

# Treatment and the impact of Age, Gender and occupation on Neurotic, stress-related and Somatoform disorders: A study from Nepal

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#### Background

Neurotic, stress-related and Somatoform disorders is a common psychiatric disorder. According to ICD-10 (Tenth revision) Classification of mental and Behavioural disorders, Diagnostic Criteria for Research its code is F40-48. The main objective of the study was to find out the commonest treatment modalities used in the treatment Neurotic, stress-related and Somatoform disorders in a teaching hospital in Western Nepal in inpatients.

#### Methods

It is an observational cross sectional study was done at Psychiatric inpatient department, Manipal Teaching Hospital, Pokhara, Nepal.

#### Results

Among Neurotic, stress-related and Somatoform disorders, anxiety was found to be 63.3% followed by Somatoform disorder 21.7%, Reaction to stress and adjustment disorders 6.7%, Obsessive compulsive disorder 5% and Dissociative Disorder was 3.3%. In the treatment of Neurotic, stress-related and Somatoform disorders in Anxiety, Alprazolam was the commonest drug prescribed 50%, followed by Clonazepam 31.6%, Chlordiazepoxide 15.8% and Lorazepam 2.6%. In Somatoform disorder Fluoxetine 61.5%. was the commonest drug to be prescribed followed by Alprazolam 23.1% In case of Obsessive compulsive disorder Fluoxetine , Diazepam and Alprazolam was prescribed 33.3% each.

#### Conclusion

Anxiety was the commonest type of disorder. Neurotic, stress-related and Somatoform disorders mostly occurs between 14-40 yrs, housewives and in female patients. Alprazolam was the commonest drug prescribed, followed by clonazepam and chlordiazepoxide in Anxiety. In Obsessive compulsive disorder Benzodiazepines and Fluoxetine, in Dissociative Disorder, Reaction to stress and adjustment disorders Benzodiazepines were used commonly and in Somatoform disorder Fluoxetine and alprazolam was used.

**Keywords:** Drug, Impact, Inpatients, Nepal, Neurotic, Psychiatry, stress-related and somatoform disorders, treatment.

#### Background

Neurotic, stress-related and Somatoform disorders is a common psychiatric disorder. According to ICD-10 (Tenth revision) Classification of mental and Behavioral disorders, Diagnostic Criteria for Research its code is F40-48 [1].

Majority of the people in Nepal thinks that mental illness as a moral weakness caused by supernatural forces like bhoot (ghost), boksi (witches), mohni (black magic), paap (sins of previous life). The traditional way of managing mental illness is to seek the assistance of traditional faith healers like Dhami and Jhankri. These causes delay in seeking treatment [2].

Bishnu Prasad Sharma was the pioneer of psychiatry in Nepal. Bir hospital was the first to open the psychiatric outpatient department in the year 1961. In 1965 a 5 bedded psychiatric inpatient was started in Bir hospital in Kathmandu. In 1972 Psychiatric services started at Tri Chandra Military hospital, Kathmandu. Psychiatric outpatient services at TU. Teaching hospital, Kathmandu stated on 1986 followed by inpatient service in the year 1987 was started in the Teaching hospital, Kathmandu. In 1988 psychiatric services started outside Kathmandu in the Western regional hospital. In 1995 BPKIHS, Dharan stated psychiatric services. In the year 1997 Adoption of National Mental Health Policy and plan by his majesty's government 3 years residency MD in psychiatry started in TU, IOM, BPKIHS has started MD in psychiatry in 1999 [3].

Manipal College of Medical Sciences was the first private Medical College in Nepal started in 1994 along with Manipal Teaching hospital. Psychiatry department was started under Professor Dr Gurmokh Singh along with 50 indoor beds in the year 1999. Manipal College of Medical Sciences affiliated to the Kathmandu University started MD in Psychiatry in 2008. At present there are 750 beds are there in MTH, with 50 beds for Psychiatry inpatient[4].

At present a number of treatment modalities are available for the management Neurotic, stress-related and Somatoform disorders namely Diazepam, Medazepam, Oxazepam, Clobazam, Chlordiazepoxide, Alprazolam, Propranolol, Hydroxyzine and Buspirone, antidepressants, antipsychotics [5-8].

The need of the study also increases because there is no sufficient data available on the treatment modalities of Neurotic, stress-related and Somatoform disorders in Nepalese population in general and Western Nepal in particular[9]. The main objective of the study was to research about the commonest treatment modalities used in the treatment Neurotic, stress-related and Somatoform disorders in a teaching hospital in Western Nepal in inpatients. The specific objective of the study was to research about the

impact of Age, Gender and occupation on Neurotic, stressrelated and Somatoform disorders..

# Material and Methods Study Period

The study was undertaken from 1st January 2009 and 31th December 2010 at Manipal Teaching Hospital, Pokhara Nepal.

#### Study design and the participants

It is an observational cross sectional study was done at Manipal Teaching Hospital, Pokhara, Nepal. It was chosen for the study because Manipal teaching hospital is a tertiary care hospital in Western Nepal and it was expected that all the critically ill psychiatric cases of Neurotic, stress-related and Somatoform disorders will report to this hospital from Western Nepal.

#### **Data collection**

The data was collected at the bed side of the patient after interviewing with them. Parameters like Age (<40 years and >40 years), Gender (male and female), Occupation (Housewife, teacher, labourer, shopkeeper, student, farmer, retired and others) and commonest drug were used in Neurotic, stress-related and Somatoform disorders were taken into consideration.

# **Inclusion criteria**

All the patients admitted in psychiatric inpatient department with Neurotic, stress-related and Somatoform disorders from 1ST October 2009 to 30th September 2010 were included in the study. A total number of 60 cases with Neurotic, stressrelated and Somatoform disorders who were seriously ill were included in the study. Anxiety, Somatoform disorder, Reaction to stress and adjustment disorders, Obsessive compulsive disorder and dissociative disorder was taken into consideration.

#### **Exclusion criteria**

All the outpatients with Neurotic, stress-related and Somatoform disorders were excluded from the study because we wanted to find out the treatment modalities of Neurotic, stress-related and Somatoform disorders in hospitalized patients.

#### Sample size calculation

For 95% confidence interval and, significance level a = 5%, P= 90%, Q = 10%, allowable error = 11%, required sample size was 35. P = percentage of drugs used for the treatment of Neurotic, stress-related and Somatoform disorders. We got the adequate sample of 60 patients [10].

#### Ethical committee approval

Prior to the study, ethical committee approval was taken from the ethical committee.

#### Data management and statistical analysis

Descriptive statistics were used for the analysis. The data collected was analyzed using Excel 2003, R 2.8.0 Statistical Package for the Social Sciences (SPSS) for Windows Version 16.0 (SPSS Inc; Chicago, IL, USA) and EPI Info 3.5.1 Windows Version. The Chi square test was used to examine the difference between different variables. p<0.05 is considered as statistically significant [11].

#### ATC Codes:

Various ATC Codes were used for the drugs used for the treatment of Neurotic, stress-related and Somatoform disorders [12].

# Results

Among Neurotic, stress-related and Somatoform disorders, anxiety was found to be 63.3% followed by Somatoform disorder 21.7%, Reaction to stress and adjustment disorders 6.7%, Obsessive compulsive disorder 5% and Dissociative Disorder was 3.3%.

At the age group between 14-40 yrs anxiety was the commonest disorder 65.4%. Among male and female patents anxiety was the most common form of Neurotic, stress-related and Somatoform disorders. In jobholders, housewives, labourer, among the Neurotic, stress-related and Somatoform disorders anxiety was the commonest disorder [Table 1].

In the treatment of Neurotic, stress-related and Somatoform disorders Alprazolam was the commonest drug prescribed 50%, followed by Clonazepam 31.6%, Chlordiazepoxide 15.8% and Lorazepam 2.6% in Anxiety.

| Table - 1: Age, Gender and Occupation of the patients and |  |  |  |
|---|--|--|--|
| Neurotic, stress-related and Somatoform disorders         |  |  |  |

|                                 |                | Neur      | -        | tress-related and Somatoform<br>disorders [n(%)] |        |  |         |
|---------------------------------|----------------|-----------|----------|--|--------|--|---------|
| Socio<br>demographic<br>details |                | Anxiety   | orm      | е  | ive    | Reaction to<br>stress and<br>adjustment<br>disorders | P value |
|                                 | 14-40<br>years | 34 (65.4) | 9(17.3)  | 3(5.8)   | 2(3.8) | 4(7.7)   | 0.751x  |
| Age                             | 40-60<br>years | 2(50.0)   | 2(50.0)  | 0(0.0)   | 0(0.0) | 0(0.0)   |         |
|                                 | >60 years      | 2(50.0)   | 2(50.0)  | 0(0.0)   | 0(0.0) | 0(0.0)   |         |
| Gender                          | Male           | 11(73.3)  | 3(0.0)   | 0(0.0)   | 0(0.0) | 1(6.7)   | 0.734x  |
| Genuer                          | Female         | 27(60.0)  | 10(22.2) | 3(6.7)   | 2(4.4) | 3(6.7)   |         |
|                                 | job holder     | 6(60.0)   | 2(20.0)  | 1( 10.0)   | 1( 10) | 0( 0.0)  | 0.452x  |
|                                 | housewife      | 15(57.7)  | 7(26.9)  | 1(3.8)   | 0(0)   | 3(11.5)  |         |
| Occupa                          | labourer       | 2(50)     | 7(26.9)  | 1(3.8)   | 1(25)  | 0( 0)  |         |
| tion                            | farmer         | 2(100)    | 0(0)     | 0(0)   | 0(0)   | 0(0)   |         |
|                                 | retired        | 1(50.0)   | 1(25.0)  | 0(0.0)   | 0(0)   | 0(0.0)   |         |
|                                 | student        | 11(78.6)  | 2(14.3   | 0(0)   | 0(0)   | 1(7.1)   |         |
|                                 | shopkepp<br>er | 2(100.0)  | 0( 0.0)  | 0(0.0)   | 0(0)   | 0(0)   |         |

×p>0.05, statistically not significant

In Somatoform disorder Fluoxetine 61.5%. was the commonest drug to be prescribed followed by Alprazolam 23.1% In case of Obsessive compulsive disorder Fluoxetine,

Diazepam and Alprazolam was prescribed 33.3% each. In Dissociative Disorder Diazepam and Chlordiazepoxide was commonly used 50%. In reaction to stress and adjustment disorders Alprazolam was most commonly prescribed 75% followed by Diazepam 25% [Table 2].

ATC Codes of various drugs used for the treatment of Neurotic, stress-related and Somatoform disorders is given in [Table 3].

|   | Fluoxetine | Clonazepam | Chlordiazepoxide | Diazepam | Lorazepam | Alprazolam | P value |
|---|------------|------------|------------------|----------|-----------|------------|---------|
| Anxiety                                     | 0(0)       | 12(31.6)   | 6(15.8)          | 0(0)     | 1(2.6)    | 19(50)     |         |
| Somatoform                                  | 8(61.5)    | 0(0)       | 0(0)             | 2(15.4)  | 0(0)      | 3(23.1)    |         |
| Obsessive compulsive disorder               | 1(33.3)    | 0(0)       | 0(0)             | 1(33.3)  | 0(0)      | 1(33.3)    | 0.000+  |
| Dissociative Disorder                       | 0(0)       | 0(0)       | 1(50)            | 1(50)    | 0(0)      | 0(0)       |         |
| Reaction to stress and adjustment disorders | 0(0)       | 0(0)       | 0(0)             | 1(25)    | 0(0)      | 3(75)      | _       |

Table - 2: Treatment of Neurotic, stress-related and Somatoform disorder [n(%)]

+p<0.05, statistically significant

| Generic Names    | ATC Code |
|------------------|----------|
| Fluoxetine       | N06AB03  |
| Clonazepam       | N03AE01  |
| Chlordiazepoxide | N05BA02  |
| Diazepam         | N05BA01  |
| Lorazepam        | N05BA06  |
| Alprazolam       | N05BA12  |

#### Table - 3: The Anatomical Therapeutic Chemical Code (ATC Code)

# Discussion

Drug utilization research is defined as marketing, distribution, prescription and use of drugs in a society with a special emphasis on the resulting medical, social and economic consequences and has the principle aim of facilitating the essential and rationale use of the drugs [9].

Age, Gender and Occupation of the patients with Neurotic, stress<sup>2</sup> related and Somatoform disorders

Out of 60 patients with Neurotic, stress-related and Somatoform disorders, most of the patients were females 75% and males were 25%. A study done in Australia by Mant A et has showed that psychiatric disorder is more common in females [13]. A study done by Banerjee et al also showed that psychiatric disorder like anxiety is common in female compared to male patients[10].Whereas a study done in Bangladesh has showed psychiatric disorder is more common in males [14].

Among Neurotic, stress-related and Somatoform disorders, anxiety was found to be 63.3% followed by Somatoform disorder 21.7%, Reaction to stress and adjustment disorders 6.7%, Obsessive compulsive disorder 5% and Dissociative Disorder was 3.3%.

At the age group between 14-40 yrs anxiety was the commonest disorder 65.4%. Among male and female patents anxiety was the most common form of Neurotic, stress-related and Somatoform disorders. In jobholders, housewives, labourer, among the Neurotic, stress-related and Somatoform disorders anxiety was the commonest disorder which is also similar to a study done by Raut P in South India, which revealed that psychiatric illness occurs more in patients below 40 years of age [15]. A study done by Cheng Shannon J et al, showed significant increase in antipsychotics prescribing for youths, mainly because of growing use of second generation agents for non psychiatric illness [16]. Similar findings were also reported by Banerjee et al. which has showed that psychiatric disorder is common in younger patients and it occurs more in age group < 40 yrs [17 -19].

As per as occupation of the patient is concerned housewives 43.3%, suffer more from Neurotic, stress-related and Somatoform disorders which is followed by students 23.3% and jobholders 16.7%, laborer 6.7%, farmer 3.3%, retired 3.3%, shopkeeper 3.3%. Similar reports has been found in

Nepal which has showed that among all the occupation Anxiety was most commonly found in housewives (39.5%), students (21.1%), followed by teachers (15.8%) [15]. Similar nature of results has also has been reported in Bangladesh [14].

# Treatment of Neurotic, stress-related and Somatoform disorders

In the treatment of Neurotic, stress-related and Somatoform disorders in Anxiety, Alprazolam was the commonest drug 50%, followed by Clonazepam 31.6%, prescribed Chlordiazepoxide 15.8% and Lorazepam 2.6%. Similar findigs has been reported by Banerjee et al. [9]. In Somatoform disorder Fluoxetine 61.5% was the commonest drug to be prescribed followed by Alprazolam 23.1% In case of Obsessive compulsive disorder Fluoxetine, Diazepam and Alprazolam was prescribed 33.3% each. In Dissociative Disorder Diazepam and Chlordiazepoxide was commonly used 50%. In Reaction to stress and adjustment disorders Alprazolam was most commonly prescribed 75% followed by Diazepam 25%. Our finding is similar to the other studies which revealed that in Benzodiazepines were the commonest psychotropic drugs prescribed [20, 21].

Use of shorter acting Benzodiazepines, as it is seen that continuous and prolonged use of longer acting Benzodiazepines has resulted in dependence and may have withdrawal symptoms when the dosage of these drugs are reduced or treatment is stopped.

# Conclusion

Neurotic, stress-related and Somatoform disorders commonly occurs between 14-40 yrs, housewives and in female patients. In the treatment of Neurotic, stress-related and Somatoform disorders in Anxiety, Alprazolam was the commonest drug prescribed. In Somatoform disorder Fluoxetine was the commonest drug to be prescribed followed by Alprazolam In case of Obsessive compulsive disorder antidepressants and benzodiazepines were prescribed. In Dissociative Disorder Diazepam and Chlordiazepoxide was commonly used. In Reaction to stress and adjustment disorders Alprazolam was most commonly prescribed. It has been seen there is a trend of using benzodiazepines in the treatment of Neurotic, stress related and Somatoform disorders.

#### Limitations & future scope of the study

Sample size was the limitation of the study. A muti centric hospital based study with larger sample size will give better idea regarding the treatment Neurotic, stress-related and Somatoform disorders in Nepal.

# **Competing interests**

The authors declare that they have no competing interests.

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# Authors' contribution

IB designed the study, deduced the data, drafted the manuscript, and revised it. IB2, BR planned the study with IB, acquired the data, conducted the data analysis, interpreted the data, and revised the manuscript. IB2 and PB has also participated in the language editing along with IB. BS participated in statistical analysis, interpreted the data, and revised the manuscript. ACS, ACJ and PKC critically revised the manuscript. All the authors approved the final document.

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