

# Risk Factors Leading to Mental Illness among Patients: A Retrospective Study

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## Abstract

**Background:** Mental disorder is a psychological factor reflected in the behavior, which affect the normal development of a person's culture. The burden of mental health problems is increasing globally. Most mental disorders are result of a combination of several different factors rather than just a single factor. Knowing the risk factors leading to mental illness, may help in future to reduce the incidences of mental illness by taking possible preventive measures.

**Aim:** The main aim of this study was to determine the risk factors leading to mental illness among patients.

**Materials and Method:** Case control study design with quantitative non experimental descriptive survey approach was used. Mini mental status examination tool was used to select 100 psychiatric patients based on inclusion criteria and 100 general populations to find the odds ratio. Data was collected using a demographic proforma and risk factors assessment check list.

**Results:** In biological, socioeconomic, environmental, psychological and personal factors, the highest value of the odds ratio of risk factors for mental illness is sleep disturbance (16.385), financial problems (3.149), slum area (3.162), feeling of loneliness (13.821) and chronic smoking (16.116) respectively; it is higher among patient with mental illness compared to the general population.

**Conclusion:** Most of the subjects are having one or other risk factors for developing mental illness. Hence we need to take care about risk factors and maintain good lifestyle to promote optimal mental health.

**Keywords:** Risk factors of mental illness; psychiatric patients; general population; retrospective study.

## Introduction

Mental health as an adjustment of human being to the world and to each other with maximum of effectiveness and happiness.<sup>1</sup> Mental illness is often disorders of the brain that disrupts a person's thinking, feeling, mood, and ability to relate to others. Mental illnesses are of different types and degrees of severity. Some of the

major types are depression, anxiety, schizophrenia, bipolar mood disorder, personality disorders, and eating disorders etc.<sup>2</sup>

The causes of mental disorders are complex and interact and vary according to the particular disorder and individual. Genetics, early development, drugs, a loss of a family members, disease or injury, stress, bereavement, relationship breakdown, physical and sexual abuse, unemployment, social isolation, and major physical illness or disability neuro cognitive and psychological mechanisms and life experiences, society and culture can all contribute to the development or progression of different mental disorders.<sup>3</sup> According to WHO, one in every four people develops one or more mental disorders at some stages in life. In India, the reported rate is 73 per 1000 population.<sup>4</sup>

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The report of District Health and Family Welfare Office of Dakshina Kannada showed that nearly 238 neurotic and 300 psychotic cases of mental disorder were recorded during the year 2007-2008. Among these only 59 neurotics and 77 psychotic cases had approached for the treatment.<sup>5</sup>

The National Institute of Mental Health and Neuro Science (NIMHANS) report shows that in India 70 million people suffer from mental ailments and yet, 50-90% of them are not able to access corrective services due to less awareness and negative attitude or stigma towards mental illness.<sup>6</sup>

Community- based surveys conducted during the past two decades in India showed that the total prevalence of psychiatric disorder was around 5.8% and depression will be one of the biggest health problems worldwide by the year 2020.<sup>7</sup>

## Materials and Method

The study was conducted over a period of two years at selected hospitals, Mangalore, India. Case-control study design with quantitative non experimental descriptive survey approach was used. Formal permission was obtained from the director and administrative department of selected hospitals. The researcher used the Mini Mental Status Examination tool for assessing the level of insight of the patients and followed by the researcher was selected 100 psychiatric patients who has the insight and 100 general populations in a similar background and setting by purposive sampling technique based on sampling criteria to find odds ratio of mental illness. The investigator used demographic proforma and risk factors assessment check list to determine the risk factors leading to mental illness.

**Mini Mental Status Examination tool** :(Folstein MF, Folstein SE and MC Hugh PR, 1987): It is a standardized tool for assessing the level of insight of psychiatric patients. The reliability of the tool was 0.98. It consisted of five characteristics namely, orientation, registration, attention and calculation, recall, language with total number of score 30 and it is graded as (24-30 no cognitive impairment, 18-23 mild cognitive impairment, 0-17 severe cognitive impairment).

**Demographic Proforma:** This is for assessing the background information of samples. Which consisted of 11 characteristics namely, age, gender, education, occupation, and marital status, types of family, number

of children, number of siblings, birth order, duration of illness and number of previous admission in psychiatric unit.

**Risk factors assessment checklist:** To determine the risk factors leading to mental illness. Tool was prepared on five aspects of the risk factors such as biological factors (36 items), socio economic factors (9 items), environmental factors (5 items), psychological factors (24 items), and personal factors (15 items) with a total of 89 items in five areas with check responses provided as yes or no answers.

The gathered data was analysed using SPSS software system of version 16. Frequency and percentage distribution was calculated to analyse the sample characteristics and risk factors leading to mental illness. The chi-square test was computed to analyse the association of risk factors leading to mental illness with selected demographic variables. Odds ratio was calculated to compare the magnitude of various risk factors for that outcome.

## Results

### Section –1: Description of Sample characteristics

The study finding shows that highest percentages (27%) of the psychiatric patients were in the age group of 20-29 years in case group where as in control group, highest percentage (30%) of the samples were in the age group of 30-39 years' old. Majority (57%) of psychiatric patients were female where as in control group, majority (60%) of samples were female. Educational status of the psychiatric patients revealed that highest percentage (26%) of patients had studied up to secondary education where as in control group, highest percentage (27%) of them had studied up to secondary education. Majority (53%) of the patients were unemployed in case group where as in control group, highest percentage (38%) of them was unemployed. Most (69%) of the patients were married where as in control group, most (92%) of the patients were married. Majority (72%) of the patients belonged to nuclear family where as in control group, majority (73%) of them belonged to nuclear family. Majority (34%) of the patients had two children where as in control group, majority (44%) of them had two children. Number of the siblings of the psychiatric patients revealed that majority (52%) of the patients had more than 3 siblings where as in control group, majority (63%) had 3 siblings. Orders of birth in the case group, majority (42%) were first born where as in control group,

majorities (35%) were second child. Majorities (26%) of the patients were having mental illness for less than a year. Number of previous admission in the psychiatric

unit revealed that majorities (41%) of the patients were admitted once to the psychiatric ward previously.

## Section II: Assessment of Risk Factors Leading To Mental Illness

**Table 1: Frequency Percentage Distribution of Risk Factors Leading To Mental Illness**

Sl. No.	Risk factors	Case (N=100)	Control (N=100)	Chi-square value	df	P- value
		(f)	(f)			
<b>I</b>	<b>Biological factors</b>					
1	<b>Physical deprivation</b>					
1.1	Poor nutrition	7	0	0	0	0.014
1.2	Sleep disturbance	71	13	69.048	1	0.000*S
2	<b>Present physical illness</b>					
2.1	Hypertension	16	28	4.196	1	0.041
2.2	Epilepsy	9	2	4.714	1	0.030
2.3	Thyroid dysfunction	13	2	8.721	1	0.003
3	<b>Family history of</b>					
	<b>Paternal</b>					
	Father	19	9	4.153	1	0.042
	Brother/sister	23	9	7.292	1	0.007
	<b>Maternal</b>					
	Uncle	6	1	3.701	1	0.054
	Cousins	8	2	3.789	1	0.052
	Brother/sister	9	0	0	0	0.003
<b>II</b>	<b>Socioeconomic factors</b>					
4	Financial problems	32	13	10.351	1	0.001
5	Joint family	24	11	5.853	1	0.016
6	Family migration	5	0	0	0	0.059
<b>III.</b>	<b>Environmental factors</b>					
7	Place of residence					
7.1	Slum area	26	10	8.672	1	0.003
8	Adverse influence of mass media (computer, radio, newspaper)	5	0	0	0	0.059
<b>IV.</b>	<b>Psychological factors</b>					
9	Stress full life events					
9.1	Love failure	8	0	0	0	0.007
9.2	Feeling of loneliness	22	2	18.939	1	0.000
10	Loss of a significant person					
	Father	18	3	0	0	0.001
<b>V.</b>	<b>Personal factors</b>					
11	Chronic smoking	14	1	12.180	1	0.000
12	Family conflict	13	3	6.793	1	0.009
13	Difficulty at school					
13.1	Fear of punishment	5	0	0	0	0.059

Data depicted in [Table 1] shows that the following risk factors are significantly predisposed to mental illness among cases (psychiatric patients) such as poor nutrition (P=0.014), sleep disturbance (P=0.000), hypertension (P=0.041), epilepsy (P=0.030), thyroid dysfunction (P=0.003), paternal-father (P=0.042), brother/sister (P=0.007), maternal-uncle (P=0.054), maternal-cousins (P=0.052), maternal-brothers/sisters (P=0.003), financial problems (P=0.016), family migration (P=0.059), slum area (P=0.003), adverse

influence of mass media (P=0.059), work related stress (P=0.069), love failure (P=0.007), feeling of loneliness (P=0.000), loss of significant person (father) (P=0.001), chronic smoking (P=0.000), family conflict (P=0.004), and fear of punishment (P=0.054) along with case and control group.

### Section III: Determination of Odds ratio of Risk Factors Leading To Mental Illness

**Table 2: Odds ratio of risk factors for mental illness among psychiatric patients and general population n=200**

SL. No	Risk Factors			Odds Ratio
		Case (100)	Control (100)	
I	Biological factors • Sleep disturbance	71	13	16.385
II	Socioeconomic factors • Financial problems	32	13	3.149
III	Environmental factors Place of residence • Slum area	26	10	3.162
IV	Psychological factors • Feeling of loneliness	22	2	13.821
V	Personal factors • Chronic smoking	14	1	16.116

Data in Table 2 shows that in biological, socioeconomic, environmental, psychological and personal factors, the highest value of the odds ratio of risk factors for mental illness is sleep disturbance (16.385), financial problems (3.149), slum area (3.162), feeling of loneliness (13.821) and chronic smoking

(16.116) respectively; it is higher among patient with mental illness compared to the general population.

Section IV. Association of risk factors of mental illness with selected demographic variables.

**Table 3: Association of demographic variables with risk factors of mental illness in case and control group**  
n=200

Sl. No.	Demographic factor with Risk Factors	Case(100)		Control (100)	
		Chi-square value	P Value	Chi-square value	P Value
1	Occupation (sleep disturbance)	9.460	0.051*	3.057	0.548
2	Gender (diabetes mellitus)	0.672	0.412	4.001	0.045*
3	Age(hypertension)	9.008	0.016*	0.814	0.937
4	Marital status(hypertension)	15.534	0.004*	1.036	0.309
5	Education(epilepsy)	5.328	0.5036	16.667	0.020*
6	Type of family(epilepsy)	3.846	0.050*	0.548	0.459
7	Marital status(migraine)	9.789	0.048*	0.524	0.469
8	Age (thyroid dysfunction)	17.880	0.001*	2.211	0.697
9	Marital status (joint family)	5.606	0.231	6.238	0.013*
10	Type of family (joint family)	41.009	0.000*	25.612	0.000*
11	Type of family (riot prone area)	3.725	0.054*	1.118	0.290
12	Gender (work related stress)	6.206	0.013*	0.174	0.677
13	Occupation (work related stress)	20.572	0.000*	2.245	0.691

\* - significant

Data presented in Tables 3 shows that there is a significant association between the risk factors of mental illness like sleep disturbance, diabetes mellitus (control), hypertension, epilepsy, (both case and control group) migraine, thyroid dysfunction, joint family (both case and control group), riot prone area, work related stress with selected demographic variables. Hence the null hypothesis is rejected and research hypothesis is accepted. There is no significant association found between the rests of the risk factors of mental illness with selected demographic variables.

### Discussion

There is a paucity of literature looking to identify the various risk factors leading to mental illness. The present study intended to identify the risk factors leading to mental illness among patients in selected hospitals, Mangalore.

The present study findings are consistent with a longitudinal study conducted on sleep disturbances and depression: risk relationships for subsequent depression and therapeutic implications shows that 90% of patients with depression will have sleep quality complaints. About two third of the patients undergoing a major depressive episode will experience insomnia, with about

40% of patients complaining of problems initiating sleep (sleep onset difficulties), maintaining sleep (frequent awakenings), and/or early-morning awakenings (delayed or terminal insomnia), and many patients reporting all three. Hypersomnia occurs in about 15% of patients. Sleep problems sometimes emerge as a symptom of depression or as a side effect of treatment.<sup>8</sup>

The present study showed that in biological, socioeconomic, environmental, psychological and personal factors, the highest value of the odds ratio of risk factors for mental illness is sleep disturbance (16.385), financial problems (3.149), slum area (3.162), feeling of loneliness (13.821) and chronic smoking (16.116) respectively; it is higher among patient with mental illness compared to the general population.

The study findings are supported by an epidemiologic study of sleep disturbances and psychiatric disorders shows that the risk of developing new major depression was much higher in those who had insomnia at both interviews compared with those without insomnia (odds ratio, 39.8; 95% confidence interval, 19.8 to 80.0).<sup>10</sup>

Study on loneliness in the general population: prevalence, determinants and relations to mental health shows that a total of 10.5% of participants reported

some degree of loneliness (4.9% slight, 3.9% moderate and 1.7% severely distressed by loneliness). Loneliness declined across age groups. Loneliness was stronger in women, in participants without a partner, and in those living alone and without children. Controlling for demographic variables and other sources of distress loneliness was associated with depression (OR=1.91), generalized anxiety (OR=1.21) and suicidal ideation (OR=1.35).<sup>11</sup>

The present study shows that there is a significant association between the risk factors of mental illness like sleep disturbance, diabetes mellitus (control), hypertension, epilepsy, (both case and control group) migraine, thyroid dysfunction, joint family (both case and control group), riot prone area, work related stress with selected demographic variables. Hence the null hypothesis is rejected and research hypothesis is accepted. There is no significant association found between the rests of the risk factors of mental illness with selected demographic variables.

The study findings are supported by a study on relationships of occupational stress to insomnia and short sleep in Japanese workers shows that in men, high occupational stresses were significantly associated with insomnia, especially a high level of Effort Reward Imbalance (defined as the presence of high effort and low reward), had a remarkably higher odds ratio. In women, high occupational stresses were significantly associated with insomnia as well. High occupational stresses were significantly associated with short sleep in men. However, in women, only Effort Reward Imbalance showed a significantly association with short sleep.<sup>12</sup>

### Conclusion

Most of the samples are having one or other risk factors for developing mental illness. Some of the most relevant risk factors are sleep disturbance, financial problems, slum area, feeling of loneliness, chronic smoking etc. Hence we need to take care about these risk factors and maintain good lifestyle to promote optimal mental health.

**Financial support and sponsorship-** NIL

**Conflicts of Interests-** There are no conflicts of interests

**Ethical Clearance:** obtained from Institutional Ethics committee of A J Ethics committee, Mangalore.

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