

FIRST PRESCRIPTION ANALYSIS OF ANXIOLYTICS IN A TERTIARY CARE  
TEACHING HOSPITAL

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Received on: 26/12/2021

Revised on: 16/01/2022

Accepted on: 06/02/2022

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## ABSTRACT

**Background:** Anxiety is one of the most widespread psychiatric disorders. Anxiolytics remain the main stay of treatment. There is limited evidence in Indian literature regarding the prescribing pattern of drugs used in the treatment of anxiety disorders. Hence a drug utilization study was conducted to assess the prescription trends of anxiolytics in a tertiary care centre. **Methods:** The study population comprised of all newly diagnosed patients of anxiety attending the tertiary care hospital. This was a part of a study which included all patients with psychiatric disorders. **Results:** Clonazepam 151(72.24%) was the most commonly prescribed anti-anxiety drug followed by lorazepam 40(19.14%), diazepam 13(6.22%), etizolam 5(2.4%) was the least prescribed anxiolytic. **Conclusions:** The published evidences confirm that Clonazepam was the preferred anxiolytic. This suggests that there is trend of using shorter acting benzodiazepines in the treatment of anxiety disorders.

**KEYWORDS:** Anxiolytics, Anxiety, drug utilisation study.

## INTRODUCTION

Anxiety is a normal human emotion. The word anxiety is derived from the Latin word "anxietas" meaning to choke, throttle, trouble and upset and includes behavioural, affective and cognitive responses to the perception of danger.<sup>[1]</sup> Anxiety is an emotional state, unpleasant in nature, associated with uneasiness, discomfort and concern or fear about some defined or undefined future threat.<sup>[2]</sup> Anxiety is one of the most widespread psychiatric disorders and generalized anxiety disorder is the most common disease seen in clinical settings.<sup>[3]</sup> Anxiety can be classified into two types; generalised anxiety (persistent over months but not restricted to any particular environmental circumstances), and episodic anxiety like phobia and panic disorder. In panic disorder, the patient remains in a state of anxiety without any adequate cause, lasting for few minutes, characterized by palpitation, fear of unknown, sweating, dyspnoea, etc. Phobia is an abnormal fear, triggered by a single stimulus, set of stimuli, which are predictable and normally cause no particular concern to others. Phobia is classified into following types like agoraphobia, claustrophobia, social phobia, simple phobia etc. Anxiety disorders are extensively co-morbid, not only with major depression, but also with each other, since many patients qualify over time for a second or even third concomitant anxiety disorder. They are frequently co-morbid with many other conditions such as substance abuse, attention deficit hyperactivity disorder, bipolar disorder, pain disorders, sleep disorders, and more.<sup>[1]</sup>

## Epidemiology

The global current prevalence of anxiety disorders adjusted for methodological differences was 7.3% (4.8-10.9%) and ranged from 5.3% (3.5-8.1%) in African cultures to 10.4% (7.0-15.5%) in Euro/Anglo cultures.<sup>[4]</sup> A review of anxiety disorders in different countries found average lifetime prevalence estimates of 16.6% with women having higher rates on average.<sup>[5]</sup> According to a six month prevalence rate reported in a WHO study in 14 countries including US, about 8% of patients come to a primary care with generalized anxiety disorder.<sup>[6]</sup> According to the European Study of the prevalence of mental disorders prevalence of anxiety is only 2.8%.<sup>[7]</sup> According to a literature survey done in August 2008 by Jonathan R. T et al for the period 1987–2009, anxiolytic drug groups like benzodiazepines, azapirones, antihistamines, antidepressants,  $\alpha_2\delta$  ligands, antipsychotics, and drugs like buspirone, venlafaxine, duloxetine, fluoxetine, escitalopram, olanzapine, paroxetine, pregabalin, quetiapine and risperidone; in addition to psychological therapies and cognitive behavioural therapy are commonly used treatment modalities.<sup>[8]</sup>

## Objectives

1. To delineate preferred classes of drugs used and their utilization pattern in patients newly diagnosed with anxiety disorder.
2. To find differences, between the preferred and ideal prescribing pattern of anxiolytics in Indian context.
3. To analyze the drug utilization pattern observed and reason(s) for deviation(s).

## MATERIALS AND METHODS

### Source of data

**Study subjects:** The study population comprised of all newly diagnosed patients of anxiety disorders attending the tertiary care hospital. This was a part of a study which included all patients with psychiatric disorders.

### Inclusion criteria

1. Patients of any age group and of either sex attending the psychiatric OPD and consenting to participate in the study
2. Newly diagnosed case of anxiety

### Exclusion criteria

1. Patient's whose psychiatric diagnosis was not definite.
2. Non-consenting patient/relative.
3. Inadequate data (age, marital status, registration number etc).
4. Long-standing case of psychiatric disorder.
5. Newly diagnosed case whose prescription did not contain antipsychotic medication.
6. Prescriptions with same OPD numbers.

### Method of data collection

**Study design:** A hospital based cross sectional study was conducted.

**Sample size:** 209 (out of 437)

**Sampling procedure:** Data was collected daily by going to the psychiatry OPD.

**Sampling Instrument:** A questionnaire based study was conducted in the psychiatry OPD. First prescription written by the Psychiatrist for a newly diagnosed patient of anxiety disorder and containing at least one anxiolytic medication irrespective of his/her age and gender were included.

**Present study:** The questionnaire contained patients demographics like age, gender (male/female), marital status (Married/ unmarried/ divorced/ separated), religion (Hindu/ Muslim/ Christian/Others), socioeconomic status according to Modified B.G. Prasad's socio-economic classification and registration number. Patient's

diagnosis was done by the psychiatrist using the ICD-10 criteria. Prescription details like date, number of drugs prescribed, names of individual drugs (generic/branded), whether the prescribed drug(s) was obtained from the hospital pharmacy. Dose of the drug, dosage form, dosing schedule and duration of treatment were noted down in the questionnaire. Costs of the drugs were calculated depending on the availability of the drug from the hospital drug store. Cost of the drugs prescribed from outside pharmacies was calculated from the National Drug Index.

**Data analysis:** Descriptive statistics were applied and data was assessed using proportions and percentages. Data entry was done using Microsoft Excel and analysis was carried out with the help of Statistical Package For Social Sciences – 20.0 (SPSS Statistics -20.0).

## RESULTS

In the present study it was observed that of all the psychiatric disorders patients the percentages of male and female participants were 62% and 38% respectively. Majority of the patients comprised in the age group of 21 – 30 years (39%) followed by 31 – 40 years (24%). 11% were illiterate, 10% had received primary education, 25% high school, 21% secondary education, 32% participants were graduates and 1% postgraduates. Distribution of study participants as per their occupation demonstrated that 31% of them belonged to agriculture profession followed by 21% who were involved in business, least being labourers (3%). In the present study 71% participants were married, 27% unmarried and 2% participants were divorced. As per the Modified B. G. Prasad Classification 59% study participants belonged to class IV socio-economic status, 24% to class III socioeconomic status, 10% class II and 7% class I. Out of 209 prescriptions, Clonazepam 151(72.24%) was the most commonly prescribed anti-anxiety drug followed by lorazepam 40 (19.14%) and diazepam 13 (6.22%) etizolam 5(2.4%) was the least prescribed anti-anxiety. (Table 1; Figure 1) 19 prescriptions contained FDC's. Clonazepam 0.25mg+ escitalopram 10mg was the most common FDC used.

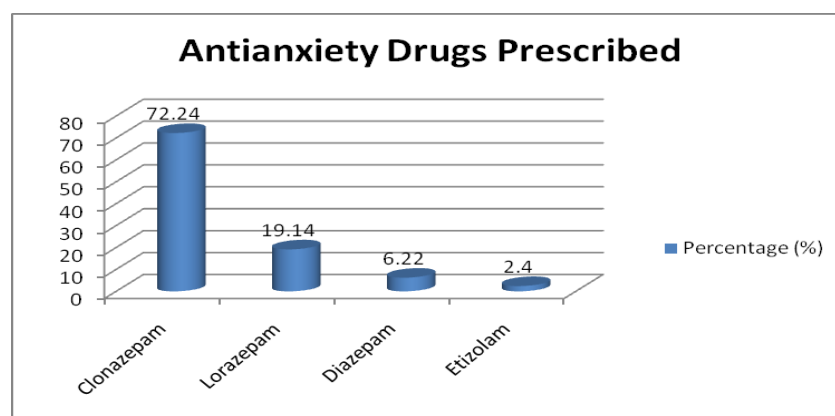


Figure 1:

**Table 1: Anti-anxiety drugs Prescribed to Study Participants.**

Anti-anxiety Drugs	Frequency (n)	Percentage (%)
Clonazepam	151	72.24
Lorazepam	40	19.14
Diazepam	13	6.22
Etizolam	5	2.4
Total	209	100.00

## DISCUSSION

In the present study it was seen that among the anxiolytics use clonazepam (72.24%) was the most commonly used drug followed by lorazepam (19.14%), diazepam (6.22%) and etizolam (2.4%). A study conducted in Burdwan suggests that among the anxiolytics prescribed, clonazepam (83.12%) was the most commonly used drug followed by lorazepam (14.53%) and diazepam (1.3%).<sup>[9]</sup>

Another similar study conducted in Nepal suggested that among the anxiolytics used, the commonest drug used was alprazolam (50%), followed by clonazepam (31.6%), chlordiazepoxide (15.8%) and lorazepam (2.8%).<sup>[10]</sup> This suggests that there is trend of using shorter acting benzodiazepines, since use of longer acting drugs lead to dependence and may also have withdrawal symptoms when the dose of these drugs are reduced or the treatment is terminated.

When we compared the brand and generic names in the present study we found that the percentage of prescriptions with brand names were 76.44% and generic names were 23.56%. In study conducted by Mukherjee et al it was seen that the percentage of prescriptions with brand names were 17% and generic names were 83%.<sup>[11]</sup> Most of the patients who visited our hospital OPD belong to Class IV socioeconomic status. Generic drug prescription reduces the treatment cost of the patient and hence reducing the burden. Hence it is advisable to shift the drug prescribing to generic drugs so that it would be cost effective to the patients.

Selective serotonin reuptake inhibitors and SNRIs are both first-line treatments for PD, GAD, and SAD and have been shown to be efficacious for the treatment of anxiety disorders.<sup>[12,13,14]</sup> A recent meta-analysis reported that most SSRIs and SNRIs are more efficacious than placebo in GAD, with escitalopram and duloxetine potentially having the largest effect sizes.<sup>[15]</sup> The recommended duration of treatment can vary but may be as short as 3–6 months, or up to 1–2 years or even longer. Although there may be concern about tachyphylaxis, there is limited evidence of adverse outcomes with the chronic use of SSRIs or SNRIs.<sup>[16]</sup> These medications also tend to be well-tolerated, with usually manageable or short-lived adverse effects such as nausea, headache, dry mouth, diarrhea, or constipation. Sexual dysfunction tends to be a more durable and problematic adverse effect of SSRIs and SNRIs but can be managed with adjunctive treatments. There is the

possibility of patients developing antidepressant-induced jitteriness or anxiety, potentially due to initial surge of serotonin, although this anxiety can be mitigated by slower titration or adjunctive use of benzodiazepines.<sup>[17]</sup>

Benzodiazepines (clonazepam, alprazolam, diazepam, and lorazepam) are used in short term management of anxiety. They have a quick onset of action and provides benefit within 30 minutes to an hour. They induce relaxation and decreases muscular tension and other manifestations of anxiety. Since they have a rapid onset, they are beneficial for panic attacks. Chronic use could lead to tolerance and dependence.

Cognitive behavioral therapy (CBT) is the psychotherapy of first choice in most patients with anxiety disorders. With access to psychological therapies being limited, CBT provided within primary care settings for anxiety is usually brief and focused to psychoeducation, exercise prescription and psychosocial support.

## CONCLUSION

Clonazepam was the most commonly used anxiolytic used in the present study and is in accordance to previous studies. It is still preferred, the reason being, it does not cause dependence and withdrawal symptoms as compared to the longer acting benzodiazepines. The present study conducted shows that the preferred prescribing pattern is keeping in pace with the ideal prescribing pattern of anxiolytics in the Indian context. With the advent of newer drugs a shift from the existing trend would be advisable to the prescribing psychiatrists. Generic drug prescription would be advisable as most of the patients attending the Psychiatry OPD belonged to Class IV socio-economic class. Prescribing generic drugs would make it a cost-effective treatment. Since there is a wide variation of prevalence of psychiatric disorders in India it is preferred to conduct such studies more frequently and keep in pace with the ideal prescribing pattern as and when it changes.

### Declaration

**Funding:** None.

**Conflict of Interest:** None declared.

**Ethical approval:** Approved by Institutional Ethics Committee.

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