Incidence of Medical Comorbidities: Its Relation with Diagnosed Cases of Psychiatric Illness

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Abstract

In the wake of National Health Reforms, the nation is focusing its efforts on improving quality and efficiency within the health care system. With this scenario, complications associated with comorbidities are also burden to the system. Therefore, achieving the goals to improve quality and efficiency will require specifically focusing on subgroups that are at risk, because of high cost and poor quality of care. This study was designed to estimate the incidence of medical comorbidity among the diagnosed psychiatric IP / OP and to associate psychiatric illness with selected demographic variables. In the study, a descriptive cross-sectional research design was used to collect data from 200 psychiatric patients using medical and psychiatric illness comorbidity checklist and baseline proforma. The study findings revealed that 80.5 percent of the psychiatric illness patients have at least one or more medical comorbidities and there is an association between demographic variables such as age and medical comorbidity cardiovascular system ($p<0.05$).

Comorbidity means the two disorders should occur concurrently. Relevant comorbidity can be illustrated in clinical, familial or epidemiological settings (Manuel et al, 2013). Comorbidity conditions have been studied from the perspectives of different outcomes (Sprah et al, 2017), medical diseases are present in at least 50 percent of psychiatric patients and it is generally believed that the medical comorbidity is under recognised, misdiagnosed and inadequately treated. Severe mental disorders are associated with significance of physical comorbidity and mortality (Brown, 1997; Šprah et al, 2017).

The physical health of the people with severe mental illness is the concern, particularly in relation to possible adverse effects of anti psychotic medications (Osborn et al, 2007). Medical comorbidity is increasing day by day in psychiatric patients. The co-relation between the psychiatric illness and medical comorbidity is not clearly known and their impact on individuals with severe mental illness is significantly higher (De Hert et al, 2011).

Recent studies have estimated the prevalence of comorbid medical diseases. Manuel et al (2013) reported that between 46-80 percent of in-patients and 20 -43 percent of out-patients with schizophrenia have comorbid medical diseases. The present system of care seems to be lacking to cover large number of mentally ill population, even after many efforts from health care delivery system; still the prognosis and comorbidity management are not satisfactory.

Hence, a study was designed to find the incidence of medical co-morbidities; its relation with diagnosed cases of psychiatric illness at selected tertiary hospital to understand the regional scenario about medical comorbidity in psychiatric patients.

Objectives

1. To estimate the incidence of medical co-morbidity among the diagnosed psychiatric in-patients / Out-patients (IP/OP).
2. To find out the association between medical comorbidities and psychiatric illness.
3. To find the association between medical comorbidities and selected demographic variables.

Review of literature

A research was conducted with New Zealand Health Survey to understand the comorbidities between internalising psychiatric disorders and long-term physical health conditions. The sample (n=3719) were adults living in the community. The results revealed that around 20 percent of participants self-reported to have an internalising psychiatric disorder: odds of stroke (adjusted OR=2.26, $p<0.001$), cardiovascular disease (adjusted OR=1.79, $p<0.001$) and asthma (adjusted OR=1.63, $p<0.001$). Findings highlight the importance of routine screening and assessment of physical health conditions among people diagnosed with mental health problems (Lockett et al, 2018).

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Manuel et al (2013) conducted a study to assess the prevalence of concurrent medical comorbidity in patients (n=100) admitted with psychiatric disorders to the general psychiatric wards. The results showed that 49 percent of in-patients with psychiatric disorders had medical comorbidity. Diabetes mellitus, hypothyroidism and hypertension were the most common medical comorbidity.

Forty et al (2004) conducted a study to examine rates of medical illnesses in patients with bipolar disorder and to examine the clinical course of the bipolar illness according to lifetime medical illness burden. The sample (n=1720) recruited within the UK were asked about the lifetime occurrence of 20 medical illnesses. The results showed significantly increased rates of several medical illnesses in bipolar sample and anxiety disorder.

Methodology

A descriptive cross-sectional research design was used for this study. Participants were recruited at single centre from KS Hegde Charitable Hospital and Research Centre under Nitte University, Department of Psychiatry, Mangalore, Karnataka. The population was psychiatric patients. The convenient sampling technique was used to collect data (n=200). The sample was receiving treatment for psychiatric illness, registered as IP and OP in psychiatric department for regular treatment and follow-up. The patients who were having only medical disorders and non-diagnosed cases of psychiatric illness were excluded. After complete description of the study to the participants, written informed consent was obtained before data collection. Administrative permission was obtained at the department, institution and university level to collect data and complete the research project. Ethical clearance certificate was obtained for the project from the university ethical committee.

Study assessment: Participants were interviewed by using the Demographic Proforma, Medical and Psychiatric Illness Co-morbidity Checklist with 3 Axis. Pre-testing of the tool and pilot study was carried out on (n=20) patients and found to be clear, feasible and there was no ambiguity in tool.

The collected data were coded, organised, tabulated, analysed and interpreted using descriptive and inferential statistics. The incidence of medical comorbidities among each psychiatric patient was analysed using frequency and percentage and the association was done by chi-square and Fisher's test by using SPSS 18 software.

Results

Description of sample characteristics: Majority were from the age group more than 50 years 79.5 percent; 43.5 percent of samples had education upto primary or secondary level. Most of samples (47.5%) were unemployed. Most of sample (60%) had family monthly income between Rs. 5001 to Rs. 10,000; 48 percent of the sample were not doing any kind of regular exercise; 48 percent of sample were caring by parents and 62 percent of sample were married and staying together. The majority of the sample (73%) belonged to Hindu religion and unemployed were 47.5 percent. About half of the sample (51%) were suffering from physical illness and 88 percent were following a vegetarian diet.

Table 1: Distribution of the patients according to the psychiatric diagnosis (n=200)

Psychiatric diagnosis	f	%
Psychotic disorders	158	79
Neurotic disorders	23	11.5
Organic brain disorder	13	6.5
Special disorder	6	3
Total	**200**	**100**

Table: 2: Incidence of medical co-morbidity among the diagnosed psychiatric in patients / out patients (n=200)

Sl.No.	Classification	f	%
1	Cardio Vascular disorders	49	24.5
2	Respiratory disorders	15	7.5
3	Central Nervous disorders	18	9
4	Muscular skeletal disorders	9	4.5
5	Endocrine disorders	24	12
6	Renal disorders	4	2
7	Sensory disorders	7	3.5
8	Sexual disorders	3	1.5
9	Hematological disorders	7	3.5
10	Gastro intestinal disorders (Weight gain)	25	12.5
No medical comorbidity		**39**	**19.5**

Distribution of patients as per psychiatric disorders and incidence of co-morbidity is shown in Table 1 and Table 2. Table 3 shows that there was no association between psychiatric illness and medical co-morbidities ($p>0.05$).

In the present study, association was found between cardiovascular system and selected demographic variables like age ($p<0.05$).

Discussion

Current study results are consistent with those of prior studies. In current study, medical comorbidity was common (80.5%) in mentally ill patients. Previous studies from India and other countries reported similar range, but varied in terms of most common medical comorbidities. Manuel et al (2013) reported that the medical diseases are present in 53

Table 3: Association between medical co morbidities and psychiatric illness (n=200)

Medical disorders according system	Psychiatric disorder	Present	Absent	Chi-square value	P value
Cardio vascular	Psychotic disorder	42	139	0.713	0.396
	Neurotic disorder	4	9		
	Special disorder	0	6		
Respiratory	Psychotic disorder	24	157	0.245	0.521
	Neurotic disorder	3	11		
	Special disorder	0	6		
Central nervous	Psychotic disorder	27	154	0.225	0.345
	Neurotic disorder	4	11		
	Special disorder	0	4		
Musculo-skeletal	Psychotic disorder	10	171	0.588	0.368
	Neurotic disorder	2	11		
	Special disorder	0	4		
Endocrine	Psychotic disorder	34	147	0.717	0.621
	Neurotic disorder	3	10		
	Special disorder	0	6		
Sensory	Psychotic disorder	8	173	0.875	1.000
	Neurotic disorder	0	13		
	Special disorder	0	6		
Respiratory	Psychotic disorder	4	177	0.612	1.000
	Neurotic disorder	0	13		
	Special disorder	0	6		
Sexual	Psychotic disorder	3	178	2.439	0.079
	Neurotic disorder	1	12		
	Special disorder	1	5		
Haematological	Psychotic disorder	14	167	0.503	1.000
	Neurotic disorder	1	12		
	Special disorder	0	6		
Gastro intestinal	Psychotic disorder	20	161	-0.067	0.297
	Neurotic disorder	3	10		
	Special disorder	0	6		
Urinary system	Psychotic disorder	173	8	0.723	0.331
	Neurotic disorder	0	13		
	Special disorder	1	5		

* Significant at 5% level

percent of psychiatric patients.

In this study, the highest percentage (79.5%) of sample belonged to the age group of ≥50 years and majority of the patients were diagnosed with psychotic disorders (n=159). Our study results were at variance from those conducted by Miller et al (2006) who revealed that the majority of the patients' age was between 35–44 years and there were more patients (n=134) with psychosis.

In the current study, 24.5 percent of the mentally ill patients were diagnosed with cardio vascular disorders and it was associated with demographic variable like age ($p<0.05$). Similar findings by De Hert M et al. (2011) revealed that patients with major depression, bipolar disorder and schizophrenia are at significantly higher risk for cardiovascular morbidity particularly in younger individuals. In the present study, 12.5 percent sample were diagnosed with gastro intestinal disorders with weight gain. Similar results have been shown in past. Abbott & Lilly (2009). Severely mentally ill patients and obesity overlap to a clinically significant extent. De Hert et al (2011) reported that persons with severe mentally illness are at increased risk for overweight compared to the general population.

In the present study 12 percent of the patients were diagnosed with endocrine disorder (diabetes). De Hert et al (2011) reported that psychosis and schizoaffective disorder is two to three-fold higher among diabetics compared to the general population. In this study around 7.5 percent of the patients had the history of respiratory problems, this result was supported by a study conducted in US with similar sample size in which 15 percent of schizophrenics and 25 percent of bipolar disorders had chronic bronchitis; 16 percent and 19 percent of people with schizophrenia and bipolar disorder had asthma simultaneously and these rates were significantly higher than those of the matched controls from the general population (De Hert et al, 2011).

Limitations: There are three major limitations in this study that could be addressed in future research. First, we used small sample size and recruited from a single centre; second, the medical comorbidities were diagnosed on the basis of history, follow-up, treatment records and reports only. Third, no biochemical markers, psycho pathological links and the drug selection of the patients were considered in this study.

Implications: The findings propose that patients with psychiatric illness have an increased risk for medical comorbidity. Information about the common prevalent medical disorders in psychiatric patients will help pave way for action on such disorders, which is essential in improving care and prognosis. It is important to raise awareness among healthcare professionals about the risks to which patients with psychiatric illness are exposed with certain medical illness.

Recommendations: The relationship between psychiatric illness and comorbid medical disorders is not fully understood and some of the risk factors are

Table 4: Association between medical comorbidity and age (n=200)

Demographic variable	Age group	CVD Present f	CVD Present %	CVD Absent f	CVD Absent %	χ^2 value / Fisher value	p value
Age	Less than 50 years (n=41)	31	15.5	10	5	7.28	0.006
	More than 50 years (n=159)	18	9	141	70.5		

* Significant at 5% level

modifiable. Additional research on this subject may help early detect in and timely treatment of medical comorbid conditions for improving quality with respectable life expectancy for those with these illnesses.

Conclusion

Many medical comorbid disorders have been identified that are highly prevalent in patients with mental illness. This study suggests that patients with psychiatric illness and medical comorbid disorders will often present with poor prognosis in many domains of functioning. The medical comorbid disorders can lead to poor prognosis, relapse and poor quality of life; if these medical comorbidities are diagnosed and treated early, the prognosis may be good.

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