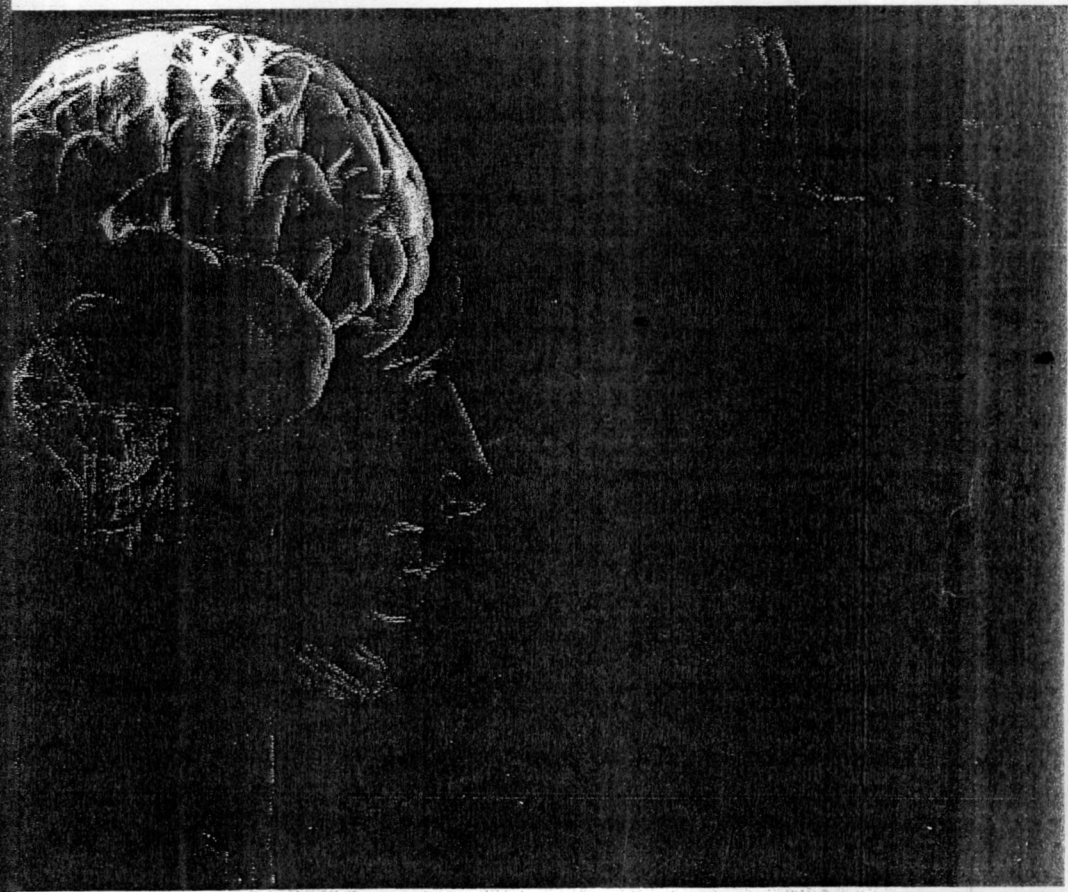


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were to determine the prevalence and some factors associated with anaemia among female hostellers of University of Sri Jayewardenepura.

A cross-sectional study was conducted among 370 female undergraduates (20-26 years), randomly selected using blind draw method. Cyanomethaemoglobin method was performed. A pretested self-administered questionnaire was used to retrieve information on dietary habits and menstruation. Descriptive statistics and Chi-square ( $\chi^2$ ) test were used to analyze frequencies and associations.

Of the 370 females, 33.6% ( $n=124$ ) were anaemic ( $Hb < 12g/dL$ ). The corresponding  $p$  values between anaemia and some of the factors were; vegetarian ( $P=0.055$ ), skipping breakfast ( $P=0.216$ ), daily consumption of dairy products ( $P=0.101$ ) and animal products ( $P=0.103$ ), consumption of at least 3 vegetables per day ( $P=0.091$ ), at least 2 fruits per day ( $P=0.242$ ) and at least 4 portions of green leaves per week ( $P=0.929$ ) and increased menstrual bleeding ( $P=0.825$ ). Proportion of anaemia in the population didn't show a statistically significant association ( $P > 0.05$ ) with selected dietary habits and menstrual bleeding.

One third of the female undergraduates were anaemic. This may have an effect on their study skills and day to day activities in the University. Selected dietary habits and menstrual blood loss weren't contributory factors for anaemia in this population. Further research should be done to determine the contributing factors as this population make up the future of the country.

#### PP 5

**Do fasting blood glucose (FBS), fasting serum insulin (FSI) and fasting serum C-peptide (FSC-peptide) differ in hypertensive and non-hypertensive individuals?**

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Studies have shown that elevated levels of fasting blood glucose (FBS) fasting serum insulin (FSI) fasting serum C-peptide (FSC-peptide) and insulin resistance (IR) are seen in hypertensive subjects. The aim of this study was to compare FBS, FSI, and FSC-peptide among hypertensive and non-hypertensive individuals.

Age sex matched case control study was carried out at the Family Practice Center of University of Sri Jayewardenepura in a non-diabetic population, aged 35-55 years (hypertensive-30, non-hypertensive-30). After an overnight fast (10 h) 2 mL venous blood was collected and FBS was analyzed using glucose oxidase kit, FSI and FSC-peptide were analyzed using -ELISA kit. IR was calculated using Homeostasis Model of Assessment-IR equation ( $HOMA-IR = \text{Fasting insulin } (\mu U/ml) \times \text{Fasting glucose } (mmol/l) / 22.5$ ). Data was analyzed using student t-test, with SPSS 16.

Mean values of FBS, FSI, FSC-peptide and IR in hypertensives were  $91.8 \pm 19.6$  mg/dL,  $10.5 \pm 7.2$   $\mu U/mL$ ,  $2.3 \pm 1.4$  ng/mL,  $2.5 \pm 1.9$  and in non-hypertensives,  $81.8 \pm 10.9$  mg/dL,  $7.0 \pm 4.2$   $\mu U/mL$ ,  $1.4 \pm 0.8$  ng/mL,  $1.5 \pm 1.1$  respectively. The means of measured parameters were below the risk cutoff in both groups. Only FSC-peptide had statistically significant difference ( $P=0.003$ ) between the two groups while the other mean values of hypertensives were higher compared to non-hypertensives. In addition, only among hypertensives, the following percentage had above the risk cut off levels, 23.3% (FSI), 13.3% (FSC-peptide) and 36.6% (IR).

More than one third of the hypertensives had IR values above the risk level indicating increased incidence of development of further metabolic

complications. Thus to prevent these complications frequent monitoring of FBS and FSI should be carried out in hypertensives.

#### PP 6

#### Formulation and evaluation of antibacterial polyherbal ointments using *Asparagus gonocladus*, *Cyperus brevifolius* and *Psidium guajava*

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Biologically active constituents in plants can be developed further through new formulations as potential sources to fulfill the demand for novel antibacterial agents. The objective of the study was to formulate polyherbal ointments with antibacterial activity and to evaluate the physicochemical properties.

Ointments of 10% and 20% concentrations were prepared by combining the methanolic extracts of *Cyperus brevifolius* (kaladuru), *Asparagus gonocladus* (hathawariya) and *Psidium guajava* (pera) with the most effective ratio of 1:1:2, respectively using simple and emulsifying ointment bases. Antibacterial activity, physicochemical properties and antioxidant activity of the formulations were evaluated storing in glass and plastic containers at 4 °C, 25 °C and 38°C over one month.

Polyherbal extract exhibited broad spectrum antibacterial activity against *Staphylococcus aureus*, *Bacillus subtilis*, *Escherichia coli* and *Pseudomonas aeruginosa* where minimum inhibitory concentrations (MIC) were 12.5 mg/ml, 12.5 mg/ml, 25 mg/ml and 50 mg/ml, respectively. Both simple and emulsifying ointment formulations revealed MIC at 10% (50 mg/ml) for four bacterial strains. Formulations with two bases showed similar efficacy and were stable at 25 °C for 14 days. According to ANOVA, there is no significant difference in the effect of the container over the antibacterial activity. Moreover, ointments exhibited considerable

antioxidant activity, while possessing satisfactory physicochemical properties such as pH, extrudability and spreadability.

These results evidence that these formulations can be used as medicaments at 25 °C within 14 days of preparation for bacterial skin infections. Formulations need to be further modified to have an extended stability and quality control studies should be carried out.

#### PP 7

#### Study of phenolic profile and *in vitro* antioxidant activity of *Uguressa* fruit (*Flacourtia indica* (Burm. f.) Merr.) grown in Sri Lanka

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Medicinal plants produce diverse substances possessing antioxidant properties. Natural antioxidant compounds like phenolic acids and flavonoids scavenge free radicals such as peroxide, hydroperoxide of lipid hydroxyl which are continuously produced in the human body. An over-production of these species will damage valuable bio molecules and are associated with an increased risk of cardiovascular diseases, cancer and other chronic diseases. This study was aimed to determine the TPC (total phenolic content), TFC (total flavonoid content) and antioxidant activity of water and 100% methanol extracts obtained from *Flacourtia indica* (*Uguressa*) fruit.

TPC was evaluated using Folin-Ciocalteu reagent method and TFC was evaluated using aluminium chloride colorimetric method. Antioxidant activity was evaluated using DPPH (2,2-diphenyl-1-picrylhydrazyl) and FRAP (ferric reducing antioxidant power) assays. The freshly prepared extracts were