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Original Research Paper

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TO STUDY THE OCCURRENCE AND FUNCTIONAL CONSEQUENCES OF INSOMNIA IN ADULT PATIENTS OF DEPRESSION AND/ OR ANXIETY DISORDERS

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ABSTRACT

Background: Depressive syndrome is a complex mental illness with multiple symptomatic dimensions comprising affective, cognitive and physical symptoms. Anxiety is behavioral, affective, physical and cognitive responses to perception of danger. There is increased evidence of increasing prevalence of these mental illnesses. Insomnia is an important feature in patients of depression and anxiety disorders. **Aim:** To study the occurrence and functional consequences of insomnia in adult patients of depression and/ or anxiety disorders **Material And Methods:** Total 60 patients aged 18-60 years were recruited as per inclusion and exclusion criteria. The socio demographic details were gathered using semi- structured socio demographic proforma. Insomnia severity index was administered to evaluate the occurrence and severity of insomnia and WHO DAS2.0 scale was applied to measure the functional consequences of insomnia. **Result:** The main findings of our study showed that all the demographic characteristics were comparable among the threediagnostic groups and the differences observed were statistically insignificant.The association between diagnostic groups and Functionalconsequences where mobility and life activities were significantly higher inthe subjects with co morbid depression and anxiety disorders,whereas other consequences were associated insignificantly. It was observed that all the functional consequences increase significantly as the ISIgrading increases from absent to severe. **Conclusion:** Sleepiness, sleep quality, and insomnia severity were consistently poorer in subjects with both depression and anxiety. Anxiety and depression affect insomnia in a supra-additive manner.

KEYWORDS : Depression, anxiety, insomnia and functional consequences

INTRODUCTION

Depressive syndrome is a complex mental illness with multiple symptomatic dimensions comprising affective, cognitive and physical symptoms.[1,2]It is characterized by low mood, decreased energy levels, reduced motor and physical activity, with disturbed sleep, decreased appetite and increased suicidal ideations.[3]Among one of the leading causes of mental illnesses, it affects more than 264 million people worldwide.[4]

Anxiety is termed as behavioral, affective, physical and cognitive responses to perception of danger. It is considered as a morbid condition when it occurs in the absence of stress and when it is out of proportion to normal.[6]Globally, around 3.6% people are affected by it including 4.6% males and 2.6% females respectively.[5]

Depressive and anxiety disorders can occur simultaneously. About, 50-90% of individuals with primary diagnosis of affective disorders have co morbid anxiety disorder and 60-70% with primary diagnosis of anxiety disorder have co morbid affective disorder.[7]

Humans spend approximately one third of their lives sleeping.[8]The restorative function of sleep is necessary for maintaining physical, mental and social well being of the individual.[9]Insomnia is characterized by difficulty in initiating and maintaining sleep, early morning awakenings as well as an inability to return to sleep leading to impairment in daytime functioning. It affects around 10% of the population.[10]It impairs the domains of basic life functioning like mobility, self care, cognition, carrying out normal day to day activities, reduces the quantity and quality of work, so extreme efforts are made to carry out normal routine activities.[11]The individuals with insomnia symptoms have poorer quality of life, increased occurrence of anxiety co morbidity and higher rates of depression recurrence.[12,13]

As the awareness towards mental disorders is increasing in the young generation, ithas become important to assess and diagnose various mental disorders in order to plan the proper management of the patients. In this context, our study was aimed to determine the occurrence and functional consequences of insomnia in adult patients of depression and/or anxiety disorders

MATERIAL AND METHODS

This was a cross sectional observational and analytical study conducted in the Outpatient Department of Psychiatry in ChhatrapatiShivaji Subharti Hospital, Subharti Medical College, Meerut in a time span of 18 months. Before commencement of the study, approval of ethics committee of the institution was taken. The patients were enrolled after the application of inclusion and exclusion criteria and after obtaining their written informed consent.

A Total 60 cases were enrolled, out of them,20 cases were of patients diagnosed with depression (either first time or recurrent), 20 new and/or old cases were of patients diagnosed with anxiety disorder and20 new and/or old cases were of patients diagnosed with co morbid depression and anxiety disorders Patientsaged 18- 60 years, with clinical diagnosis of Depression (either first time or recurrent), anxiety Disorders and with co morbid Depression and Anxiety Disorders fulfilling the diagnostic criteria of ICD-10 were included in the study. Patients with age <18 years and >60 years, having any psychiatric disorder other than depression and anxiety disorders or having history of any organic brain syndrome like epilepsy, communication problems, learning difficulties and intellectual deficit etc. were excluded from the study.

- For the selected cases, semi-structured interview proformawas used to collect the identification data, socio-demographic data and clinical data.
- Insomnia Severity Index (ISI) was applied for severity of symptoms of insomnia and World Health Organization Disability Assessment Schedule 2.0 (WHODAS 2.0) was

administered to assess the functional consequences of insomnia

Thereafter, the data obtained was analyzed using Chi-square test, its significance was checked with p-value at 0.05 and conclusion has been drawn using ibmspss software

RESULTS

Table 1. Distribution Of Demographic Variables In Total Study Population

		Diagnosis (N=60)			Total (100 %)	p-value	Result
		Depression (n=20)	Anxiety Disorder (n=20)	Co morbid depression and anxiety disorder (n=20)			
Age	Mean Age (in years)	39.5± 9.6	36.6±12.4	42.4±9.4		0.230	Not Significant (NS)
Gender	Male	7 (35%)	6 (30%)	7 (35%)	20 (33%)	0.927	Not Significant (NS)
	Female	13 (65%)	14 (70%)	13 (65%)	40(66%)	0.927	
Background	Rural	13 (65%)	10 (50%)	13 (65%)	36(60%)	0.535	Not Significant (NS)
	Ur-ban	7 (35%)	10 (50%)	7 (35%)	24(40%)	0.535	
Marital Status	Married	16 (80%)	12 (60%)	18 (90%)	46(76.6%)	0.074	Not Significant (NS)
	Unmarried	4 (20%)	8 (40%)	2 (10%)	14(23%)	0.074	
Religion	Hindu	16 (80%)	15 (75%)	10 (50%)	41(68%)	0.092	Not Significant (NS)
	Muslim	4 (20%)	5 (25%)	10 (50%)	19(32%)	0.092	
Family Type	Nuclear	16 (80%)	11 (55%)	12 (60%)	39(65%)	0.214	Not Significant (NS)
	Joint	4 (20%)	9 (45%)	8 (40%)	21(35%)	0.214	
Socio-economic status	Upper Lower	8 (40%)	9 (45%)	8 (40%)	25(41.6%)	0.933	Not Significant (NS)
	Lower Middle	7 (35%)	6 (30%)	7 (35%)	20(33.3%)	0.928	
	Upper Middle	4 (20%)	4 (20%)	5 (25%)	13(21.6%)	0.906	
	Upper	1 (5%)	1 (5%)	0 (0%)	2 (3.3%)	0.596	

The mean age in depression, anxiety disorders & Co-morbid depression andanxiety disorders was 39.5±9.6 year, 36.6±12.4 year& 42.4±9.4 years,respectively. Gender distribution showed that among depression, anxietydisorders and co morbid depression and anxiety disorders, female subjectswere 13(65%), 14(70%) and 13(65%) respectively and male subjects were7(35%), 6(30%) and 7(35%) respectively. 60% of the total subjects belonged to rural background as compared to 40% who were from urban background.68% of the patients were hindus and remainingall were muslims. 76.6% were married and the remaining were unmarried. According to the family set up, 65% belonged to nuclearfamilies and 35% belonged to joint family setup. As per the socio economic status, in majority of the sample, the subjectsbelonged to upper lower (41.6%) and lower middle (33.3%) socioeconomicstatus followed by upper middle (21.6%) and upper (3.3%) socioeconomicstatus.All the demographic characteristics were comparable among the threediagnostic groups and the differences observed were statisticallyinsignificant (p>0.05).

Table 2: Occurrence Of Insomnia In Various Diagnostic Groups Of The Sampleand Its Statistical Analysis Using Chi Square Test

Insomnia severity index	Diagnosis (N=60)			p-value (Using chi square test)
	Depression (n=20)	Anxiety Disorder (n=20)	Co morbid depression and anxiety disorder (n=20)	
Absent	2 (10%)	3 (15%)	0 (0%)	0.217
Sub threshold	3 (15%)	1 (5%)	2 (10%)	0.573
Moderate	11 (55%)	12 (60%)	10 (50%)	0.817
Severe	4 (20%)	4 (20%)	8 (40%)	0.255

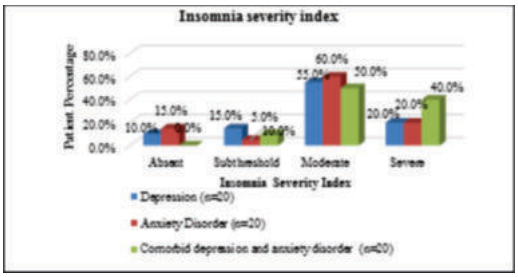

Figure 2: Occurrence Of Insomnia In Sample Participants

Among 20 subjects with depression, insomnia was absent in2 (10%) subjects, sub threshold in 3 (15%), moderate in 11 (55%) and severein 4(20%). Among the subjects with anxiety disorders, insomnia was absent in3 (15%) subjects, sub threshold in 1 (5%), moderate in 12 (60%) and severe in4(20%). In co morbid depression and anxiety disorders, insomnia was absentin 0 (0%) subjects, sub threshold in 2 (10%), moderate in 10 (50%) and severein 8(40%) subjects.

Table 3: Comparison Of Functional Consequences (WHODAS 2.0) Among Various Diagnostic Groups And Their Statistical Analysis Using Student 't' Test

Functional consequences	Depression (n=20)	Anxiety Disorder (n=20)	Co morbid depression and anxiety disorder (n=20)	p-value (Student 't' test)	Result
Cognition	14.3±4.2	15.6± 3.8	16.6±4.2	0.210	NS
Mobility	12.1±2.8	12.9± 3.3	14.8±2.3	0.012	Sig.
Self-care	8.4±2.5	7.9± 2.2	9.3±2.6	0.193	NS
Getting along	12.8±2.9	14.5± 2.9	14.7±2.8	0.079	NS
Life activities	21.5±4.9	23.6± 4.7	26.2±4.9	0.012	Sig.
Participation	20.9±4.1	22.2± 5.2	23.4±4.0	0.217	NS
Total	89.9±19.2	96.6± 18.5	104.9±17.7	0.044	Sig.

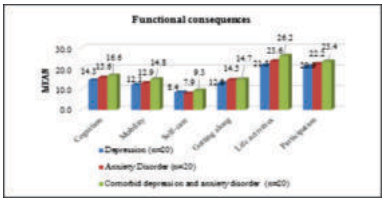

Figure 3:comparison Of Functional Consequences (WHODAS 2.0) Among Various Diagnostic Groups

The association between diagnostic groups (depression, anxietydisorders and co morbid depression and anxiety disorders) and Functionalconsequences where mobility and life activities were significantly higher inthe subjects with co morbid depression and anxiety disorders ($p<0.05$),whereas other consequences were associated insignificantly ($p>0.05$).

Table 4: Association Between Insomnia Severity Index (isi) Grading And Functional Consequences Among Total Participants

ISI Grading	Functional consequences						
	Cogni-tion	Mobi-lity	Self-care	Getting along	Life activi-ties	Parti-cipa-tion	Total
Absent	9.2±1.8	7.0±2.1	4.8±1.1	9.2±1.1	15.2±1.8	12.2±1.9	63.5±4.4
Subthreshold	10.7±1.9	11.0±1.9	5.7±0.8	10.7±2.8	20.5±4.2	18.0±1.5	76.5±10.2
Moderate	14.9±2.4	13.5±2.1	8.5±1.6	14.1±2.2	23.6±3.1	22.3±2.5	96.9±8.4
Severe	20.3±1.7	15.4±1.9	10.7±2.2	16.6±1.4	29.1±3.4	26.5±2.1	119.3±5.7
p-value (Student 't' test)	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Result	Highly Significant	Highly Significant	Highly Significant	Highly Significant	Highly Significant	Highly Significant	Highly Significant

It can be inferred from the above table that the association between ISI grading and functional consequences wascalculated and all the functional consequences increase significantly as the ISIgrading increases from absent to severe ($p<0.01$)

DISCUSSION

In psychiatric illnesses, it is clear that co morbidity or co-occurrence ofmultiple psychiatric disorders is the norm and not the exception. As per the studies conducted in past few years, the contribution of sleep problems tothe persistence and exacerbation of mood and anxiety disorders has been recognized. Approximately 20%-40% of individuals with psychiatric illness experience symptomsof insomnia,[14] and individuals meeting the criteria for affective or anxiety disordershave higher rates of insomnia.

Considerably little is known specifically about the coexistence ofinsomnia symptoms in mood and anxiety disorders so far. Hence, the current study aimed to find the co morbidity by focusingon the functional ramifications of insomnia symptoms in co morbidmood and anxiety disorders. The study cases were taken up from thepatients attending the outpatient facility of Department of Psychiatry, ChhatrapatiShivaji Subharti Hospital, Meerut.

In the present study, a total of 60 patients were included and those were equallydivided into 3 diagnostic groups such as Depression, Anxiety Disorders and Comorbid depression and anxiety disorders (20 patients in each group). The occurrence of insomnia in studied samplewas recorded and it was found that the majority of the studied subjects were havingmoderate severity index but the differences were statistically insignificant ($p=0.425$).Our findings were consistent with the findings of Park et al[15] who determined thatthe symptoms of insomnia were present in approximately 93% of patients while64.1% participants were affected simultaneously with early, middle and late insomnia.

In our study the association of various psychiatric disorders with functional consequences of insomnia was analysed and mobility and life activities weresignificantly higher among the patients with co morbid depression and anxietydisorder ($p<0.05$) whereas other consequences were associated insignificantly($p>0.05$). Soehner et al[11] examined the functional impairment for 30 days due to atleast one severe insomnia symptom for each diagnostic group (co morbid mood andanxiety disorder, anxiety disorder only, mood disorder only and neither of the abovedisorders).Evaluation of the impact of an insomnia symptom in the past year on eachof the eight WHO-DAS impairment domains invarious diagnostic groups demonstrated significantly greater days of impairmentacross all WHO-DAS domains for participants with co morbid disorders. Along withthis, all other domains except self-care were associated with more days of impairmentamong the participants with anxiety disorders only and those with neither mood noranxiety disorder.

Stein etal[16]found that the presence of sleep disturbances was associated with having one or more physical health problems and one or more mental disorders. Among personswith one or more physical health problems, the co-occurrence of a sleep problem wasassociated with poorer physical component scores on the SF-36 ($p<0.001$) andincreased odds of >or=1 disability days in the past 30 days due to physical problems.Consistent with previous research by Roth et al,[17] insomnia symptoms were relatedto significantly reduced productive role functioning and increased time out of roleacross all diagnostic groups.

CONCLUSION

The prevalence of high riskfor insomnia and the co morbidities with anxiety and depression is comparable to thefindings of previous reports. Sleepiness, sleep quality, and insomnia severity wereconsistently poorer in subjects with both depression and anxiety. We have alsoobserved that the effect of the combination of the psychiatric conditions mediatedsleep quality indices, which encompass insomnia and related somatic symptoms. Wesummarise that anxiety and depression affect insomnia in a supra-additive manner. While treating insomnia patients, clinicians should look for underlying co morbidpsychiatric conditions to determine the appropriate therapy and enhance thetherapeutic effect.

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