

Sri Lanka Medical Association

132nd Anniversary International Medical Congress

Oral Presentations	List of Presentations	Page 01-07
	Abstracts	Page 08-40
<hr/>		
Poster Presentations	List of Presentations	Page 41-53
	Abstracts	Page 54-125
<hr/>		

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Sri Lanka Medical Association

132nd Anniversary International Medical Congress

24th – 27th July 2019

Galadari Hotel, Colombo, Sri Lanka

Abstracts of Oral and Poster Presentations

LIST OF POSTER PRESENTATIONS

Free Paper Session 1; Poster: Pharmacology, Diabetes, Metabolic Medicine, Surgery, Obstetrics and Gynaecology

- PP 001 **Awareness, attitudes and practices in use of red light antibiotics in clinical practice: Survey at a tertiary care hospital**
Nanayakkara KA, Nimana KVH, Nirmala GS, Samaranayake TN
- PP 002 **Practices and attitude regarding self-medication with herbal home remedies for diabetes mellitus**
Kumari KMHR, Kumari LERN, Lakdinithi AMAS, Witharana CW
- PP 003 **Doctors' perceptions and expectations on pharmacy service - A study at a teaching hospital, Sri Lanka.**
Anjalee JAL, Samaranayake NR, Rutter V
- PP 004 **Determination of photoprotective potential and photostability in the methanolic extract of leaves of *Hibiscus furcatus***
Liyanaarchchi CE, Napagoda MT, Witharana S, Jayasinghe L
- PP 005 **Development of herbal sunscreen formulations from the flowers of *Caesalpinia pulcherrima* (L.) Sw.**
Napagoda MT, Liyanaarchchi CE, Malkanthi S, Abayawardana K, Witharana S, Jayasinghe L
- PP 006 **Obesity associated cognitive impairment among middle-aged adults in a selected MOH area, Colombo District, Sri Lanka**
Ariyasinghe PK, Ruwan Kumara KPD, Alexander HDD, Senarathna SAHL, Kasthuri KSM, Karunathilaka RDN, Warnakulasuriya SSP
- PP 007 **Prevalence of obesity and associated factors among ordinary level students (O/L) in selected government schools in Colombo educational zone**
Dharmawardhana SH, Perera PK, Wijesundara CR, Bandaranayaka KO
- PP 008 **Study on obesity and influence of dietary factors on weight status among students of Faculty of Allied Health Sciences, University of Peradeniya, Sri Lanka**
Madhuranga MDTD, Marasinghe MAJC, Nandasena HMRKG
- PP 009 **Investigating the relationship between Body Mass Index, hamstring flexibility and cardiovascular endurance of male undergraduate students of Faculty of Medicine, University of Colombo.**
Weerabaddana KS, Constantine GR
- PP 010 **Relationship of aerobic capacity with grip strength and health related quality of life among physiotherapy students, Faculty of Medicine, University of Colombo**
Nadishani SKS, Kumarasinghe KHM, Jayakody JMSN
- PP 011 **Heat degradation of α -Tocopherol in palm olein**
Fairoosa AMP, Waidyatilaka I, de Lanerolle-Dias M, Lanerolle P
- PP 012 **Preliminary concepts in developing a thermogenic index**
Ranasinghe RASH, de Lanerolle-Dias M, Waidyatilaka I, Wickramasinghe VP, Lanerolle P

PP005

Development of herbal sunscreen formulations from the flowers of *Caesalpinia pulcherrima* (L.) Sw.

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Introduction & Objectives: Synthetic sunscreens are widely used as protectants against the harmful ultraviolet (UV) radiation emitted by the sun. For sensitive skins however, the synthetic sunscreens may cause allergic reactions. Thus, there is an increased demand for the development of sunscreens of herbal origin which are believed to be less irritant and more adjustable to the skin. Therefore, the present study focuses on the formulation of herbal sunscreens from flowers of *Caesalpinia pulcherrima* (L.) Sw., locally known as monara-mal.

Methods: Initially, the UV-filtering potential and subsequently the sun protection factor (SPF) was determined for the methanolic extract of *C. pulcherrima*. Thereafter, this extract was incorporated into the aqueous cream base at different percentages (25%, 50% and 75%) and the SPF values and the photostability of the resulting formulations were evaluated against a commercial synthetic sunscreen (positive control) and the aqueous cream base (negative control) for a period of 21 days.

Results: The crude extract displayed a SPF value of 27.9, which had hardly changed (SPF = 24.3) even after incorporating this extract at 75% into the aqueous cream base. It surpassed the formulations comprised of 25% and 50% of the extracts as well as the commercial synthetic sunscreen, which displayed SPF values of 15.8, 19.2 and 5.4 respectively. Moreover, this formulation exhibited the highest photostability and broader-spectrum of UV absorption than the other formulations.

Conclusion: This study demonstrated the suitability of *C. pulcherrima* to be developed into a commercial herbal sunscreen. Experiments are in progress to enhance its bioavailability via nanotechnology approach.

PP006

Obesity associated cognitive impairment among middle-aged adults in a selected MOH area, Colombo District, Sri Lanka

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Introduction & Objectives: Several studies have shown the association of generalized obesity and poor cognitive function (CF). However, its association is not known among Sri Lankans. The objective was to determine the association of level of cognitive function and obesity among middle age adults in Homagama MOH area, Colombo district, Sri Lanka.

Methods: A descriptive cross sectional study was conducted with 166 middle age adults aged 50-60 yrs. The subjects were recruited subsequently screening the BMI into obese ($\geq 27.5 \text{Kg/m}^2$) and lean ($\leq 18-23 \text{Kg/m}^2$) by simple random sampling. CFs was assessed via validated Montreal Cognitive Assessment (MoCA). Data was analyzed by using SPSS version 23 and significant level was taken as $p < 0.05$.

Results: The study sample consist of 83 subjects of each obese and lean categories while 50 % were Female. Mean age, BMI for lean and obese were $54.59 \text{yrs} \pm 3.1$, $21.41 \text{Kg/m}^2 \pm 1.6$ and $29.63 \text{Kg/m}^2 \pm 2.8$ respectively. A significantly lower mean MoCA scores were observed in obese subjects when compared with lean subjects ($p < 0.01$). A significantly negative correlation was observed between MoCA and BMI ($p < 0.01$; $r = -0.277$). Moreover, there was a significant association found between CF categories (normal vs. cognitive impairment) and BMI categories (MoCA; $\chi^2=13.61$, $df=1$, $p < 0.05$). There was a significant association between gender and MoCA ($p < 0.05$) while monthly income, level of education and occupation were not significantly associated with MOCA ($p > 0.05$).

Conclusion: Obese middle aged adults in the study sample had poor cognitive function when compared with lean subjects.