

Sleep impairment and co-morbidity in bipolar disorder

Comprometimento do sono e co-morbidade em transtorno bipolar

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ABSTRACT

Objective: to evaluate perceived sleep quality as well as depression and anxiety symptoms in patients suffering from bipolar disorder at the euthymic phase. **Method:** 43 subjects suffering from bipolar disorder without co-morbidity, 13 with co-morbidity, and 80 controls were evaluated. Age ranged from 25 to 60 years. The instruments used to collect data were the Pittsburgh Sleep Quality Index, Beck Depression Inventory, Beck Anxiety Inventory, Structural Clinical Interview for DSM-IV (SCID), and the Brazilian Criteria of Economic Classification. **Results:** Among the study group, 91.7% were classified as bad sleepers with co-morbidity and 59.1% without co-morbidity, while for the control group 42.5% were bad sleepers ($p=0.003$). **Conclusion:** the study-group with co-morbidity presented greater depression and anxiety symptoms and more severe impairment in sleep quality than the without-co-morbidity group or the control group.

Key words: sleep, sleep disorder, bipolar disorder, co-morbidity, sleep quality.

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RESUMO

Objetivo: avaliar a percepção da qualidade do sono, sintomas depressivos e de ansiedade em portadores de transtorno bipolar na fase eufímica. **Método:** foram avaliados 43 sujeitos com transtorno bipolar sem co-morbidade, 13 com co-morbidade e 80 controles. As idades variaram de 25 a 60 anos. Os instrumentos utilizados foram: o Índice de Qualidade de Sono de Pittsburgh, o Inventário de Depressão de Beck, o Inventário de Ansiedade de Beck, a Entrevista Clínica Estruturada para o DSM IV (SCID) e o Critério de Classificação Econômica Brasil. **Resultados:** 91,7% do grupo-estudo com co-morbidade foi classificado como mau dormidor; 59,1% do grupo-estudo sem co-morbidade e 42,5% do grupo controle foram classificados como maus dormidores ($p=0,003$). **Conclusão:** o grupo-estudo com comorbidade apresentou mais sintomas depressivos e de ansiedade e maior comprometimento na qualidade do sono comparado ao grupo-estudo sem co-morbidade e ao grupo-controle.

Palavras-chave: sono, distúrbio do sono, transtorno bipolar, co-morbidade, qualidade do sono.

INTRODUCTION

Several studies point to a high number of co-morbidities in bipolar disorder, chiefly related to anxiety, drug abuse and personality disorders^{1,2,3}. Such co-morbidities may contribute negatively to the evolution of the psychiatric condition manifested by difficulty in adhering to treatment, symptom aggravation, marked deterioration in occupational activity and worsening of sleep quality^{1,2,3}. Overall estimated prevalence of the "classical" forms of bipolar disorder is 1% of the population⁴. When diagnosis also considers milder – but not less serious – forms of the disorder (bipolar spectrum), prevalence may increase significantly. According to some authors, this percentage may be as high as 5% of the general population⁵ or even greater than 8%^{6,7}.

This study aimed to investigate the quality of sleep, as well as the depressive and anxiety symptoms in patients suffering from bipolar disorder at the euthymic phase without co-morbidity, and to compare against data collected from patients with psychiatric co-morbidities and versus a control-group. This study was part of a larger project by the authors on sleep disorders^{8,9,10}.

METHOD

The present investigation was a case-controlled study and the sample characterized as non-probabilistic for convenience. Three independent samples were formed: a control-group ($n=80$), a study-group without co-morbidity ($n=43$) and a group of patients with bipolar disorder and co-morbidity ($n=13$). Co-morbidities included alcohol or drug abuse ($n=5$), depressive episode ($n=3$), anxiety disorder ($n=1$), personality disorder ($n=2$) and other co-morbidities ($n=2$). The study-group included patients with bipolar disorder at a stabilized phase who were taking part in a psycho-educational group at a Psychiatric Day Hospital, aged 25 to 60 years, diagnosed as type I or II bipolar disorder according to DSM-IV criteria, and using mood stabilizers.

The control-group constituted employees at the Ribeirão Preto University campus, who had similar demographic characteristics to the members of the study-group for gender, age, education and socio-economic level. Controls presenting no psychiatric diagnoses from axis I, DSM-IV, and with no history of brain damage or neurological disease were included.

Diagnostic, clinical and demographic evaluations were carried out using the following

instruments: the Pittsburgh Sleep Quality Index (PSQI), Beck Depression Inventory (BDI), Beck Anxiety Inventory (BAI), Structural Clinical Interview for DSM-IV (SCID), and the Brazilian Criteria of Economic Classification.

For the statistical analysis, the Statistical Package for Social Sciences (SPSS) for Windows, version 13.0, was used with a significance level of ≤ 0.05 . Non-parametrical tests were employed in all statistical analyses.

The project was approved by the Research Ethics Committee of the Hospital das Clínicas, University of São Paulo – at Ribeirão Preto – Medical School. All subjects agreed to participate in the study and signed the term of free and informed consent.

RESULTS

Subjects from the study-group without co-morbidity (n=43) had a mean age of 42.82 y (sd=12.06 y) and mean of 12.93 years of full education (sd=2.91 y); 63.6% of subjects were

women. The study-group with co-morbidity (n=13) had a mean age of 45.42 y (sd=10.93 y) and 12.42 years (sd=2.99 y) of full education, and was 62.5% female. In the control-group, the mean age was 42.76 years (sd=9.41 y), with a mean 12.84 years of full education (sd=12.77 y) and 61.5% female subjects.

No significant differences for gender and marital status variables were observed among the three samples (see Table 1). However, a significant difference in sleep quality was found ($p < 0.0001$) in the study-group with co-morbidity which presented significantly poorer sleep quality than the study-group without co-morbidity and the control-group. Significant differences were also found among the three groups for duration ($p = 0.001$), efficiency ($p = 0.005$) and latency ($p < 0.0001$). Differences were also significant for depressive and anxiety symptom variables ($p = 0.005$ and $p = 0.001$, respectively).

Table 1. Socio-demographic characteristics of category variables gender, marital status, professional activity and income

Variables	Categories	Without co-morbidity (n=43) %	With co-morbidity (n=43) %	Control-group (n=80) %	p*
Gender	M	36.4	37.5	37.5	0.135
	F	63.6	62.5	62.5	
Marital status	Married	47.7	50.0	52.5	0.278
	Single	29.5	16.7	35.0	
	Separated and Divorced	22.7	33.3	12.5	
Professional activity	Active	34.1	25.0	100.0	<0.001
	On leave	6.8	16.7		
	Retired	22.8	16.7		
	Student	4.5	-		
	Unemployed	15.9	33.3		
	Home-maker	15.9	8.3		
Income	A2	27.3	-	10.0	0.143
	B1	27.3	33.3	35.0	
	B2	25.0	33.3	33.8	
	C	20.5	16.7	21.3	
	D	-	16.7	-	

*Result from Chi-Square Test

Table 2. Medians of results collected from Pittsburgh Sleep Quality Inventory (PSQI), Beck Depression Inventory (BDI) and Beck Anxiety Inventory

Variable	Sample	n	Median	p*
PSQI ⁴	GECC ¹	13	11.5	<0.0001
	GESC ²	43	6.5	
	GC ³	80	6.0	
BDI ⁴	GECC ¹	13	19.5	0.005
	GESC ²	43	6.5	
	GC ³	80	6.5	
BAI ⁴	GECC ¹	13	11.5	0.007
	GESC ²	43	6.5	
	GC ³	80	6.5	

*Kruskal-Wallis Test

¹Study-group with co-morbidity

²Study-group without co-morbidity

³Control-group

⁴The higher is the result recorded at the sleep quality scale, depressive and anxiety symptoms, the worse will be the symptoms corresponding to the variables.

DISCUSSION

The study-group sample with co-morbidity did not differ significantly to the study-group without co-morbidity the control-group in terms of age, education, marital status or gender.

However, sleep pattern was significantly impaired in the study-group with co-morbidity, whereas no significant differences were found in sleep quality when the study-group without co-morbidity and control-group were compared. Important features of sleep pattern such as latency, efficiency and duration were also worse in the study-group with co-morbidity. PSQI scores may range from zero to 21 points, with higher scores being attributed to poor sleep. A cutoff score of 5 was established to decide between good or bad sleepers whereby good sleepers are considered those

subjects scoring from zero to 5, and bad sleepers those scoring over 5.

Mean PSQI score in the present study was 10.75 for the study-group with co-morbidity and 5.14 for the control-group. Harvey et al. found a mean score of 7.9 for their group of euthymic bipolars – but subjects with and without co-morbidity were not distinguished, whilst a mean score of 2.3 was found for the control-group⁸ in a study setting similar to that currently described.

CONCLUSION

The study-group with co-morbidity revealed poorer sleep quality, as well as higher levels of depression and anxiety symptoms compared to both the study-group without co-morbidity and control-group. The study-group without co-morbidity and the control-group were similar for these variables.

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