# Prevalence and nature of psychiatric disorders in geriatric people attending psychiatry outpatient department

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## Abstract

**Introduction:** *Geriatric population is growing faster than all younger age groups. More than 20% of the geriatric people suffer from a mental or neurological disorder. Various studies have been conducted in Nepal related to mental and neurological disorders in geriatric people including epidemiological survey, outpatient department (OPD) based studies and inpatient studies. The aim of the present study was to determine the prevalence and nature of psychiatric disorders in geriatric subjects*

**Material And Method:** *Geriatric subjects attending outpatient department of psychiatry, Nepalgunj Medical College Teaching Hospital (NGMCTH), Kohalpur, Nepal from January to August 2018 (8 months) were enrolled for the study. Ethical clearance was obtained from the Institutional Review Committee of the NGMCTH and written consent was taken from the subjects or next to kin. Socio-demographic profile and other details of the subjects were obtained.  Diagnosis was made using the ICD 10. Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows.*

**Results:** *The prevalence of psychiatric disorders in geriatric subjects was 6.25%. The mean age of the subjects was 68.6 ± 7.39 years. Female constituted 51.1% of the subjects while male 48.9%. Category wise, mood disorders was the most common diagnosis (44.9%) followed by organic disorders (20.2%) and neurotic disorders (12.9%) respectively. Mood disorders and organic disorders were significantly associated with the age of the subjects (p<0.05). Disorder wise, depression was the most common diagnosis (39.9%) followed by dementia (12.4%) and anxiety disorder (10.1%) respectively. Dementia and delirium were the only disorders significantly associated with the age of the subject (p=0.01). There was no statistically significant association of individual disorders with sex of the subjects.*

**Conclusion:** *Depression, dementia and anxiety disorder was the most common diagnosis in geriatric people.*

**Keywords: Geriatric, Elderly, Psychiatric Disorder, Nepal**

## INTRODUCTION

Worldwide, geriatric population (60 years and above) is growing faster than all younger age groups. Compared to 2017, the number of persons aged 60 or above is expected to be more than double by 2050 and more than triple by 2100, rising from 962 million in 2017 to 2.1 billion in 2050 and 3.1 billion in 2100.[1] Similar to the global scenario, geriatric population has been increasing in Nepal since 1991, and in 2011 it constituted 8.13% of the total population of Nepal. It is expected to increase by 27.08% in 2021 and again by 25.23% in 2031 to compromise 10.20% of the total national population.[2]

The prevalence of mental disorders is high among the elderly.[3-5] More than 20% of the geriatric people suffer from a mental or neurological disorder (excluding headache disorders) and 6.6% of all disability among them is attributed to mental and neurological

disorders. Dementia and depression are the most common mental and neurological disorders in this age group, which affect approximately 5% and 7% of the world's older population, respectively.[6] As the geriatric population is rising all over the world, it expected to increase the burden of mental and neurological disorders in this age group in the coming future.

Various studies have been conducted in Nepal related to mental and neurological disorders in geriatric people including epidemiological survey[7], outpatient department (OPD) based studies [8-11] and inpatient studies.[12] The aim of the present study was to determine the prevalence and nature of psychiatric disorders in geriatric subjects attending psychiatry OPD and to examine the relationship of various psychiatric disorders with the age and sex of the patient.

**MATERIAL AND METHOD**

The present study was conducted at Department of Psychiatry, Nepalgunj Medical College Teaching Hospital (NGMCTH), Kohalpur, Nepal. The duration of the study was eight months, from January to August 2018. Ethical clearance was obtained from the Institutional Review Committee of the NGMCTH. Subjects aged 60 years and above visiting the psychiatry OPD were explained about the study and written consent was taken from them or next to kin. Socio-demographic profile and other details of the subjects were obtained. Psychiatry diagnosis was made using the ICD 10.[13] Data was analyzed using Statistical Package for the Social Sciences (SPSS) version 21.0 for Windows.

**RESULT**

During the period of 8 months, 2847 subjects visited psychiatry OPD among which 178 were in geriatric age group. The prevalence of geriatric subjects attending psychiatry OPD was 6.25%. The mean age of the subjects was 68.6 ± 7.39 years. Table 1 shows the socio-demographic characteristics of the subjects. Female constituted 51.1% (n=91) of the subjects while male 48.9% (n=87). Majority of the subjects were married (75.3%), Hindu (95.6%), from rural domicile (53.9%) and with no education (75.3%).

**Table 1: Subjects Respondents' Socio-demographic Characteristics (n=178)**

| Characteristics | | Frequency | Percentage |
|---|---|---|---|
| Sex | Male | 87 | 48.9% |
| | Female | 91 | 51.1% |
| Marital status | Never married | 4 | 2.2% |
| | Married | 134 | 75.3% |
| | Widow/Widower | 37 | 20.8% |
| | Separated/ Divorcee | 3 | 1.7% |
| Place of Residence | Urban | 80 | 44.9% |
| | Rural | 96 | 53.9% |
| | India | 2 | 1.1% |
| Religion | Hindu | 170 | 95.6% |
| | Muslim | 4 | 2.2% |
| | Christian | 4 | 2.2% |
| Education | No education | 134 | 75.3% |
| | Some education | 44 | 24.7% |

Table 2 shows the distribution of subjects based on age and sex. Category wise, mood disorders was the most common diagnosis (44.9%) followed by organic disorders (20.2%) and neurotic disorders (12.9%) respectively. Mood disorders and organic disorders were significantly associated with the age of the subjects (p<0.05). Disorder wise, depression was the most common diagnosis (39.9%) followed by dementia (12.4%) and anxiety disorder (10.1%) respectively. Dementia and delirium were the only disorders significantly associated with the age of the subject (p=0.01).

Table 3 shows distribution of subjects according to sex. There was no statistically significant association of individual disorders with sex of the subject.

**Table 2: Distribution of Subjects According to Diagnosis & Age**

| Category | Diagnosis | Age range in years(N) | | | | | Total (N,%) | p value |
|---|---|---|---|---|---|---|---|---|
| | | 60-64 | 65-69 | 70-74 | 75-79 | ≥80 | | |
| Organic disorders | Dementia | 4 | 5 | 2 | 4 | 7 | 22(12.4) | 0.001* |
| | Delirium | 0 | 0 | 3 | 3 | 2 | 8(4.5) | 0.001* |
| | Organic Psychosis | 1 | 2 | 3 | 0 | 0 | 6(3.4) | 0.981 |
| | Total | 5 | 7 | 8 | 7 | 9 | 36(20.2) | 0.000* |
| **Substance Use Disorders** | Alcohol use disorder | 6 | 2 | 1 | 2 | 0 | 11(6.2) | 0.230 |
| Psychotic Disorders | Schizophrenia | 2 | 3 | 3 | 0 | 0 | 8(4.5) | 0.442 |
| | Psychosis NOS | 2 | 4 | 3 | 0 | 0 | 9(5.1) | 0.569 |
| | Total | 4 | 7 | 6 | 0 | 0 | 17(9.6) | 0.333 |
| Mood Disorders | Depression | 31 | 19 | 12 | 5 | 4 | 71(39.9) | 0.05 |
| | Mania | 1 | 0 | 1 | 1 | 0 | 3(1.7) | 0.626 |
| | BPAD | 0 | 3 | 2 | 0 | 1 | 6(3.4) | 0.419 |
| | Total | 32 | 22 | 15 | 6 | 5 | 80(44.9) | 0.020* |
| Neurotic Disorders | Anxiety Disorder | 4 | 2 | 8 | 3 | 1 | 18(10.1) | 0.250 |
| | Somatoform Disorder | 1 | 2 | 1 | 0 | 0 | 4(2.2) | 0.479 |
| | OCD | 1 | 0 | 0 | 0 | 0 | 1(0.6) | 0.244 |
| | Total | 6 | 4 | 9 | 3 | 1 | 23(12.9) | 0.645 |
| Other Disorders | Epilepsy | 2 | 1 | 1 | 1 | 1 | 6(3.4) | 0.452 |
| | ISH | 2 | 0 | 1 | 0 | 0 | 3(1.7) | 0.214 |
| | Primary Headache | 1 | 1 | 0 | 0 | 0 | 2(1.1) | 0.328 |
| | Total | 5 | 2 | 2 | 1 | 1 | 11(6.2) | 0.598 |
| **Grand Total** | | 58(32.6) | 44(24.7) | 41(23) | 19(10.7) | 16(9) | 178(100) | |

**Table 3: Distribution Of Subjects According to Diagnosis and Sex**

| Category | Diagnosis | Sex | | Total | p value |
|---|---|---|---|---|---|
| | | Male | Female | | |
| **Organic disorders** | Dementia | 9 | 13 | 22 | 0.427 |
| | Delirium | 5 | 3 | 8 | 0.433 |
| | Organic Psychosis | 3 | 3 | 6 | 0.956 |
| | Total | 17 | 19 | 36 | 0.825 |
| **Substance Use Disorders** | Alcohol use disorder | 9 | 2 | 11 | 0.103 |
| **Psychotic Disorders** | Schizophrenia | 4 | 4 | 8 | 0.948 |
| | Psychosis NOS | 4 | 5 | 9 | 0.786 |
| | Total | 8 | 9 | 17 | 0.876 |
| **Mood Disorders** | Depression | 34 | 37 | 71 | 0.831 |
| | Mania | 2 | 1 | 3 | 0.537 |
| | BPAD | 5 | 1 | 6 | 0.087 |
| | Total | 41 | 39 | 80 | 0.570 |
| **Neurotic Disorders** | Anxiety Disorder | 7 | 11 | 18 | 0.374 |
| | Somatoform Disorder | 2 | 2 | 4 | 0.964 |
| | OCD | 1 | 0 | 1 | 0.308 |
| | Total | 10 | 13 | 23 | 0.581 |
| **Other Disorders** | Epilepsy | 2 | 4 | 6 | 0.441 |
| | ISH | 0 | 3 | 3 | 0.089 |
| | Primary Headache | 0 | 2 | 2 | 0.166 |
| | Total | 2 | 9 | 11 | 0.036* |
| **Grand Total** | | 87(48.88) | 91(51.12) | 178 | |

**DISCUSSION:**

**Prevalence, age-sex distribution and socio-demographic profile:**

Prevalence of geriatric subjects attending psychiatry OPD was 6.25%. Aich et al in an outpatient study reported an almost similar prevalence of 6.9%[10]. Nepalese OPD based studies related to psychiatry morbidity have reported 60 years and above subjects consisting of 7.6% to 11% of the total OPD attendance.[14-16] In our study, male patients contributed 51.12% and female 48.18%. Male preponderance was observed by Aich et al[10] (54.5%) whereas female preponderance was reported by Shakya (54%)[11] and Nepal et al (51%)[17] in geriatric subjects visiting OPD. None of the psychiatric disorders were significantly associated with the sex of the subject. Majority of the patients (58%) were below 70 years of age. Similar findings have been reported in other OPD based studies from Nepal.[10,11,17]

**Psychiatric morbidity:**

In our study mood disorder was the most common diagnosis category (44.9%). In OPD based studies from Nepal, mood disorders has been reported in the range of 19.5%[10] to 36.7%.[10,17] Shakya[11] reported a much higher prevalence of mood disorders of 46% but the sample consisted of subjects aged above 55years while we included subjects 60 years and above. Study from India by Singh et al[18] reported mood disorders as the most common diagnosis (48.07%) in geriatric subjects which is in consistent with our finding. Disorder wise depression was the most common diagnosis (39.9%). Prevalence of depression among elderly was found to be 49.4% in a community based study.[19]Aich et al[10] reported depression in 15.2% of geriatric subjects while life time prevalence of major depression in geriatric psychiatric patients was found to be 26.5% by Ritchie et al in French population.[5] Our finding of depression as the most common diagnosis is in agreement with many earlier studies from Nepal.[11,17]

Dementia (12.4%) was the second most common diagnosis. Studies from Nepal have shown dementia in range of 6%[11] to 8.9%[10] in geriatric OPD visiting patients. Organic mental disorders as a group was observed in 20.2%, the value of which was similar to that reported by Koirala et al (28%).[20]Our study revealed anxiety disorder as the third most common diagnosis with 10.1% geriatric patients diagnosed with it. Koirala et al and Aich et al reported a similar low prevalence of anxiety disorder of 8% and 9.7% respectively. Shakya reported a higher prevalence of 22% but the disorders included not only anxiety disorder exclusively, but also phobia and obsessive compulsive disorder. Neurotic disorders as a group was observed in 12.9% of the subjects which is similar to that observed by Nepal et al (13.8%)[17]. Singh et al[18] reported 15.47% of geriatric subjects diagnosed with neurotic disorders which is consistent with our study. Aditya el al[21] in a study in Kathmandu found higher prevalence of anxiety disorders (76.1%) in geriatric patients. A different methodology employed for the study and subjects aged 65 years and more suffering from some medical illness enrolled for the study might have resulted in higher prevalence of anxiety disorder in the said study.

Psychotic disorders were observed in 9.6% of the subjects. Shakya (6%) and Nepal et al. (6.2%) reported a similar low prevalence of psychotic disorders in elderly whereas Aich et al[10] reported a higher prevalence (26.4%) which may have resulted due to difference in the geographical location of the conducted studies. Alcohol use disorder (AUD) was diagnosed in 6.2% of the subjects. Nepalese OPD based studies have reported AUD in range of 10.5% to 14%.[10,11,17,22]

In our study prevalence of BPAD (including first episode mania) was 5.06%. Reported prevalence of mania amongst geriatric people is found to be low (1-2%) in both in-patient as well as community prevalence studies from western countries.[5,23]Aich et al[10] reported prevalence of mania as 4.3% while Shakya[11] reported prevalence of BPAD as 7% which is in agreement with our finding. We also reported prevalence of other disorders which frequently present to psychiatry OPD including epilepsy (3.4%), intentional self harm or ISH (1.7%) and primary headache (1.1%). Nepal et al reported prevalence of headache as 1.90% which is similar to our study. Aich et al[10] reported a much higher prevalence of chronic headache (12.8%). in this age group. This discrepancy of prevalence of primary headache may be due to geographical location of the institution and due to increased awareness of other departments in

referring headache to psychiatry. ISH has been reported in the rage of 0.95%[17] to 2%[11] in earlier Nepalese studies which is similar to our study. Depression, dementia and anxiety disorder was the most common diagnosis. Category wise, mood disorders and organic disorders were significantly associated with the age of the subjects (p<0.05). Dementia and delirium were the only individual disorders significantly associated with the age of the subject (p=0.01).

In our study, we tried to determine the prevalence of psychiatric disorders in geriatric people attending psychiatry OPD and analyzed the relationship of psychiatric disorders with the age and sex of the subject. As this study was conducted in OPD attending subjects, there were some limitations that need to be addressed. First, OPD based finding cannot not be generalized to the population of the community so more community based research on this topic is warranted. Second, geriatric subjects were not accessed for any medical or surgical comorbidity which might have increased the presentation of psychiatric disorders like anxiety and depression.

**CONCLUSION:**

The present study found the prevalence of geriatric subjects attending psychiatry OPD to be 6.25%. Depression, dementia and anxiety disorder was the most common diagnosis in geriatric people visiting psychiatry OPD.. Category wise, mood disorders and organic disorders were significantly associated with the age of the subjects (p<0.05). Dementia and delirium were the only individual disorders significantly associated with the age of the subject (p=0.01). There was no statistically significant association of individual disorders with sex of the subject.

**ACKNOWLEDGEMENT:** None

**CONFLICT OF INTEREST:** None

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