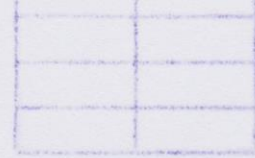


විෂය කය	33565
පිටි කය	616-462



පුස්තකාලය  
ය වෛද්‍ය විද්‍යායතනය  
ආලෝක විශ්වවිද්‍යාලය  
රාජගිරිය.

## EFFECTS OF HEENMADURUTALĀ

(*Ocimum sanctum* Linn.)

### AND SELECTED YOGIC PRACTICES IN THE MANAGEMENT OF MADHUMEHA

(DIABETES MELLITUS)

BY

HALAHAPPERUMAGE RUPIKA DAMAYANTHI FONSEKA

Thesis submitted to the Institute of Indigenous Medicine, University  
of Colombo for the award of the Degree of Doctor of Medicine in  
Ayurveda [MD (Ayu)] on Swasthavritta and Yoga on 29.12.2015

**Effects of Heenmadurutalā (*Ocimum sanctum* Linn.) and selected yogic practices in the management of Madhumeha (Diabetes mellitus)**

**Halahappeerumage Rupika Damayanthi Fonseka**

**ABSTRACT**

Madhumeha and Diabetes mellitus are two similar clinical entities in different disciplines. It is the health challenge in 21<sup>st</sup> century for which there is currently no cure. Holistic approach is common to both Ayurveda and Yoga either in preventive as well as curative purpose. *Ocimum sanctum* L. (Tulsi) in India is found to possess diversified therapeutic effects that can address most of the complications of diabetes. It is available as a weedy plant in Sri Lanka and known as Heenmadurutalā / Madurutalā. Its effects in the management of Madhumeha were not evaluated in Sri Lanka so far. The objectives of this study were to evaluate the effects of Heenmadurutalā and Yogic practices in the management of Madhumeha and to introduce an inexpensive safe drug for the management of Madhumeha in Sri Lanka. Standardization of Heenmadurutalā was done at the ITI. Randomized, single blind, comparative, multidisciplinary clinical study was conducted at the OPD of Ayurvedic Teaching Hospital, Borella for 3 months. Informed written consents were obtained. Sixty Madhumeha (Type 2 Diabetes mellitus) patients with FBS in between 150-250 mg/dl, 40-60 yrs of age of either sex who did not take any anti diabetic drug for 2 weeks were randomly selected into 2 groups A and B consisting 30 patients each. Relevant data have been collected through a pre prepared proforma. Each and every patient was clinically evaluated at the basal examination. As a daily dose 2.5g of dried Heenmadurutala leaf powder alone was given to patients in group A. In addition to the same drug dosage, 5 yogic practices were practiced for 45 minutes daily by the patients in group B. Subjective parameters; polyuria polydipsia, polyphagia, turbidity of urine, burning sensation of extremities, fatigue, feeling of sleepy and sweating were evaluated at the basal examination and at the end of every month up to 3 months. Objective parameters such as PPBS, HbA1c, Lipid profile, Blood urea, Serum creatinine, SGPT and SGOT were evaluated before and after treatment except FBS and UFR which were repeatedly done at

the basal assessment as well as at the end of every month up to 3 months. Data has been analyzed with the help of SPSS(16<sup>th</sup> version). Improvement of subjective and objective parameters in each group were analyzed by paired t test and inter group comparison was done by independent t test. In the standardization process of Heenmadurutalā, methyl eugenol, euganol,  $\beta$  Caryophylline and 1.6. Cyclodecadinone were identified in the essential oil of the leaves. According to AOAC standards, As and Cd were not detected but Hg and Pb were detected. In the clinical study, 45% were in between 54-60yrs age, 63% were female, 72% belonged to medium socio-economical level. Physical constitutions of Kaphavātaja (45%) and Kaphapittaja (40%) patients were high in number. Patients with impaired Agni (78.3%), constipation (51.7%), over weight and obesity (51.7%) were noticed. Majority (90%) of them complained about stress. Out of 60 patients, fatigue (78.3%), feel sleepy (76.6%), polydipsia (60%), polyphagia (46.6%), Burning of extremities (43.3%), excessive sweating (30%), turbidity of urine (30%), polyuria - quantity wise (28.3%) and frequency wise (46.6%) were complained. Patients with family history of T2DM (61.7%), hypertension (53.3%), obesity (40%), hyperlipidemia (38.3%), Ischemic Heart Disease (28.3%), stroke (15%) were found. Patients with history of Gestational Diabetes Mellitus for once (10%) and twice (8%) were also found. Out of 60 patients, 03 patients were identified with Non Proliferative Diabetic Retinopathy with Clinically Significant Macula Oedema during the eye examination. Both treatment modalities showed statistically significance in relieving all subjective criteria. Completely relieved percentage of polyuria (both quantity wise and frequency wise), polydipsia, polyphagia, fatigue and feel sleepy were comparatively high in group A. In contrast, completely relieved percentage of sweating and burning of extremities were high in group B. In both groups, turbidity of urine was completely relieved by 100%. Both treatments showed statistically significance on FBS, total cholesterol, LDL cholesterol and LDL/HDL. Only group A showed statistically significance on LDL/HDL level and group B on Blood urea level. Inter group comparison did not show statistically significance. Both treatments were similarly effective. To conclude, both therapeutic modalities were similarly effective in improving hyperglycemia as well as hyperlipidemia and clinical features of Madhumeha.