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A Cross-Sectional Study to Determine the Efficacy of the Anti-Diabetic Drug Metformin on Pain Management and Depression in Type 2 Diabetes Mellitus Patients

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ABSTRACT

Metformin is the first-line pharmacologic treatment for type 2 diabetes globally. Metformin stimulates the adenosine monophosphate-activated protein kinase (AMPK), which in turn suppresses the mTOR pathway (mammalian target of rapamycin). Additionally, there is growing proof that this substance may help treat depression in T2DM patients.

MATERIALS AND METHODS

The study was conducted over a period of 6 months in tertiary care hospital, with 240 study participants of both metformin users and non-users. We collected the patient demographic data including social habits and assessed their pain & depression rating by using Numerical pain rating scale and Ham-D scale.

RESULTS

The metformin users (n=125) and non-users (n=115) were included in the study. On comparison, the Musculoskeletal pain rating in metformin users (No pain=20.80%, mild=50.40%, moderate=26.40%, severe=2.40%) were significantly lower than the metformin non-users (No pain=0%, mild=5.22%, moderate=79.13%, severe=15.65%).

The depression rating of the metformin users (Normal=48.80%, mild=32.80%, moderate=12.00%, severe=06.40%) were significantly lower than metformin non-users (Normal=0.87%, mild=28.70%, moderate=48.69%, severe=21.74%).

CONCLUSION

The metformin having a potency to decrease both the musculoskeletal pain & depression. Among the metformin users and non-users, the non-smokers and non-alcoholic patients relatively show decreased musculoskeletal pain intensity and depression than smokers and alcoholics.

KEY WORDS

METFORMIN, AMPK, DEPRESSION, PAIN

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