National Level Conference on

"Empowerment of Rural Communities through innovations in Science and Technology"

21st and 22nd February, 2020

SOUVENIR

Sponsored by

Indian Science Congress Association (ISCA)

Kolkata

Organized by

ISCA, Coimbatore Chapter

Venue

Kongunadu Arts and Science College

College of Excellence (UGC)

Coimbatore – 641 029, Tamil Nadu

Email : conact@royalbookpublishing.com

Website : royalbookpublishing.com

ISBN 9 789388 413800

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EFFECT OF TRADITIONAL HERBAL PLANT EXTRACTS ON GLUCOSE LEVEL IN YEAST CELLS FOR DIABETIC DISORDER

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Abstract:

In the present study, the methanolic extracts of herbal plants such as *Justicia tranquebariensis* L.f., *Momordica charantia* L. and *Sesbania grandiflora* (L.) Poiret were tested for their anti-diabetic activity by glucose uptake in yeast cells. The yeast cells were suspended in various concentrations of plant extract (10, 25, 50, 75, and 100 %) with two different concentrations of glucose (50 mg/ml and 100 mg/ml). The plant extract enhances the yeast cells to take in the glucose and the amount of glucose uptake by yeast cells was estimated by spectrophotometrically at 540 nm. The results revealed the maximum percentage of glucose uptake 93.96 for *J. tranquebariensis* followed by 93.70 for *M. charantia* was observed at 50 mg/ml glucose concentration respectively and the maximum percentage of glucose uptake 93.66 for *S. grandiflora* was observed at 100 mg/ml glucose concentration. The present study provided results to justify the traditional claim of herbs for antidiabetic activity. Hence, the further extended the work to confirm anti-diabetic activity by acute toxicity studies and on *in vivo* models.

Keywords: Methanolic extracts, Concentrations, Glucose uptake, Yeast cells and Anti-diabetic activity.