ORIGINAL RESEARCH PAPER

Psychiatry

A COMPARATIVE STUDY ON PSYCHO-SOCIO-DEMOGRAPHIC AND CLINICAL PROFILE OF PATIENTS WITH DEPRESSION WITH SUICIDAL BEHAVIOUR AND DEPRESSION WITHOUT SUICIDAL BEHAVIOUR.

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Background: Suicidal behaviour is frequently seen in context of depression. Few studies have demonstrated sociodemographic distinction between depression with and without suicidal behaviour. This study compares various psycho-socio-demographic factors associated with depression in context of suicidal behaviour.

Materials and Methods: 50 depression patients with suicidal behaviour and 50 depression patients without suicidal behaviour were compared using a specially designed intake proforma, ICD-10 diagnostic criteria for research, Hamilton Rating Scale for Depression-17 (HAMD-17).

Results: Depression with suicidal behaviour had more males, married, Hindu, literate, low income, urban locality, nuclear family samples, with earlier age of onset of illness. The total HAM-D scores were significantly higher in this group.

Conclusions: Sociodemographic parameters are intricated crucially with suicidality. The present study identifies male gender, nuclear family, urban background, unemployment and literacy to be an independent risk factor for suicidality. Suicidal behaviour increases with amount of time spent in depressive illness.

1. INTRODUCTION-

Depression is one of the leading causes of morbidity, disability and is a major factor in contribution of global burden of disease. It affects both genders with female gender being more affected and is prevalent in all age groups. Being one of the most common mental disorder it affects about 300 million people globally. Many factors are responsible for precipitating depression including but not limited to physical, psychological, social, medical causes. There are effective treatment options including pharmacological and non-pharmacological treatment available for depression hence early identification and treatment could lead to significant reduction in duration of illness and disability causing time duration.[1]

Suicide is the second leading cause of death in age group of 15-29 year. A previous suicidal attempt is one of the strongest predictors of future likelihood of another attempt. There are multiple causes for suicide like depression, substance use, impulsive act, inability to cope with life stresses like break ups, financial crisis, chronic pain or illness, death of near ones etc.[2]

The best predictor of a future suicide is a history of previous attempts. Intricate interactions between genetic and environmental variables are likely responsible for manifestation of suicidal behaviour. Epidemiological studies suggest that heritable factors may explain around 40% of suicidal behaviour. Having a psychiatric disorder, especially major depressive disorder or bipolar disorder, is another risk factor of suicide as 90% of suicide completers suffer from some form of psychiatric illness. Males tend to be at a higher risk of completing suicide than females as the male: female ratio of global age-standardized suicide rate is 1.9.[3]

Each year more than 1,00,000 people commit suicide in India. National Crime Records Bureau collects data on suicides from multiple recorded legal suicides depression with suicidal behaviours and police. There has been an increase of 17.3% in the suicidal deaths in the last decade.[4]

Suicidal behaviour varies amongst sexes, age groups, geographic regions, social and political settings, and variably associates with multiple risk factors, suggesting aetiological heterogeneity.[5] There are very few studies in Indian subpopulation comparing the sociodemographic profile of depression patients in context of suicidal behaviour. Our study focusses primarily on the various sociodemographic parameters of the two groups.

2. MATERIALS AND METHODS -

The study was conducted at Department of Psychiatry, M.G.M Medical College, Indore. This is a cross-sectional comparative study conducted between January 2018 to December 2018. After obtaining the Institutional Review Board approval, 100 consecutive subjects (50 each in depression with suicidal behaviour and depression without suicidal behaviour group) who sought in-patient treatment from the Psychiatry Department of a Tertiary Care Medical College were recruited.

Inclusion criteria

Patients aged 18–65 years, both genders, who satisfied the diagnostic criteria for research-10 (DCR-10) criteria for Depression (F32) or RDD (F33), without psychotic symptoms were included. Only those patients who were drug naïve or treatment free for more than 3 months before the onset of current episode and subjects/informants who gave written informed consent were taken.

Exclusion criteria

Any other psychiatric comorbidity (schizoaffective, bipolar affective disorder, organic mood disorder). Current use of anti-psychotics , anti-depressant, mood stabilizers, or drug free < 3 months. Patients with history of mental retardation, seizure disorder, permanent neurological deficits, cognitive impairment and affective illness secondary to general medical condition or psychoactive substance use (except tobacco) were excluded. We also excluded patients with poor physical health and those with informants who cannot provide adequate information.

Instruments

A specially designed intake proforma is used for assessing the psycho-socio-demographic and clinical profile of the patients.

Psycho-socio-demographic profile

To record age, gender, education, occupation, marital status, religion, socioeconomic status, family type, place, and

informant details. Age of onset, total duration, mood chart, hospitalizations, substance abuse/dependence and family history of psychiatric illness in first- and second-degree relatives were included.

The ICD-10[6] classification of mental and behavioral disorders: Diagnostic criteria for research is derived from chapter V(F) of International Classification of Diseases, tenth revision. The criteria being deliberately restrictive are intended to maximize homogeneity of study groups and comparability of findings in various studies.

Hamilton depression rating scale[7] (17 item)- The Hamilton Rating Scale for Depression (HRSD), developed by Max Hamilton in 1960, is a multiple item questionnaire used to provide an indication of depression, and as a guide to evaluate recovery. The strengths include its excellent validation/research base, and ease of administration. Total scores range from 0 to 53 (the sum of the first 17 items).

3. Procedure-
Subjects were taken from Dept of psychiatry, MGM Medical College- MY Hospital and Mental Hospital Indore fulfilling the inclusion criteria. After complete description of the study to the subjects, written informed consent was obtained from all participants. Socio-demographic data was collected. After that clinical assessment of patient group was done using HAM-D to ascertain severity. Statistical analysis was performed using the Statistical Package for Social Sciences (SPSS for Windows, Version 23, SPSS Inc.). Results on continuous measurements are presented as mean ± standard deviation and are compared using independent t-test. Discrete data are expressed as number (%) and are analysed using Chi-square test. The statistical significance was fixed at 5% level (P < 0.05).

4. RESULTS -
Table 1- Sociodemographic variables of the patients

	Depression with suicidal behaviour (N=50)	Depression without suicidal behaviour (N=50)
Age(mean) in years	33.08 years	34.20 years
Males	26 (52%)	21 (42%)
Females	24 (48%)	29 (58%)
Marital status in %:		
Married	68%	64%
Unmarried	20%	26%
Divorced	4%	4%
Widowed	2%	0%
Remarried	6%	6%
Religion in %:		
Hindu	76%	68%
Muslim	24%	32%
Education in %:		
Illiterate	18%	22%
Primary (5th)	32%	32%
Middle(8th)	20%	22%
High School	12%	10%
Inter	8%	10%
Diploma/Graduate/ Post graduate Professional	10%	4%
Socioeconomic		
Low	74%	76%
Middle	24%	22%
High	2%	2%
Occupation		
Employed	32%	40%
Unemployed	68%	60%

Family type		
Nuclear	66%	54%
Extended/ Joint.	34%	46%
Locality		
Urban	66%	62%
Rural	34%	38%

The depression with suicidal behaviour patients had higher mean age (33.08 years) higher married subjects (68%), higher Hindu subjects, lower illiterates, lower subjects belonging to low socioeconomic class, lower employed subjects, higher nuclear family and higher urban based subjects than depression without suicidal behaviour patients. However depression without suicidal behaviour subjects had more subjects who were unmarried, Muslims, illiterate, low socioeconomic class based, employed, belonged to joint family and were rural locality based. (Table 1)

Table 2. Description of Family history in study participants in depression with suicidal behaviour and depression without suicidal behaviour groups

Family History	Depression with suicidal behaviour (N=50)	Depression without suicidal behaviour (N=50)
Negative	40 (80%)	45 (90%)
Positive	10 (20%)	5 (10%)

The depression with suicidal behaviour group had 20% of subjects having positive family history while depression without suicidal behaviour had 10 % subjects with positive family history. Both depression with suicidal behaviour (80%) and depression without suicidal behaviour (90%) groups had negative family history in abundance. (Table 2)

Table 3. Description of Past history of depression in study participants in depression with suicidal behaviour and depression without suicidal behaviour groups

Past History of depression	Depression with suicidal behaviour (N=50)	Depression without suicidal behaviour (N=50)
Negative	43 (86%)	46 (92%)
Positive	7 (14%)	4 (8%)

Comparing past history for depressive disorder where it was seen that depression with suicidal behaviour had more subjects (14%) with positive past history than depression without suicidal behaviour (8%) group. About 92% patients of depression without suicidal behaviour did not have any past history of depression while 86% of depression with suicidal behaviour patients had negative past history for depressive disorder. (Table 3)

Table 4. Clinical characteristics of the depression patients (continuous variables)

Variables	Suicidal depression patients Mean± SD N=50	Non-Suicidal depression Patients Mean± SD N=50	t value	p value
Duration of illness (in months)	5.58 ± 2.50	5.10 ± 2.30	.991	.324
Age of onset of illness (in years)	32.6 ± 11.90	33.5 ± 10.50	-3.83	.703
HAM-D SCORES	20.36 ± 7.04	15.28 ± 2.80	4.73	.001

The mean duration of illness of depression with suicidal behaviour patients was 5.58 ± 2.5 months, while that of depression without suicidal behaviour patients was 5.10 ± 2.30 months. The mean age of onset of illness of depression with suicidal behaviour patients was 32.6 ± 11.9 years while the mean age of onset of illness of depression without suicidal behaviour patients was 33.5 ± 10.5 years. Depression without

suicidal behaviour patients had a mean HAM-D score of 15.28 ± 2.80 while depression with suicidal behaviour patients had a mean HAM-D score of 20.36 ± 7.04. t-test showed statistical significance in HAM-D scores. (Table 4)

5. DISCUSSION -

The mean age of depression with suicidal behaviour group was 33.08 ± 11.9 years while that of depression without suicidal behaviour group was 34.20 ± 10.3 years **(Table 1)**, this implies that suicidality appears earlier in presence of depression. Our results for mean age of depression resemble Islam et al.[8] who found the mean age in depression to be 34.7 years and Dar et al.[9] who found the mean age to be 39.6. Our results are in concordance with the study by Narang et al.[10] where 73% of the patients with suicidal behaviour were <30 years of age, however Kessler et al.[11] reported a much younger age at <25 years being a significant risk factor for suicidal attempt among those with suicidal behaviour which is in contrast to the present study. A more consistent trend would require a study with a much larger sample.

The number of female patients were higher in the depression without suicidal behaviour group (58%) than depression with suicidal behaviour group **(Table 1)**. The gender was almost evenly distributed within the depression with suicidal behaviour group. Since both groups had depression patients the overall makeup of the sample had higher female gender which is agreement with Danesh et al.[12] and Carpena et al.[13]. However, our results suggest that males have higher suicidal behaviour than females.

The married subjects were higher in depression with suicidal behaviour group (68%) than depression without suicidal behaviour (64%) groups **(Table 1)**. Further about unmarried samples were higher in depression without suicidal behaviour (26%) and divorced subjects were equal (4%). Widowed participant were 4% in depression with suicidal behaviour group while depression without suicidal behaviour group had none. Similar results were obtained by Okeafor et al.[14] and Milanovi et al.[15] Our results suggest that being married might have protective effect on suicidal behaviour due to better social and interpersonal support.

The depression with suicidal behaviour group had higher preponderance of (76%) Hindu subjects than depression without suicidal behaviour (68%) groups **(Table 1)**. Rest of the samples were Muslim by religion. This result is in agreement of the local geographical distribution of the religion. Many Indian studies have found similar results like Agarwal et al.[16] and Dar et al.[9].

Most participants in both depression with suicidal behaviour (32%) and depression without suicidal behaviour (32%) group were literate till primary education, depression without suicidal behaviour group had more percentage of illiterates (22%) **(Table 1)**. Middle, high school and secondary education was almost evenly distributed in both groups while graduates and post graduates were more in the depression with suicidal behaviour group. Since suicidal behaviour group had more literate samples, we conclude that patients in the educated group were more likely to present with suicidal behaviour. However, Kessler et al.[11] found that poorly educated subjects were more vulnerable to suicidal attempts. This discrepancy can be attributed to the study center being tertiary in location and belonging to urban locality where literacy is higher than rural areas.

Low socio-economic income groups were found to be the majority in both depression with suicidal behaviour (74%) and depression without suicidal behaviour groups (76%), followed by middle income and lastly high income **(Table 1)**. In terms of sociodemographic variables studies have shown that depression is more common in subjects from poor economic background (Poongothai S et al.[17], 2009; Bagadia

VN et al., 1973[18], Coentre et al.[19]). We could not establish income as a risk factor for suicidal behaviour.

The distribution of depression with suicidal behaviour group (66%) and depression without suicidal behaviour (62%) sample were urban dwelling in majority, while about one third sample in both groups belonged to rural background **(Table 1)**. Islam et al[7] found similar results with their sample population having 64% urban residents. More patients from urban areas attempted suicide compared with those from rural areas (64% vs 36%,n=25) which is in concordance with Srivastava et al.[20] who reported similar findings. The urban preponderance could be justified by the study site being urban area based. More widely and evenly distributed samples would be required to obtain more even results.

The depression with suicidal behaviour group had higher composition of nuclear family at 66% than depression without suicidal behaviour group at 54% **(Table 1)**. This finding is consistent with the fact that joint families have a broader and stronger family support which might be protective for suicidal behaviour and is consistent with literature. [17,20]

The depression with suicidal behaviour group had 20% of subjects having positive family history while depression without suicidal behaviour had 10 % subjects with positive family history **(Table 2)**. Both depression with suicidal behaviour (80%) and depression without suicidal behaviour (90%) groups had negative family history in abundance. Our findings are consistent with Srivastava et al.[20] found almost 20% family history in suicide attempters.

On comparing past history for depressive disorder it was seen that depression with suicidal behaviour had more subjects (14%) with positive past history than depression without suicidal behaviour (8%) group **(Table 3)**. This implies that past history of depressive disorder could be a risk factor for suicidality and those patients with prior positive history should be cautiously monitored and treated promptly before development of suicidal behaviour. Franklin et al.[21] also corroborate this finding.

The mean duration of illness of depression with suicidal behaviour patients was 5.58 ± 2.50 months or 23 to 24 weeks. The mean duration of illness in depression without suicidal behaviour patients was 5.10 ± 2.30 months or almost 21-22 weeks **(Table 4)**. This is keeping with the mean duration of depression in most literature [22]. Therefore, we conclude that the depression with suicidal behaviour patients presented to the health-care settings later as compared to depression without suicidal behaviour patients which is alarming as suicidal behaviour is a psychiatric emergency and secondary to the psychomotor retardation seen in severe depression the suicidal behaviour patients could further be hampered to attend the psychiatric opd.

All the samples (n=100) of our study were cases of major depression having a mean age of onset of 33.07 ± 11.18 years, while the mean age of onset of illness of depression without suicidal behaviour patients was 33.5 ± 10.50 **(Table 4)**. Similar mean age have been found in multiple studies like Park et al.[23], Yang et al.[24], Srivastava et al.[20]. The mean age of onset of illness of depression with suicidal behaviour patients was 32.6 ± 11.90 years, Trivedi et al[25] found mean age of onset to be 39 years.

Depression without suicidal behaviour patients had a mean HAM-D score of 15.28 ± 2.80 equivalent of moderate depression. Depression with suicidal behaviour patients had a mean HAM-D score of 20.36 ± 7.04 which corresponds to severe depression in Hamilton scale **(Table 4)**. Suicidal patients have more HAM-D score as compared to non-suicidal patients which correlates suicidality to severity of depression, i.e. suicidal behaviour is an indicator of severe depression,

which is concordance with Hawton et al.[26] which found severe depression as one of the factors significantly associated with suicide (OR=2.20, 95% CI=1.05–4.60), Franklin et al.[21] who reported the finding of severe depression was associated with a sensitivity of 87.3% and specificity of 63% for suicide attempt and Coentre et al [19] where severe depression was found to be associated with suicidal behaviour. Depression with suicidal behaviour patients were more in the severe depression category as per HAM-D scores. Depression without suicidal behaviour had majority of patients in the moderate depression category which is in concordance of the current literature and classificatory system which suggest suicidality to be an indicator of severe depression.

Despite taking all necessary precautions and a very rigorous methodology there are a few limitations to our study. There is lack of longitudinal follow-up which could be utilized to compare parameters before and after   intervention or to assess correlation of depression & suicide scores. The sample size could have been increased with a longer study duration.

6. CONCLUSION

Sociodemographic parameters are intricated crucially with suicidality. The present study identifies male gender, nuclear family, urban background, unemployment and literacy to be an independent risk factor for suicidality. It was also found that the patients of depression with suicidal behaviour develop the illness earlier and the duration   of illness is longer than depression without suicidal behaviour. Suicidal behaviour increases with amount of time spent in depressive illness.

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