum.

Table-IV: Rheumatological diseases:

Serial Number	Disease	Number of patients	Percentage (%) for whole patients (n=29678)	Percentage(%) for Rheumatological diseases(n=2181)
1	Adhesive Capsulitis/Periarthrosis of shoulder joint	794	2.68	36.41
2	Plantar Fasciitis	343	1.16	15.73
3	Polyarthritis/ Rheumatoid Arthritis	308	1.04	14.12
4	Spondyloarthropathy/Ankylosing Spondylitis	258	0.87	11.83
5	Tennis Elbow	223	0.75	10.22
6	De Quervain's Tenosynovitis	129	0.43	5.91
7	Juvenile Idiopathic Arthritis	17	0.06	0.78
8	Others	109	0.37	5.00
Total		2181	7.35%	100%

DISCUSSION:

A uniform data system (UDS) for Medical Rehabilitation is maintained in USA and published annually. No such system exists in Bangladesh.⁶ In this study it has been tried to find out the age, sex, occupation, residency and disease pattern of the patients attending the dept. of Physical Medicine & Rehabilitation, National Institution of Neuro-science and Hospital.

In this study, 57.02% of patients were male and 42.98% were female. Alamoudi OS et al⁴ in their study showed that male was 54%. Nafiza A et al⁷ showed 63.4% patients were males and 36.6% were females with a male to female ratio of 1.7:1. Chowdhury RN et al⁸ presented their study with the male patients (63.3%) predominated with a sex ratio was almost 2:1.

Occupations of patients were housewives (37.76%), labourer (4.35%), serviceman (23.02%), farmer (7.14%), businessman (6.52%), students (5.75%). Nafiza A et al⁷ showed 32.25% House wife, 30.40% Businessman, 26.6% Farmer, 10.75% Student.

This study showed 5.87% of patients were less than 20 years of age, 17.22% were 21-30 years, 23.09% were 31-40 years, 26.15% were 41-50 years, 18.11% were 51-60 years and 9.56% were above 60 years of age. Chowdhury RN et al⁸ showed 8.1% of patients were under 20 years of age, 16.7% were 21-30 years, 15.5% were 31-40 years, 26% were 41-50 years, 18.5% were 51-60 years and 15.2% were above 60 years of age.

In our study, among whole patients (29678), 56.32% were neurological diseases. Among the neurological diseases(16715), majority of patients had stroke 35.53% [Ischaemic stroke (29.03%) and Hemorrhagic stroke(6.5%)], Bell's palsy(17.62), carpal tunnel syndrome(9.11%), Cerebral palsy(6.61%), GBS(4.57%), Myopathy(4.26%), MND(3%), PD(2.78%), TM(2.14%). Patten of neurologic diseases conducted by Chowdhury RN et al⁸ showed stroke was the most common (47.7%),

PN(3.9%), MND(3.3%), GBS(0.9%) etc. Mohammad QD⁹ in his study stated that the incidence of stroke is increasing in this country in comparison to developed country.

In this study, Among whole patients (29678), 33.46% were musculoskeletal diseases. Among the musculoskeletal diseases (9930), majority of patients had non-specific LBP (31.32%) and others were lumbar Spondylosis (15.98%), PLID (12.30%), cervical Spondylosis (10.84%), OA knee (10.57%). Neck pain (sprain/strain) (5.87%), lumbar radiculopathy(Lumbago-sciatica) (4.58%), cervical radiculopathy (2.07%), Spondylolisthesis (Lumber) - (2.04%), osteoporosis(0.24%). Ahmed B et al¹⁰ showed that main causes of back pain were muscle strain (39.65%), nonspecific LBP (22.41%), prolapsed lumbar intervertebral disc (17.24%), lumbar Spondylosis (13.79%) and sciatica (6.91%). In a study done by Shahadat M¹¹, 68.1% patients were diagnosed as nonspecific LBP, 19.8% were lumbar spondylosis, 4.4% patients were unilateral sacralisation, 4.4% were PLID and 2.2% were spondylolisthesis. Hasan SA et al¹² documented non-specific low back pain (59.95%) as most common disease in his study.

In our study, Among whole patients (29678), 7.25% were Rheumatological diseases. Among the Rheumatological diseases, most of the patients were suffering from Adhesive Capsulitis/Periarthrosis of shoulder joint(36.41%) and others were Plantar Fasciitis(15.73%), Polyarthritis/ Rheumatoid Arthritis(14.12%), Spondyloarthropathy / Ankylosing Spondylitis(11.83%), Tennis Elbow(10.22%), De Quervain's Tenosynovitis(5.91%), Juvenile Idiopathic Arthritis(0.78%). In a rheumatological study done by Hasan SA et al¹² showed that among the soft tissue rheumatism Adhesive Capsulitis(25.33%), Plantar Fasciitis(3.65%), Tennis elbow(2.77%), Tendinitis/ enosynovitis(3.46%), Juvenile Idiopathic Arthritis(0.78%). Hasan SA et al¹² also showed that among inflammatory arthritis Rheumatoid Arthritis were 36.06%, Spondyloarthropathy/Ankylosing Spondylitis were 28.89% and Juvenile Idiopathic

Arthritis(0.78%)/Juvenile AS were 9.80%.

Most of the patients were coming from Dhaka city (56.33%) and from outside Dhaka city it was 43.67%. Probably this situation may be due to frequent use of bus for movement and journey. Masud MH et al¹³ showed that urban patients were 75.36% and rural patients were 24.63%. On the other hand, for the metropolitan area patients feel easy to reach in the hospital. Shakoor MA et al¹⁴ showed in their study that most of the patients (65.7%) used bus for movement and journey.

From the above discussion, it is clearly demonstrated that the findings of the study performed in Physical Medicine department of National Institution of Neuro-science and Hospital is consistent with the findings of different institutes of Bangladesh.

CONCLUSION:

A majority of patients who receive Psychiatric management in NINSH are middle aged and have stroke, low back pain (non specific) and Bell's palsy. This study throws some light on the pattern of diseases treated in the PMR department. There should be a large scale multi-centered study need to perform in our country and a uniform data system should be constructed for Medical rehabilitation in Bangladesh.

LIMITATION:

This study was done in a small population and secondary data (Record review) were taken.

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DISCLOSURE:

Self financing, Conflict of interest is none declared and Ethical approval was not required.

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