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*Original Article*

## **Epidemiology of Schizophrenia in Bandarabbass in 2009**

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### **ABSTRACT:**

**Objective:** Schizophrenia is a harmful disorder with an unknown etiology that causes dysfunction and interferes with work, school and the patient's communications. The prevalence and incidence rate of schizophrenia varies in different countries. The aim of the current study is to investigate the epidemiology of schizophrenia in Bandarabbass in 2009.

**Methods:** This descriptive and retrospective study was conducted in 2009 in Ebnesina Mental Hospital and patients who were diagnosed with schizophrenia according to the DSM-IV criteria were enrolled (198 patients). Then, by using a checklist prepared by a psychiatry specialist, the data was extracted from the medical records. The gathered data was analyzed by SPSS 19 using the descriptive statistics test.

**Results:** The mean age of the 198 participants was  $36.5 \pm 11.591$ , and 69.2 percent of them were male and 30.8 percent were female. Also 60.6 percent of the patients were married and 76.8 percent were unemployed. Four percent had diabetes and 3 percent were hypertensive and 84.3 percent didn't have substance use comorbidity. Hallucinations were seen in 45.4 percent of the patients and 60.1 percent experienced delusions.

**Conclusion:** As discussed above, many of the symptoms were different in Bandarabbass and this confirms that race plays a significant role in schizophrenia and its symptoms. Therefore more research must be performed about schizophrenia in different regions. Since the presentation of this disorder varies, unique treatments according to patient's race might be needed.

**Keywords:** schizophrenia, epidemiology, symptoms.

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### **1. INTRODUCTION**

Schizophrenia is a harmful disorder with an unknown etiology that causes dysfunction and interferes with work, school, and the patient's

communications (1, 2). Schizophrenia is responsible for half of hospital admissions and a quarter of mental hospital beds are occupied by schizophrenic

patients. This disorder cost the UK health system 2.6 billion pounds (3).

People aged 20 to 35 are at the greatest risk of schizophrenia. Schizophrenic patients' socioeconomic status has a reverse association with onset of the disorder. Those who have an early onset normally end up in lower socioeconomic status and patients with a late onset end up in a higher status (4).

The prevalence and incidence rate of schizophrenia is varied in different countries. Messias and coauthors stated that the prevalence of schizophrenic patients is five per thousand in the population (5).

Goldner and coauthors stated that the prevalence of this disorder varied from 0.12 percent in Hong Kong to 1.6 percent in Puerto Rico, and the incidence rate was from 3.6 in 100,000 people in Vancouver to 22.6 in 100,000 people in the UK (1). On average, women fall ill three to four years later than men and showed a second peak of onset around menopause (4).

Schizophrenia is characterized by positive, negative and cognitive symptoms, and abnormal perception. Hallucination and delusion are referred to as positive symptoms, while lack of motivation, social withdrawal, and abnormality in social interaction define negative symptoms. Inability to organize work and life is the definition of cognitive symptoms (6). Schizophrenia symptoms are influenced by many factors including familial, social, clinical, and demographic factors. Bauer and coauthors showed that auditory hallucinations were not prevalent in Georgia and Austria, while visual hallucinations were more frequent in western Africa. Also cenestic hallucinations were seen in Ghana more than anywhere else (7).

Co-morbidity of schizophrenia and substance use is seen frequently. Substance use has an influence on the onset of the disorder and maintaining it (8). The prevalence of this co-morbidity is different and varies from 10 percent to 70 percent (9).

Considering the differences seen in the prevalence and incidence of schizophrenia in the world, and since there no other studies have been conducted in southern Iran regarding this issue until now, this survey was created to help program and plan different interventions to improve social and health services for the patients who suffer from this disorder by defining its epidemiologic factors.

## 2. MATERIAL AND METHODS

This was a descriptive and retrospective study held in 2009 in Ebnesina Mental Hospital, the only mental health center of the Hormozgan province in southern Iran.

All of the patients admitted to the hospital from March 21, 2007-March 20, 2008 were assessed. They were first admitted to the Ebnesina clinic and were interviewed by psychiatry specialists. If the patients were diagnosed with schizophrenia, according to DSM-IV criteria, they were admitted to the hospital to undergo treatment.

After approval from the research committee of faculty of medicine in Hormozgan University of Medical Sciences (HUMS), all of the schizophrenic patients were referred to a fully trained team of medical students, by the medical records department of the hospital.

Then by using a checklist prepared by a psychiatry specialist, the data was extracted from the medical records. Data required to fill the checklist were: medical record number, diagnosis, age, sex, marital status, occupation, diabetes, hypertension, substance use co-morbidity, and familial history of mental disorders. Schizophrenia characteristic data were also gained: speech, mood, affect, hallucinations, delusions, memory status, concentration, judgment, and insight. All of the patient information was taken privately under the observation of two medical records department staff.

In that year, schizophrenic patients were admitted 214 times. Since 16 patients were admitted more than once, only their last admission was evaluated. The gathered data was analyzed by SPSS 19 using the descriptive statistics test.

## 3. RESULTS

The mean age of the 198 participants was  $36.5 \pm 11.591$  and 137 (69.2%) of them were male and 61 (30.8%) were female. Also 120 (60.6%) of the patients were married and 78 (39.4%) were single or divorced. Most of the patients were unemployed (152, 76.8%) and 46 (23.2%) were employed.

Out of 198 patients, 8 (4%) of them had diabetes mellitus and 190 (94%) didn't. Six (3%) of the patients were hypertensive and 192 (97%) weren't. Out of 198 patients, 137 (84.3%) of them showed no sign of substance use co morbidity, 31 (15.7%) used opium, 1 (0.5%) used heroin, 16 used cannabis and 13 (6.6%) used other substances. Also 75 (37.9%) were smokers. Out of all the cases, 141 (71.2%) showed no family history of mental illness but 57 (28.8%) did show it.

The speech of 77 (38.9%) of the patients were normal, 50 (25.3%) suffered from hypotalking, 39 (19.7%) had hyper talking, 16 (8.1%) had monotonous speech and 16 (8.1%) showed other speech related problems. Their mood was elevated in 57.6% (114) of the cases, blunted in 59 (29.8%) and 25 (12.6%) showed other moods. Inappropriate affect

was seen in 106 (53.5%) of the patients and 92 (46.5%) of the affects were appropriate.

Hallucinations were seen in 90 (45.4%) of the patients. Table-1 shows the distribution of the hallucinations among patients.

Table-1: the distribution of different types of hallucinations

Types of hallucinations	Number	Percentage
Visual	31	15.7
Auditory	74	37.3
Olfactory	4	2

Most of the patients had delusions (119, 60.1%). Persecutory delusion was the most prevalent delusion which was seen in 94 (47.5%) of the patients. Table-2 shows the different types of delusions and their distribution.

Table-2 Distribution of different types of delusions

Types of Delusions	Number	Percentage
Persecutory	94	47.5
Bizarre	4	2
Jealousy	8	4
Grandiosity	8	4
Somatic	2	1
Erotomanic	2	1
Religious	1	0.5

Dysfunctional memory was seen in 54 (27.3%) of the patients while 144 (72.7%) had normal memory. Their concentration was poor in 86 (43.4%), judgment was poor in 81 (40.9%) patients and 86 (43.4%) patients didn't have insight.

#### 4. DISCUSSIONS:

In this study we investigated the epidemiology of schizophrenia in Bandarabbas. The mean age of the patients of our study was  $36.5 \pm 11.591$  and 30.8% of them were female and 69.2% of them were male. The mean age of Boydell and colleagues study was 34.13 years and 44.8% of them were female and 55.1% were male (10). Also gearing and colleagues stated thAat among the 70 studies they checked, the mean age of the schizophrenia patients were  $36 \pm 7$  and 55% of the participants were male (11). Participants of Thomas's study had a mean age of  $30.8 \pm 9.8$  in India and  $38.1 \pm 9.3$  in the USA. 54.2% of the participants of India and 62.8% of the participants of the USA study were male (12). The mean ages of the participants were similar but the gender of the participants wasn't similar. This might be because schizophrenia happened to be more frequent in the population or it might be a consequence of the regional culture.

Among the patients of our study, 120 (60.6%) of the patients were married and 78 (39.4%) were single or divorced. Also in Ran's study, 28.2% were single, 63.9% were married and 7.8% were widowed (13). The results of this study was similar to ours, however in Thomas's study, in India, 57.4% of the participants were never married while in the USA, the number was 72.5% (12).

In our study, 76.8% of the patients were unemployed and 23.2% were employed, while Batki and colleagues found out that 12% of the patients of their study were employed (14).

Out of 198 patients, 4% of them had diabetes mellitus and 190 (96%) didn't, and 3% of the patients were hypertensive, while in Batki and Meszaros's study, 83% of participants had at least one chronic medical illness, hypertension being the most common (43%) (15). In Tang's study 25% of the patients had hypertension (16). In Hung's study, the prevalence of DM was 9.8% in the schizophrenic patients (17). In Philippe's study, 2.2% of the patients of the study had a diagnosis of diabetes (18). The prevalence of diabetes of our study was similar to the other studies while hypertension was much less frequent in our study.

About 30.8% of the patients showed no sign of substance use co morbidity, while 15.7% used opium, 0.5% used heroin, 8.1% used cannabis and 6.6% used other substances. In a study held by Jimenez, 13.1% of the participants used marijuana, 3.7% used inhalants, 3.4% cocaine, 0.6% used amphetamines, 0.6% used opioids and 0.4% used LSD.

In Whitford's, 48.3% of the patients had a comorbid diagnosis of substance use (19). In Boydell's study, 24% of the patients had used cannabis (10). Individuals with schizophrenia or related psychoses were identified (n=352) and 57 (16%) reported a lifetime history of non-alcohol substance misuse (20).

Also in our study, 37.9% of the patients of our study were smokers. In Strassnig's study, 23.4% smoke (21). Out of all our cases, 28.8% did showed a family history of mental illness. The number was 28% in Ran's study (13), 35.8% in Altamura's study (22). In Boydell's study, 12.6% of the patients had a family history of schizophrenia (10).

Inappropriate affect was seen in 53.5% of the cases of our study, but in Boydell's study 12% of the patients had blunted affect (10) while 15.2% of the patients of Ran's study had the same affect (13).

Hallucinations were seen in 45.4% of our patients, visual hallucinations were seen in 15.7%, auditory hallucinations in 37.3% and olfactory hallucinations were present in 2% of the participants of our study. In Ran's study, 38.2% of the patients

showed auditory hallucinations and 22.7% showed other types of hallucinations (13). In India, auditory hallucinations were present in 64.3%, visual hallucinations in 36.9%, somatic hallucinations in 22% and olfactory hallucinations were present in 19% of the cases while in the US, auditory hallucinations were present in 83.4%, visual hallucinations in 57.2%, somatic hallucinations in 27% and olfactory hallucinations were present in 27% of the cases (12).

Most of the our patients had delusions (60.1%). Persecutory delusion were present in 47.5% of the cases, bizzare delusions in 2%, jealousy patients in 4%, grandiosity delusions in 4%, somatic delusions in 1%, erotomanic delusions in 1% and religious delusions were present in 0.5% of the patients. In Boydell's study, 50.5% had delusions of reference, and 84.4% had persecutory delusions (10). In a study held in China, 49.8% of the patients had delusions (13) while in Altamura's study, paranoid delusions were present in 55.8% of the patients (22).

About 43.4% of the patients of our study had poor concentration while 16.1% of the patients of Boydell's study had distractibility (10). Insight was lost in 43.4% of the patients while in Boydell's study 81.5% of the patients lacked insight (10) and in De Hert's study, 41.5% lacked insight (23).

## 5. CONCLUSION

As discussed above, many of the symptoms were different in Bandarabbass and this confirms that race plays a huge role in schizophrenia and its symptoms, therefore more research must be performed about schizophrenia in different regions and since the presentation of this disorder varies, unique treatments according patient the race of the patient might be needed.

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