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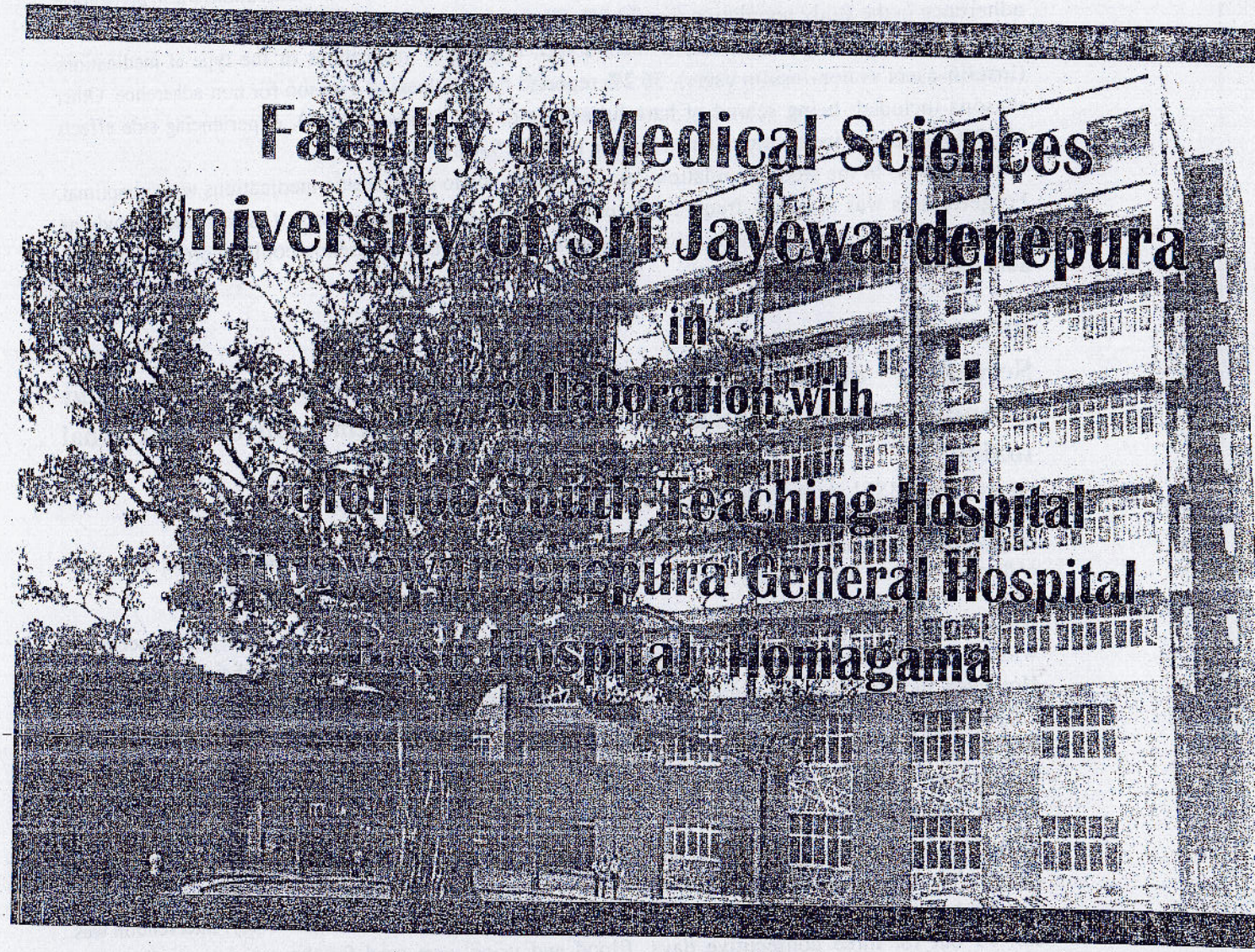

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Methods: This was a cross sectional descriptive study among randomly selected diabetes patients attending a medical clinic at a selected tertiary-care hospital. Data collection was done with an interviewer administered questionnaire. Percentage medication adherence was calculated for each patient by the investigators by comparing the dose and frequency of each anti-diabetic medication prescribed, against the dose and frequency of each medication claimed to be taken by the patient.
Results: A total of 260 patients participated (women - 65%; mean age 61.2±9.2 years). Mean duration of diabetes was 9.2±6.7years. 39.2%, 51.2% and 9.6% were on one, two and three anti-diabetic medications, respectively. Metformin (80.2%), gliclazide (41.2%), bi-phasic insulin (19.2%) and tolbutamide (15.8%) were the most commonly used medications. 31.1% did not adhere to the prescribed dose and 47.7% did not adhere to the prescribed frequency, of at least one medication. Mean percentage adherence in the study population was 73.9%. There was no difference in the mean adherence based on gender, age, education level, employment status, number of medications or the type of medications (insulin-users vs non-insulin users). 36.2% reported forgetfulness as a reason for non-adherence. Other reasons included: being scared of harmful effects of medications (24.2%), experiencing side effects (17.2%), stopping medications when feeling better (15.4%).
Conclusions: In the study population, level of adherence to anti-diabetic medications was suboptimal. Forgetfulness was the most frequently reported reason for poor adherence. It is worthwhile studying whether interventions like medication calendars, pill boxes and counseling could improve medication adherence.

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Screening of nephroprotective activity of *Abelmoschus moschatus* (Kapukinissa) leaf extract in rats with adriamycin induced acute renal toxicity

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Background: *Abelmoschus moschatus*, commonly known as Kapukinissa (Family; Malvaceae) is widely used for the treatment of renal diseases in the indigenous system of medicine in Sri Lanka. However, its efficacy upon nephroprotection has not been scientifically investigated *in vivo*.
Objective: The aim of the present study was to determine the nephroprotective activity of the aqueous leaf extract of *A. moschatus* in rats with Adriamycin (ADR) induced acute renal toxicity.
Method: Twenty four Wistar rats were divided into four groups (n=6/ group). Renal injury was induced with ADR (20 mg/kg, ip) in Wistar rats. Group one and two served as healthy and ADR induced control groups and received saline (0.9% NaCl). Adriamycin induced rats in group three and four were orally administered with the lyophilized powder of the aqueous refluxed extract (4h) of *A. moschatus* (400 mg/ kg; equivalent human therapeutic dose) and fosinopril (0.09 mg/ kg) respectively. Intervention was carried out for three consecutive days. Blood and urine were used for the estimation of selected biochemical parameters to assess the nephroprotective activity. H & E stained sections of the kidney tissues were used for the assessment of histological changes in acute renal toxicity upon plant extract treatment.
Results: Administration of the aqueous leaf extract of *A. moschatus* resulted in a percentage reduction in serum concentrations of creatinine (21%), β_2-microglobulin (65%) and urine total protein (45%) compared to ADR induced control rats ($p< 0.05$). A 9% increase was resulted in both serum concentrations of protein and albumin ($p< 0.05$). There was no significant difference between the

selected serum biochemical parameters in rats treated with the plant extract and fosinopril ($p > 0.05$). Kidney tissues of ADR induced control rats showed features of acute tubular necrosis. Treatment with plant extract significantly decreased the ADR induced histological changes in rats.

Conclusion: The results revealed that the administration of *A. moschatus* leaf extract possesses significant nephroprotective activity in rats with ADR induced acute renal toxicity.

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Bioactivities of *Holarrhena mitis* (Vahl) R.Br.

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Background: The variety and richness of flora and fauna in Sri Lanka and the high percentage of endemic plants present in the island makes it a fertile testing ground for pharmaceutical discovery. *Holarrhena mitis* is one such endemic plant growing mainly in the dry regions. Kiri-mawara and kuluppalai are the common names of this plant in Sinhala and Tamil respectively.

Objectives: Purpose of this study is to assess the antimicrobial and antioxidant activities, cytotoxicity and the total phenolic content of the dichloromethane, ethyl acetate and methanol extracts of the leaves and bark of *Holarrhena mitis*.

Methods: Dichloromethane, ethyl acetate and methanol extracts of both leaves and bark were tested in triplicate for antibacterial activity against *Staphylococcus aureus, Escherichia coli* (agar dilution assay), antifungal activity against *Candida* spp. (agar well diffusion assay), antioxidant activity (DPPH), cytotoxicity (brine shrimp (*Artimeasalina*) lethality assay) using oxacillin, ketoconazole, α-tocopherol and potassium dichromate as positive controls for each test respectively and the total polyphenol content (TPP) (Folin-Ciocalteu method) as gallic acid equivalent.

Results: All the tested six extracts exhibited significant antibacterial activity. Antifungal activity was shown only by methanol extract of bark (MB).The highest antioxidant activity and considerable TPP contents were detected in the methanol and ethyl acetate extracts of leaves (IC_{50}29.8, 16.9 and 473.2, 138.7 mg (GAE)/g) respectively. In the cytotoxicity studies, both dichloromethane extracts of bark and leaves showed considerable cytotoxicity with the LC_{50} values of 9.4 ppm, 27.1 ppm respectively while MB was in nontoxic range (LC_{50} 1223 ppm).

Conclusion: Results revealed that the non-toxic MB which has prominent antimicrobial activity would be a potential antimicrobial natural product source and the toxic dichloromethane extract of leaves (DL) and dichloromethane extract of bark (DB) would be a natural source for anticancer lead compounds. Antioxidant activity may be associated with the phenol content of the plant.