ABSTRACT

Objective: Depression are of the most common causes of disabilities and poor quality of life worldwide, therefore supporting therapy is urgently needed. This study aims to compare the effectiveness of adding repetitive transcranial magnetic stimulation (rTMS) and aerobic exercise to people with depression.

Methods: A randomized-controlled trial was conducted between May 2019 and January 2020. Twenty-seven patients with depression were allocated to antidepressant, antidepressant and rTMS, and antidepressant and aerobic exercise groups for 2 weeks. Barthel Index and SF-36 were used to assess activity of daily living and quality of life.

Results: No significant changes of Barthel Index score were seen after intervention in all three groups ($p>0.05$). The changes of Barthel Index score did not differ between groups ($p=0.664$). However, SF-36 assessment revealed significant improvement after therapy in domain of physical function, bodily pain, general health, vitality, social function, emotional role functioning, and mental health across the group ($p<0.05$). Between group comparison showed that patients in antidepressant and rTMS group had better improvement on domain of general health (15.71 ± 6.075, $p=0.009$), emotional role functioning (20.29 ± 11.940, $p=0.049$) and mental health (14.29 ± 6.075, $p=0.041$) compared to the other two groups.

Conclusion: This study showed no change of activity of daily living levels after the intervention. However, improvement of quality of life were apparent in all groups and the group with additional rTMS therapy had better result in domain of general health, emotional role functioning and mental health compared to the other two groups.

Keywords: Transcranial Magnetic Stimulation, depression, aerobic exercise, activity of daily living, quality of life