

Letter to the Editor

Residual Symptoms and Physical Activity in Patients with Bipolar Disorder: Considerations and Reflections

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The presence of Residual Symptoms (RS) has been reported as an indicator of poor prognosis for relapse or recurrence and are recognized as impeding factors of functioning in bipolar disorder (BD). It occurs in approximately 20-35% of patients that do not appropriately recover from any illness episode [1,2]. RS are interpreted as any level of persistent symptoms present during the interepisodic period named euthymia [3,4]. Besides that, RS were associated with low medication adherence as well as experienced an increased risk of affective relapse/recurrence and briefer periods of euthymia compared to those completely asymptomatic [5,6]. These findings favor the need for therapeutic interventions to manage RS and reduce their impact on BD's outcome.

In this sense, physical activity (PA) has become increasingly recognized as an effective strategy for the treatment of mood disorders, including the decrease of the risk of a new depressive episode in a major depressive episode and BD [7-10]. Moreover, persons who subjectively report cognitive impairment following initial treatment for their depression may realize improvements with regular exercise augmentation, particularly when conducted at a dose that is consistent with public health guidelines: 30 min of moderate-intensity aerobic exercise for five or more days per week [11]. Unfortunately, regardless of the stage of the disease, patients with BD also engage in high levels

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of sedentary behavior, as well as presents a reduced cardiorespiratory fitness level and muscle weakness than healthy controls [12-14]. Due to disease, some patients experience a range of barriers to engage in PA, such as the presence of RS, general medical comorbidity, medications side effects, psychiatric hospitalizations, lower self-efficacy, lack of social support, and psychotic symptoms [2,14,15].

In fact, one recent study published by our group showed that BD patients who presented Residual Depressive Symptoms (RDS) in the euthymic phase were 3,205 times more likely to be physically inactive [2]. This cross-sectional study introduced the discussion about this association, arousing the need for further reflection on the topic, especially in the sense of understanding the meaning and intensity of this association. In other words, would the presence of RS be responsible for a decrease in PA practice or would a lower level of PA be responsible for the presence of RS? Furthermore, would there be a difference between the frequency and intensity of RS in the association with PA? This questioning reveals the need to reflect on a discussion yielded by a recent review of concepts, pointing to the understanding that RS indicates the intensity of mood symptoms, while the discussion of subsyndromal focuses on symptoms quantity (present or absent) [16].

In this line of investigation, our study cited above used the Hamilton Depression Rating Scale 17 items and presented insomnia in general (23.1%) as the most frequent RDS, followed by psychic anxiety (15.5%), and depressed mood (14.9%). Regarding RMS, using the Young Mania Rating Scale (YMRS), the most frequent symptoms were elevated mood and irritability, both at 10.1%, but in this case, no association was found with PA [2]. Thus, the dissociation of each RS could present different results, which points to the need to evaluate each category separately and not as a single factor.

PA is considered a low-cost non-pharmacological intervention, with reduced adverse effects and effective results as an adjuvant in the treatment and prevention of various mental disorders, in general, associated with a series of physiological, psychological, cognitive and, relationship interpersonal benefits [14]. Much evidence has already been presented on the benefits of PA in regulating other symptoms such as cognition, fatigue, and routine organizing in mood disorder patients [9,10,12,14]. In addition, PA contributes to reducing body mass index, increasing cardiorespiratory fitness, endurance, and muscle strength. PA also improves psychological quality of life domain of patients with BD, even producing relief from depressive and manic symptoms [12,15,17]. Likewise, patients engaged in PA showed a reduction in all domains of their functioning: autonomy, occupational, cognitive functional to deal with finances, interpersonal relationships, and leisure [10].

Regarding changes in the psychological context, the practice of PA improves the development of coping skills in social contexts, as well as the quality of interpersonal contacts, making its practitioners more assertive. Besides, it promotes improvements in the scheme and body image, as well as contributes to greater involvement of the subject in behaviors directed to health care [18]. PA is also related to significant

improvement in sleep quality, an important factor in stabilizing the mood of patients with BD. Different mechanisms explain this phenomenon, but stimulation of the serotonergic system, which minimizes sleep disorders caused by a drop in the activity of this system, seems to be the most accepted mechanism for maintaining the sleep-wake cycle in these patients. In addition, PA enhances cognitive functions and reduces stress in neuronal circuits, influencing neuronal plasticity, possibly mediated by neurotrophic factors. In this sense, PA is associated with improved production of growth factors, increasing neurogenesis, metabolism, vascular function and, consequently, in a decrease in depressive symptoms [19,20].

So, considering the actual evidence of the benefits of PA in physical and mental health is necessary to look for more studies about the use of this intervention on the treatment of mood disorders, particularly in patients with BD. To this end, it is necessary to do new studies with refined methodological strategies to clarify concepts and expand the discussion on BD features associated with PA practice, like RS, to promote this intervention as clinical practice.

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