

Assessment of Health-Related Quality of Life and Evaluation of Prescribing Patterns of Psychiatric Patients in Tertiary Care Hospital

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ABSTRACT

Background: This study gives an overview of the drug utilization patterns and health related quality of life condition in the psychiatric patients in a tertiary care hospital. It was conducted by analysing different parameters like age, gender, weight, addiction, education, occupation and socio-economic status and differential diagnosis of psychiatric illness and prescribed drug therapy. The Aim of this study was to analyse the drug utilization patterns during the anti-psychotic medication therapy as well as to assess the health-related quality of life in psychiatry patients in a tertiary care hospital in Vadodara. **Methods:** This study was conducted for a period of six months at a tertiary care hospital. The patients were enrolled on the basis of inclusion criteria and were classified on the basis of diagnosis, weight age, gender, education and socio-economic status, and also assessed the health-related quality of life. **Results:** Data was collected from a total of one hundred fifty-four patients of which ninety-six (62.33%) patients were females while fifty-eight (37.66%) were males. According to diagnosis, schizophrenia (44.15%) was the highest followed by Anxiety

(20.77%). Antipsychotics (35.29%) and Benzodiazepines (26.20%) accounted as highly prescribed drugs. **Conclusion:** This study gives an overview of the drug utilization patterns and health related quality of life condition in the psychiatric patients by analysing different parameters like age, gender, weight, addiction, education, occupation and socio-economic status and differential diagnosis of psychiatric illness and prescribed drug therapy.

Key words: Drug utilisation patterns, Psychiatric treatment, Health related quality of life, Antipsychotics, Psychiatric patients.

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DOI: 10.5530/jyp.2022.14.45

INTRODUCTION

Psychiatric disorders are a heterogeneous group of mental disorders that cause distress or disability that affect the mood, thinking and behavioural patterns of the individual. Mental disorders are the patterns of behavioural or psychological symptoms that impact multiple areas of life. These disorders create distress for the person who experience these symptoms. Psychiatry is the branch of medicine which focuses on the diagnosis, treatment and prevention of mental, along with emotional and behavioural disorders.¹

The specific causes of psychological disorders are not known, but some contributing factors may include chemical imbalances in the brain, childhood experiences, heredity, illnesses, prenatal exposures, and stress.²

The aetiologies of psychological disorders involve complex interactions between genetic and environmental factors. Various risk factors have been linked to the development of disorders; however, their contributions may differ depending on the disease conditions.²

There are nearly 300 mental disorders listed in the DSM-5 [Diagnostic and statistical manual of Mental Disorders]. Some of the main Psychiatry Disorders are Anxiety disorders, Mood disorders, Psychotic Disorders and Neurodevelopmental disorders.³

Health related quality of life (HRQoL) is a multidimensional concept which comprises of symptoms, side-effects, functioning in multiple domains of life which includes the overall conceptions of happiness and the quality of life. Quality of life means the degree of well-being felt by the patient, unlike the standard of living, quality of life is not a palpable thing and so, cannot be measured directly.⁴

Health Related Quality of life is an important concept in mental health. The aim of the study was to analyse drug-utilization patterns of anti-psychotics and to assess health-related quality of life with reference to various socio-economic factors among psychiatric patients.

MATERIALS AND METHODS

An observational study on drug utilization patterns and health-related quality of life was conducted in department of psychiatry of a tertiary care teaching hospital at Vadodara, Gujarat, for a period of 6 months. The study protocol was approved by Institutional Ethics Committee for Human Research with approval number PUIECHR/PIMSR/00/081734/3007. 154 patients were included to analyse the prescribing patterns of drugs in psychiatric illness for different diagnosis and to assess the impairment in health-related quality of life.

Patients with age greater than 18 years suffering from psychiatric illness consulted psychiatric outpatient department or admitted in psychiatric ward were given with informed consent form and were included in this study. Patients who were unwilling to take part and pregnant women were excluded from the study. Case records of the patients and relevant study data (demographics, history, diagnosis and treatment regimen) was recorded in the data collection form. Health related quality of life was assessed by short form- 12 questionnaire in this study.

The concept of improving health related quality of life is widely used to assess the efficacy of the treatment of chronic disorders. The SF-12 incorporates two dimensions: physical component summary (PCS) and mental component summary (MCS). For MCS, the positive weights are

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placed on the mental health, social function and vitality scales. These components are further broken down into three major components: cognitive health, emotional health and behavioural health. Mental health sub-scales include role-limitations caused by emotional problem, vitality, social functioning and mental health.⁵

Statistical Analysis

All the quantitative data were represented in percentage (%) and mean \pm standard deviation. All the categorical data was represented in median and were calculated by using appropriate non-parametric statistical tests. (Independent t test). Graphical representation was used for a greater understanding of the data. *P*-value of ≤ 0.059 was considered as significant.

RESULTS

During the span of the study a total of 154 patient were enrolled. Out of all the patients' females were higher in number (63.5%) than males. Considering the age groups a greater number of patients were found in the age group of 26-40 years (53.2%). Patients with weight between 46-65kg were higher (63.3%), followed by the 66-85kg.

Few numbers of patients had hypertension and/or DM ($n=26$, 16.8%) as their co-morbid condition and few patients had suicidal thoughts ($n= 14$, 9.09%) in the past and a positive family history ($n=18$, 11.68%), where they had faced family trauma.

By examining the social history of the patient, we found 33.77% were addicted to tobacco, 20.78% to Alcohol, 9.09% had other addictions of smoking, tea, coffee and 36.36% had no addiction. 35.06% of patients had completed their primary education where 25.97% had completed higher education and 19.48% were illiterate. Farming was found to be the most prevalent occupation in this study ($n=40$, 25.97%) followed by elementary occupation like clerical works ($n=32$, 20.78%).

The medical diagnosis of the patients showed different types of psychiatric illness from which patients with schizophrenia (44.15%) were higher, followed by schizophrenia, Anxiety (20.77%), bipolar disorder (7.79%), Alcohol use disorder (9.09%) were majorly diagnosed in the patients of this study. Some other psychiatric illness (i.e., Mania, Mental retardation, nicotine use disorder and obsessive-compulsive disorder) were found in least patients during the study period collectively it formed 18.18%. (Table 1).

Among all patients, females were higher and majority of them were diagnosed with schizophrenia. By using SF-12 we have assessed QoL of the patients and the overall mean PCS score was 34.25 and the mean MCS score was 36.34. The mean value of overall PCS score was found statically significant with MCS score in this study. (*P*-value < 0.059)

The mean PCS and MCS value of female patients was found to be 34.2 ± 6.44 and 36.33 ± 7.51 respectively. Among all the age groups, 26-40 years had mean PCS value 34.15 ± 6.39 and the mean MCS value was 36.19 ± 7.34 .

The patients who were addicted to tobacco had mean PCS value as 34.32 ± 6.624 and the mean MCS value of 36.33 ± 7.60 , while patients addicted to alcohol had mean PCS value as 34.15 ± 6.32 and mean MCS value of 36.16 ± 7.65 .

Majority of the patients had pursued primary education and had mean PCS value of 34.17 ± 6.38 and the mean MCS value of 36.35 ± 7.53 . The patients with agriculture/farming as their occupation had mean PCS value as 34.29 ± 6.31 and the mean MCS value as 36.33 ± 7.57 while patients who were unemployed had mean PCS value as 34.07 ± 6.41 and mean MCS value as 35.98 ± 7.16 . (Table 1).

In this study, the most prescribed agent was lorazepam ($n=98$, 27.4%), trihexphenidyl ($n=56$, 15.91%), olanzapine ($n=42$, 11.93%) followed by

Table 1: Demographics and Socio-Economic Factors with Short Form-12.

Factors	N	%	PCS		MCS	
			Mean \pm SD	<i>p</i> -value	Mean \pm SD	<i>p</i> -value
Demographics						
Gender						
M	58	37.66	34.22 \pm 6.33		36.17 \pm 7.63	
F	96	62.34	34.26 \pm 6.44	0.97	36.35 \pm 7.50	0.8867
Age						
18-25	30	19.48	34.29 \pm 6.43		36.29 \pm 7.53	
26-40	82	53.25	34.15 \pm 6.39		36.19 \pm 7.34	
41-60	42	27.27	34.29 \pm 6.31	0.9917	36.33 \pm 7.57	0.9945
Social History						
Addiction						
Tobacco	52	33.76	34.31 \pm 6.62		36.32 \pm 7.60	
Alcohol	32	20.8	34.14 \pm 6.32		36.16 \pm 7.65	
Other	14	9.09	34.22 \pm 6.33	0.9923	36.17 \pm 7.63	0.9948
No Addiction	56	36.35	34.09 \pm 6.44		36.23 \pm 7.5	
Education						
Primary	54	35.06	34.17 \pm 6.38		36.35 \pm 7.53	
Secondary	40	25.97	34.22 \pm 6.47		36.35 \pm 7.60	
Illiterate	30	19.48	34.26 \pm 6.49	0.998	36.25 \pm 7.16	0.998
Others	30	19.49	34.11 \pm 6.26		35.83 \pm 7.35	
Occupation						
Agriculture	40	25.97	34.29 \pm 6.31		36.33 \pm 7.57	
Elementary	32	20.78	34.3 \pm 6.36		36.20 \pm 7.56	
Unemployed	36	23.37	34.07 \pm 6.41		35.98 \pm 7.16	
Others	46	29.88	33.71 \pm 6.33	0.9851	35.5 \pm 7.44	0.979
Schizophrenia	68	44.15	34.17 \pm 6.38		36.35 \pm 7.53	
Anxiety	32	20.77	34.37 \pm 6.38		36.32 \pm 7.55	
Alcohol Use Disorder	14	9.10	33.96 \pm 6.37		35.74 \pm 7.36	
Bipolar Disorder	12	7.80	34 \pm 6.61		36.01 \pm 7.17	
Others	28	18.18	34.06 \pm 6.62	0.9995	36.29 \pm 7.48	0.9989

risperidone and citalopram ($n=38$) and ($n=36$) respectively. (Figure 1). Fluoxetine and amisulpride were prescribed in similar numbers i.e., 30. Haloperidol was prescribed in few patients i.e., 12 and sodium valproate was prescribed in 22 patients. 4 patients were prescribed with lithium carbonate. (Figure 1)

Among all the drugs, benzodiazepines class ($n=98$, 27.84%) of drugs were prescribed more followed by Anti-cholinergic class ($n=56$, 15.91%), Anti-psychotics ($n=42$, 11.93%), Selective Serotonin Reuptake Inhibitors (SSRIs) ($n=36$, 10.22%).

Among all the antipsychotics prescribed, atypical antipsychotics (olanzapine, clozapine, amisulpride and risperidone) was 90.90% and typical antipsychotics i.e., haloperidol was 9.1%. From all the antidepressants, only Selective Serotonin Reuptake Inhibitors (SSRIs) were prescribed to the patients. (i.e., citalopram (54.55%), fluoxetine (45.45%). Among all Benzodiazepines, Lorazepam ($n=98$, 27.4%) was the most prescribed drug in this class.

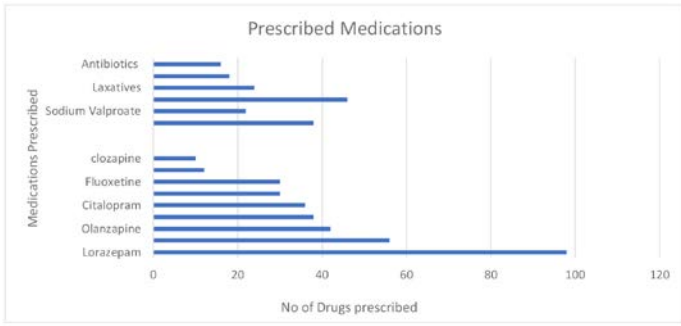


Figure 1: Prescribed Medications in Psychiatric Patients.

Table 2: Prescribed Medications.

Drug Class	N	Percentage proportion
Anticholinergic		
Trihexiphenidyl	56	15.90%
Benzodiazepines		
Lorazepam	98	27.84%
SSRIs		
Citalopram	30	10.22%
Fluoxetine	36	8.54%
Antipsychotics	132	37.50%
Atypical Antipsychotics	120	34.09%
Olanzapine	42	11.93%
Clozapine	10	2.84%
Amisulpride	30	8.53%
Risperidone	38	10.79%
Typical Antipsychotics		
Haloperidol	12	3.41%

Apart from these medications, more patients were prescribed with multivitamins ($n=38$, 49.35%), then Proton Pump Inhibitor (PPIs) ($n=46$) followed by laxatives ($n=24$), Analgesics ($n=18$) and antibiotics ($n=16$). (Table 2).

Most of the antipsychotic medications were prescribed in the case of schizophrenia, followed by bipolar disorders. In the case of schizophrenia, the most prescribed drug was trihexyphenidyl (21.9%) followed by lorazepam (20.95%), amisulpride, olanzapine, risperidone, fluoxetine and citalopram.

In the case of bipolar disease, the most prescribed drug was lorazepam (25%) followed by olanzapine (20%), trihexyphenidyl (15%), risperidone, fluoxetine and amisulpride. In the case of Anxiety, the most prescribed drug was lorazepam (38.7%) followed by citalopram (29.03%), Olanzapine, risperidone, fluoxetine, haloperidol and trihexyphenidyl. (Figure 2).

DISCUSSION

In this study, a total of 154 patients were enrolled. Among all the enrolled patients, we found many patients were from one of the charitable trusts of Vadodara which is taking care of specially challenging people and they had separate department for females. Females were higher than male in this study. In this study, majority of the patients had age between

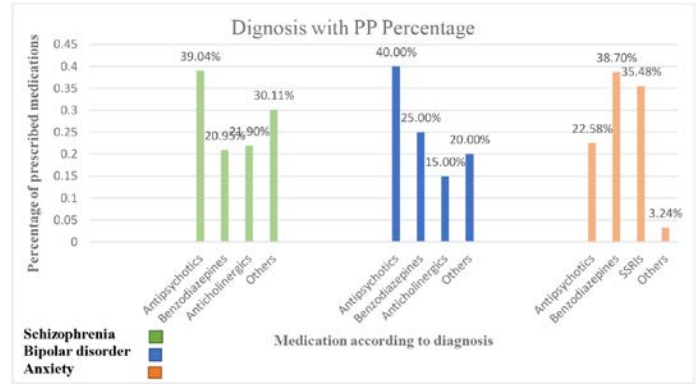


Figure 2: Prescription Patterns according to Diagnosis.

26-40 years i.e., 53.24%, with the average age being 36.9 ± 10.26 years. The similar results found with a study done by Paul P *et al.*⁶

Few numbers of patients had hypertension and/or DM as their co-morbid condition and few patients had suicidal thoughts in the past had history of family trauma. In this study, we found majority of patients were addicted to tobacco, followed by alcohol, and other substances like smoking and tea-coffee and 36.36% didn't have any history. These results were resonated with the study of Chuki P. *et al.*⁷

In this study, we found patients had addiction in their initial years of middle age. (35- 55 years) (i.e. mean age for tobacco addicted patients was 38.77 ± 10.27 years, Alcohol addicted was 35.5 ± 10.43 years, smoking addicted was 34.29 ± 10.26 years).

Majority of the patient's primary occupation was farming related works, followed by elementary occupation like clerical works or labour. This might be because of the study site was situated in a rural setting where majority footfall of patients had these as their occupations which is similar to the study of Koshy B. *et al.*⁸ where also majority of the patients had labour works as their primary occupation.

Education is very crucial for treating mental health. Majority of study patients had at least completed their primary education followed by secondary and few were illiterate. By assessing the patient's QoL, it was found that impairment of physical component of SF 12 was significantly higher than impairment of mental component. This might be because patients had to do their daily activities by themselves in welfare organizations due to shortage of caretakers and further the psychiatric disease caused hindrance in doing that.⁹

In this study, most of the patients were diagnosed with schizophrenia followed by bipolar disorder, anxiety and others (18.18%). Similar, findings were seen in the study of Lahan K *et al.*¹⁰ where schizophrenia was the most common psychotic disorder and it also had higher prevalence of anti-psychotic prescribing for women, among the population majority of drugs were prescribed to adults between 21-40 years.

In present study, Lorazepam, Trihexyphenidyl, olanzapine risperidone, citalopram, amisulpride and fluoxetine were the highly prescribed medications. The majorly prescribed class of drug was found as antipsychotics, benzodiazepines, SSRIs, multivitamins and anticholinergics. Among all the antipsychotics, atypical antipsychotics (olanzapine, clozapine, amisulpride and risperidone) were majorly prescribed (90.90%) and rest 9.1% were typical antipsychotics (haloperidol), because it is having better symptoms control and reduced chances of the extrapyramidal adverse effects and also in improving negative symptoms, cognitive dysfunction and also efficacious in antipsychotic resistant cases. Amongst the second-generation antipsychotics, olanzapine was the commonly prescribed drug followed

by risperidone, this data resembled with the study done by Paul P *et al.*⁶ which indicated that among all the antipsychotics, atypical antipsychotics were most commonly used.

Another class of drug which was used in high proportion was Selective Serotonin Reuptake Inhibitor (SSRIs) in that citalopram was the commonly prescribed drug followed by fluoxetine. In the study of Goyal V. *et al.*,¹¹ atypical antipsychotics (i.e. olanzapine and risperidone) were the most common drugs prescribed.

Apart from antipsychotics, multivitamins were prescribed more for their nutritional supplementation. Following this PPIs, laxatives and antibiotics were prescribed for symptomatic relief. Pantoprazole was highly prescribed among PPIs.

Among study population schizophrenia and anxiety were majorly diagnosed. Considering individual diseases, in schizophrenic patients, trihexyphenidyl, lorazepam, Amisulpride was highly prescribed followed by risperidone, olanzapine fluoxetine, citalopram. For anxiety, lorazepam, citalopram followed by risperidone, olanzapine and fluoxetine; for bipolar disorder, lorazepam, olanzapine while haloperidol and trihexyphenidyl was mostly prescribed. And alcohol use disorder (AUD) was treated with lorazepam, olanzapine, risperidone followed by haloperidol, fluoxetine and citalopram.

The surprising results found by co-relating HRQoL with factors i.e. no significant difference among SF-12 score of various socioeconomic factors. Considering the gender distribution, psychiatric diseases had equal impact on qol in psychiatric patients of both the genders. Considering the age of the patients, majority of the patients were in their initial years of middle age. This study data suggested that there was no significant impact of addiction on various psychiatric diseases. Similar to this, there was no significant impact of education and occupation was found on quality of life of various psychiatric patients. This study results indicated that psychiatric diseases had no significant impact on the Quality of life of patients when considering any socio-economic conditions.

LIMITATIONS

This study was limited to a tertiary care hospital in the western region of India and thus the findings cannot be generalised. As the study was conducted on psychiatric patients, response from caretakers had a crucial role in collecting the data, but lack of response from the caretaker form limitation of the study. Also, shorter study period and small sample size were limitations of the study. The data collection site was located in a rural area, so the background of the patient might have influenced the results.

CONCLUSION

This study gives an overview of the drug utilization patterns and health related quality of life condition in the psychiatric patients in a tertiary care hospital by analysing different parameters. This study data concluded that more patients who had consulted the psychiatric department were females, having middle age, primary education and patients didn't had

addiction. Schizophrenia was most diagnosed disease and lorazepam, trihexyphenidyl, olanzapine and risperidone were the most prescribed drugs among all anti-psychotics. Apart from antipsychotics, BZD and SSRIs were the preferred medication prescribed for all the psychiatric disorders. Although the impairment was higher in both the components, patients had impaired physical component which caused hindrance in performing their daily activities. The site of the study was located in a rural area due to which impact of psychiatric disease on various socio-demographic and socio-economic factors was found not to be of much significance.

ACKNOWLEDGEMENT

We would like to thank the HOD and all the medical staff members in department of psychiatry for their support and cooperation in the study. We thank everyone who contributed directly or indirectly in the completion of this study.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

Ethics Approval

The ethics approval was obtained from Institutional Ethics Committee for Human Research with approval number PUIECHR/PIMSR/00/081734/3007.

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Article History: Received: 10-03-2022; Revised: 29-03-2022; Accepted: 24-04-2022.

Cite this article: Shah P, Patel M, Patel G, Dharamsi A, Shah P, Rathod MM. Assessment of Health-Related Quality of Life and Evaluation of Prescribing Patterns of Psychiatric Patients in Tertiary Care Hospital. *J Young Pharm*. 2022;14(2):240-3.