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EXERCISE IS MORE EFFECTIVE THAN METFORMIN TO IMPROVE HEALTH RELATED QUALITY OF LIFE AND MOOD STATES IN OLDER ADULTS WITH TYPE 2 DIABETES

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KEYWORDS: diabetes, exercise, metformin, mood states, quality of life, older adults.

INTRODUCTION

Type 2 diabetes (T2D) is a high-impact complex multi-factorial disease that imposes a life-long physical and psychological burden⁽¹⁾, particularly in older adults⁽²⁾ due to the added effect of co-morbidities, pharmacological treatment, heterogeneous functional status, low exercise training and frequently disruptive negative effects such as restlessness, distress, anxiety, depression and dementia^(2,3) reducing the efficacy of T2D management and quality of life (QoL)⁽⁴⁾. Furthermore, while the prevalence of mental health problems in older adults with T2D exceeds values found in the general population⁽⁴⁾, previously inconsistent results, highlight the need to promote the appropriate strategies to improve the mental component of QoL. Therefore, the aim of this study is to analyze the effect of three types of treatment: i) exercise training with multicomponent exercise (E); ii) pharmacologic treatment with oral hypoglycemic drug – metformin (M); and iii) a combined therapy – exercise and metformin (MEX) on health related quality of life (HRQoL) and mood states in older adults with type 2 diabetes (T2D) with comorbidity in an early stage of

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METHODS

This un-randomized longitudinal cohort study included 284 T2D older adults (> 60 years) that underwent one of 3 conditions: i) E (n = 59) trained three times/week; ii) M (n

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= 30) used 850 mg of metformin twice daily; and iii) MEX (n = 195) combined exercise and metformin. Participants completed baseline, and 2-year follow-up evaluations including the Short Form Health Survey 36, Profile of Mood States – Short Form, the health history questionnaires, anthropometric and blood biochemistry

RESULTS

After the 24-months intervention, E and MEX revealed improved mood states, with large effect size on the vigor domain, and moderate effect size in the anger, and total mood disturbance domains, in comparison with the M group. The E and MEX groups perceived better physical and mental HRQoL than the M group. Contrarily, the M group unchanged HRQoL domains ($P > 0.05$).

CONCLUSIONS

Metformin had no significant effect on self-referred HRQoL in T2D participants aged above 60 years, in an early stage of the disease. The E and MEX therapies were the most effective to improve mood states, and HRQoL in older adults with T2D.

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