ASSOCIATIONS BETWEEN EVENING CHRONOTYPE AND CLINICAL AND THERAPEUTIC FACTORS IN PATIENTS WITH BIPOLAR DISORDER

A. Hakiri¹, N. Bram¹, D. Karoui¹, S. Ben Fadhel¹, I. Ben Romdhane¹, W. Homri¹, R. Labbane¹.

¹Razi Psychiatric Hospital, psychiatric department "C", La Manouba, Tunisia.

Introduction :

Bipolar disorder (BD) is associated with later sleep and daily activity (evening chronotype). Little is known about the impact of evening chronotype on the clinical presentation and evolution of BD.

Objectives:

To identify the clinical and therapeutic correlations with evening chronotype (EC) in remitted bipolar patients subtype I

Materials and Methods:

A cross sectional and descriptive study was conducted in general psychiatric departments, including 103 euthymic bipolar subtype I patients. Clinical and therapeutic data were collected using a semi-structured questionnaire and the patients medical records. Chronotype was assessed using the Morningness-eveningness questionnaire (MEQ).

Results :

The sample consisted of 63 men and 40 women.

The mean age was 41.7 ± 11 years.

Age of onset of BD: 29.94 ± 7.43

The first episode was manic in 61,2 %

Alcohol was used by 35 % and cannabis by 15.5%

18.4% had a personality disorder, 22.3% had a personal history of suicidal attempts.

Figure 1: distribution of the different chronotypes in our sample

An evening chronotype was significantly associated with a **younger age** of patients ($p=0.006$), an **early age of onset** of BD ($p=0.02$), a **personal history of suicidal attempts** ($p=0.004$) and with a comorbidity with **eating disorders** ($p<0.001$).

We found no associations between EC and the number of relapses, number of hospitalizations, duration of evolution of BD, type of first episode, medical comorbidities and substance use disorders.

Sources:

- 1- Mansour HA, Wood J, Chowdari KV. Circadian phase variation in bipolar I disorder. Chronobiol Int. 2005; 22: 571–84
- 2- Ng TH, Chung KF, Lee CT, Yeung WF, Ho FYY. Eveningness and Its Associated Impairments in Remitted Bipolar Disorder. Behav Sleep Med. 2015; 14(6): 650–64.
- 3- Melo MC, Garcia RF, Araújo CF, Luz JH, Bruin PF, Bruin VM. Chronotype in bipolar disorder: an 18-month prospective study. Braz J Psychiatry. 2019
- 4- Abe M, Herzog ED, Block GD. Lithium lengthens the circadian period of individual suprachiasmatic nucleus neurons. Neuroreport. 2000; 11: 3261–64

There were **no correlations** between the evening chronotype and the therapeutic parameters (type and number of mood stabilizers, type of antipsychotics, antidepressants)

Discussion :

Bipolar patients tend to have an EC, but in our sample morning chronotype was more frequent given that all of our patients were receiving mood stabilizers.

EC was associated with a **younger age** of our patients which is relevant with previous data stipulating that the chronotype switches to the morning type with the advancement of age [1].

EC was associated with an **early age of onset** of given that BD starting at an early age is generally severe and associated with life habits encouraging preference for evening [2]

In our sample, there were no correlations between eveningness and **evolutionary characteristics of BD** which could be explained by the small proportion of patients having an EC. Previous data concluded to an association between EC and mood episodes especially depressive episodes but not with hospitalizations in psychiatry. This confirms the role played by this chronotype in the poor prognosis of bipolar disorder [3].

This association of EC to depressive episodes explains the significant presence of **past history of suicidal attempts** in bipolar patients with EC.

There were no associations between evening chronotype and **addictive behaviors** in our sample which might be explained by the low prevalence of substance use disorder among our patients. Evening chronotype is associated with **eating disorders**. A relationship has been established between evening preference and obesity, binge eating disorder and bad dietary habits [2].

EC was not associated with **therapeutic characteristics**.

Previous data focused on the negative association between EC and lithium, given that a treatment with lithium switches chronotype to the morning type and contributes to a delay in the sleep/wake cycle and a stabilization in the daily rhythmicity among BD patients [4].

Conclusions:

Subjects with bipolar disorder tend to have a vesperal chronotype.

The latter tends to be related to the severity of the disorder because of its association with the early onset of BD and its association with co morbidities such as eating disorders and substance use disorders.