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PRESCRIPTION SURVEY: CHOICE OF BENZODIAZEPINES BY THE PSYCHIATRISTS & NEUROLOGISTS IN COMILLA & FENI DISTRICT OF BANGLADESH (MAY 2015)

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ABSTRACT: This prescription survey was carried out to find the most frequently used benzodiazepine class (*e.g.*, Clonazepam, Diazepam, Bromazepam, Clobazam, Midazolam, Flurazepam & Alprazolam) & their rational use as anti-anxiety agents in the Comilla & Feni District of Bangladesh. All the prescriptions were collected in June 2015, prescribed by psychiatrists throughout May 2015. We have found prescription containing 21% Clonazepam, 12% Flurazepam, 6% Midazolam, 4% Alprazolam, 2% Bromazepam, 2% Diazepam & 2% Clobazam in Comilla district. 51% prescription did not contain any benzodiazepines. In Feni district, we have found 22% Clonazepam, 0% Flurazepam, 0% Midazolam, 11% Alprazolam, 6% Bromazepam, 0% Diazepam & 0% Clobazam in the prescription. 61% prescription in this district did not contain benzodiazepines. We found 1 prescription containing Midazolam & Flurazepam (both are benzodiazepines). In another prescription collected from Feni district, we got 1 prescription containing Clonazepam & Alprazolam. But we recommend the citation of the chief complain or diagnosis in the prescription for better understanding and justification of using any drug, especially when it is a sedative, hypnotic, or narcotic drug.

Keywords: Psychiatric diseases, Benzodiazepines, Insomnia, Anxiety, Schizophrenia

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INTRODUCTION: According to the National Mental Health Survey in 2003-2005, about 16.05% of the adult population in Bangladesh is suffering from mental disorders. A small portion of patients are reporting to government facilities, and they receive some psychotropic medicines from the facilities.

Benzodiazepines are the class of anti-anxiety agents (*i.e.*, Clonazepam, Diazepam, Bromazepam, Clobazam, Midazolam, Flurazepam, Nitrazepam, Alprazolam, Chlordiazepoxide, Lorazepam, *etc.*) used as the first-line therapy for treating anxiety disorders throughout the world. Diazepam, lorazepam, alprazolam, and clonazepam remain in the top 200 most frequently prescribed medication in the USA¹.

Benzodiazepine Indications:²

1. Benzodiazepines are indicated for the short-term relief (two to four weeks only) of anxiety that is severe, disabling, or causing

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the patient unacceptable distress, occurring alone or in association with insomnia or short-term psychosomatic, organic, or psychotic illness.

2. The use of benzodiazepines to treat short-term 'mild' anxiety is inappropriate.
3. Benzodiazepines should be used to treat insomnia only when it is severe, disabling, or causing extreme patient distress.

Prescribed Use of the following 4 Benzodiazepines³:

Clonazepam: Alone or as in an adjunct in the treatment of the panic disorder, seizure disorder, periodic leg movement, neuralgia, anxiety.

Alprazolam: Treatment of anxiety disorder, panic disorder, with or without agoraphobia, and anxiety associated with depression.

Flurazepam: The short term management of insomnia.

Midazolam: Sedative-hypnotic; preoperative sedation and provides conscious sedation before diagnostic or radiographic procedures, ICU sedation (continuous IV infusion), intravenous anesthesia induction, and maintenance.

The Objective of the Study: This prescription survey was carried out to find the most frequently used benzodiazepine class (*e.g.*, clonazepam, diazepam, bromazepam, clobazam, midazolam, flurazepam & alprazolam) & their rational use as anti-anxiety agents in the Comilla & Feni District of Bangladesh. All the prescriptions were collected in June 2015, prescribed by psychiatrists/neurologists throughout May 2015. Moreover, our other objectives were to find out whether more than one benzodiazepine generic is used in the same prescription or not, all the medications are given after proper diagnosis, what are the indications for prescribing clonazepam, diazepam, bromazepam, clobazam, midazolam, flurazepam & alprazolam, what are the most common chief complain by the patients, patients outside Dhaka are getting proper medication advice or not. This is the reason for choosing Comilla & Feni as our survey area.

MATERIALS & METHODS: We conducted a prescription survey to examine the use of

benzodiazepine class drugs in the clinics, private chambers & Govt. hospitals situated in the Comilla & Feni District of Bangladesh. We collected 49 prescription form Comilla District & 17 prescriptions from Feni District of the country. All the physicians are specialist in psychiatry, neurology, neuro-medicine & neurosurgery. Those prescriptions were given throughout May 2015. We collected all the prescriptions in June 2015.

Then we used MS word & MS Excel worksheet to find out the percentage of clonazepam, diazepam, bromazepam, clobazam, midazolam, flurazepam & alprazolam prescribed by the specialist physicians for the patients with anxiety, hypertension, insomnia, without diagnosis or without mentioning the chief complaint in the prescription. At first, we found out the frequency of prescription containing different benzodiazepines in collected form Comilla district. Then we found out the prescription frequency containing different benzodiazepines in different psychological conditions. After that, we identified how many prescriptions contain 2 benzodiazepine generics for the same patient and what could be the reason behind choosing two generics at the same time.

Limitations of the Study: We collected only one-month data (prescription) from only two districts. It is not sufficient to decide for the whole the country. The number of prescriptions collected might be more than we used in the survey.

RESULT & DISCUSSION:

Comilla District: Among 49 prescriptions collected from the Comilla district, we have got the following benzodiazepines containing prescriptions:

It is clear that the psychiatrists/neurologists/neurosurgeons prefer Clonazepam generic among all the benzodiazepines. They trust and recommend Clonazepam for patients with primary insomnia, secondary insomnia, hysteria, *etc.*

Moreover, it has been proved that physicians always prefer Clonazepam for patients with any type of sleep disorders because we found 38 among 49 prescriptions where no diagnosis was mentioned. It might happen that the chief complains of those patients were less sleep/irregular sleep.

TABLE 1: USE OF BENZODIAZEPINES IN COMILLA DISTRICT

Generic drugs	No. of prescription (s)	Diagnosis
Clonazepam	10	Insomnia/Hysteria/No diagnosis
Diazepam	1	No diagnosis
Clobazam	1	No diagnosis
Bromazepam	1	No diagnosis
Midazolam	3	Bipolar Mood
Flurazepam	6	Disorder/Schizophrenia/without a diagnosis
Alprazolam	2	Insomnia/ without a diagnosis
No benzodiazepines	25	Various diagnosis

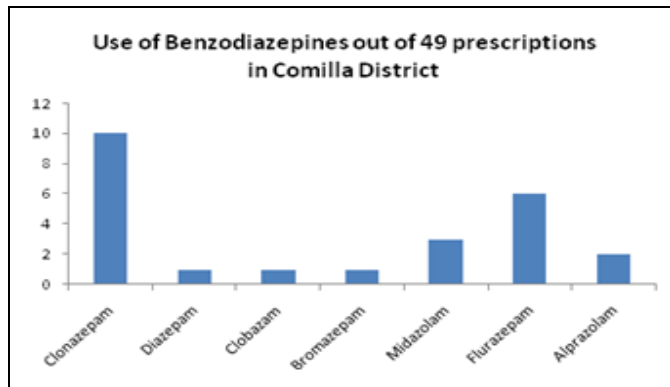


FIG. 1: USE OF BENZODIAZEPINES IN COMILLA DISTRICT

Diazepam had been found in only one prescription without mentioning diagnosis or ‘chief complain’ by the patient. Clobazam has the same effect on prescription as diazepam. We found 1 prescription in the Comilla district that contains Clobazam. Sometimes it is prescribed without diagnosis and based on patients complains. In integration to that Bromazepam was found in 1 prescription among 49 prescriptions in the Comilla district. Midazolam had been found in 3 prescriptions by mentioning Bipolar mood disorder / Schizophrenia. 1 prescription had been given to the patient without a diagnosis. Surprisingly, we found 1 prescription containing Midazolam & Flurazepam (both are benzodiazepines).

We will discuss the justification of using midazolam & flurazepam as an adjunct therapy. Flurazepam had been found in the 6 prescriptions among 49 prescriptions in the Comilla district. Physicians recommended the generic to the patients suffering from insomnia. Some prescriptions had been given without mentioning the diagnosis or chief complain.

We identified 2 prescriptions containing Alprazolam for the patients without citation of the disease name or chief complain.

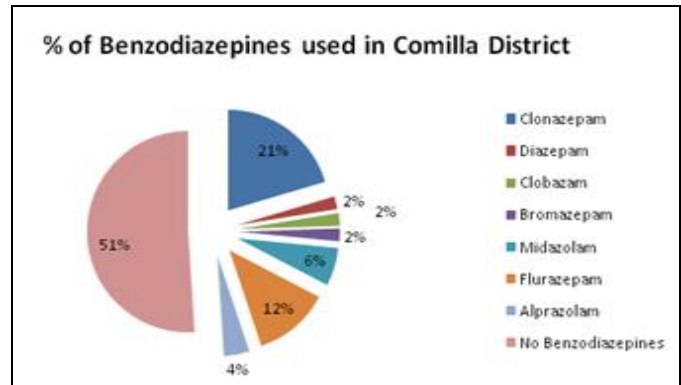


FIG. 2: FREQUENCY DISTRIBUTION OF PERCENTAGE OF BENZODIAZEPINES USED IN COMILLA DISTRICT

Feni District: Following are the result found from the Feni district containing benzodiazepines among 17 prescriptions:

TABLE 1: USE OF BENZODIAZEPINES IN FENI DISTRICT

Generic drugs	No. of prescription (s)	Diagnosis
Clonazepam	4	Insomnia/Hysteria/No diagnosis
Diazepam	0	No diagnosis
Clobazam	0	No diagnosis
Bromazepam	1	No diagnosis
Midazolam	0	Bipolar Mood
Flurazepam	0	Disorder/Schizophrenia / without diagnosis
Alprazolam	2	Insomnia/ without diagnosis
No benzodiazepines	11	Various diagnosis

From the result of Feni district, we got similar finding that the psychiatrists/neurologists/neurosurgeons prefer Clonazepam generic among all the benzodiazepines. They trust and recommend Clonazepam for patients with primary insomnia, secondary insomnia, hysteria, etc.

Moreover, it has been proved that physicians always prefer Clonazepam for patients with any type of sleep disorders because we found 11 prescriptions out of 17 prescriptions where no diagnosis was mentioned. It might happen that the chief complains of those patients were anxiety/disruption of sleep.

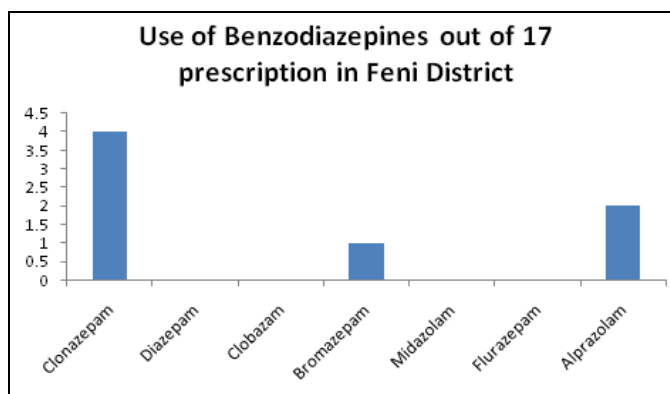


FIG. 3: USE OF BENZODIAZEPINES IN FENI DISTRICT

There were no diazepam, clobazam, midazolam & flurazepam prescribed by the physicians in the 17 prescriptions collected from Feni. In addition to that Bromazepam had been found in 1 prescription among 17 prescriptions in the Feni district. We identified 2 prescriptions containing Alprazolam for the patients without citation of the disease name or chief complain. Exceptionally, we found 1 prescription containing Clonazepam & Alprazolam (both are benzodiazepines). We will discuss the justification of using Clonazepam & Alprazolam administration simultaneously.

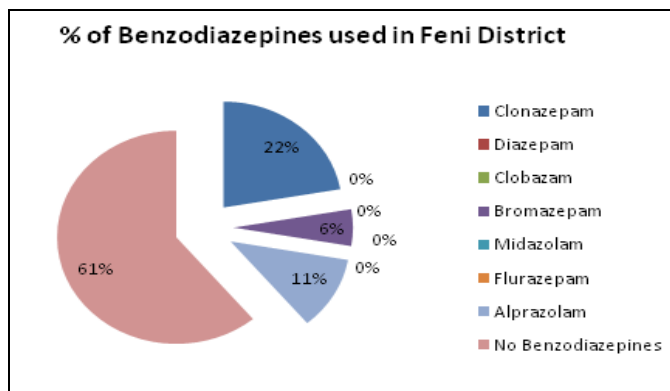


FIG. 4: FREQUENCY DISTRIBUTION OF PERCENTAGE OF BENZODIAZEPINES USED IN FENI DISTRICT

Justification of Combined Use of 2 Benzodiazepines: Flurazepam can be used as an adjunct with Midazolam as flurazepam is used in the short-term management of insomnia, whereas midazolam exerts continuous sedation.

On the other hand, as per the indication approved by USFDA ⁷, Clonazepam can be used as an adjunct in the treatment of anxiety, panic disorder, periodic leg movement, neuralgia and anxiety with other benzodiazepines like Alprazolam which we

found in 1 prescription in Feni district. We know that Diazepam is very effective as a muscle relaxant so it may be found as an adjunct therapy.

CONCLUSION: Finally, in conclusion, we can say that in both the district (Comilla & Feni) frequently prescribed benzodiazepine is Clonazepam as an anti-anxiety agent. Less frequently prescribed generic of this class are diazepam, clobazam & bromazepam. Flurazepam is the 2nd choice of physicians in the Comilla district, and Alprazolam is the 2nd choice as per our study. Midazolam is the 3rd choice in Comilla, whereas Bromazepam is the 3rd choice by the neurologists/psychiatrists in Feni district.

A review paper found that long term use of flurazepam is associated with drug tolerance, drug dependence, rebound insomnia, and CNS related adverse effects. Flurazepam is best used for a short period and at the lowest possible dose to avoid complications associated with long term use. Non-pharmacological treatment options, however, were found to have sustained improvements in sleep quality ⁶. In our survey, we have got 12% prescription containing Flurazepam (2nd highest prescribed) in Comilla district.

Although the administration of anti-anxiety agents is currently the most common treatment modality for insomnia, long term use can cause many side effects as well as addiction. Therapy without involving drugs-including combinations of behavioral changes, sleep-restriction therapy, and patient education-provide longer-lasting benefits.

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CONFLICT OF INTEREST: Nil

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