RuFARS 2018

"Professional Empowerment through Research and Education"

Proceedings of
1st Research Symposium of Faculty of Allied Health Sciences
University of Ruhuna

November 08, 2018
Auditorium, Faculty of Engineering
Galle

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Foreword

The 1st Research Symposium (RuFARS 2018) was organized by the Faculty of Allied Health Sciences, University of Ruhuna, Sri Lanka. The abstracts arisen from diverse disciplines of Allied Health Sciences have been peer-reviewed prior to acceptance. The abstracts have been edited to maintain language accuracy and page limits. Responsibilities of the content text of the abstracts included in this publication remain with the respective authors. No part of this serial publication will be reproduced in any form.

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Editors
RuFARS 2018

Message from the Vice Chairman, University Grants Commission

Allied Health Sciences is a field developing rapidly in Sri Lanka. Although as a country, it has been backward in promoting these professions within the higher education sphere of the country. It is heartening to note the establishment of second Faculty of Allied Health Sciences in the country at University of Ruhuna after the pioneering work at University of Peradeniya.

It gives me great pleasure to attend the first scientific symposium of the Faculty of Allied Health Sciences in University of Ruhuna to commemorate the 40th Anniversary of University of Ruhuna as the Chief Guest.

Although small and in infant stage, the Faculty of Allied Health Sciences has established its reputation in the country. The graduates of UOR/FAHS are highly employable on our tracer studies. This speaks volumes about the quality of the training programmes of FAHS/UOR.

I am personally aware that FAHS is undergoing severe hardships due to lack of infrastructure which will take few years to resolve. However with these developments, FAHS/ UOR will move forward fast in the progressive path.
I wish FAHS/ UOR every success in its future endeavors.

Professor PSM Gunaratne
Vice Chairman
University Grants Commission, Sri Lanka

Message from the Vice Chancellor

It gives me a great pleasure to send this message for the proceedings of the "1st Ruhuna Faculty of Allied Health Sciences Research Symposium (RuFARS 2018)" organized by the Faculty of Allied Health Sciences to commemorate the 40th anniversary of University of Ruhuna. It is inspiring to note that the conferences and symposia have now become annual events in almost all faculties of the University of Ruhuna, fostering and nurturing a research culture among the academics. These symposia provide an opportunity for academics to transmit the knowledge generated through their research to the scientific community and the industry.

As the Vice Chancellor of a university committed to academic excellence and high quality research, I am proud to witness a remarkable improvement in quantity and quality as well as the relevance of research to national development conducted by our staff.

I am also glad to hear that many academics and scholars from all over the country are expected to participate in this event. It indicates that this symposium will provide a good platform for our academics to share their knowledge in the fields of Health Sciences with the rest of the world. Therefore, I believe that the publication of research findings presented at the RuFARS 2018 will be an incentive to our academics for future evaluations in their areas of expertise.

I take this opportunity to offer my heartiest congratulations to the Dean and the organizing committee of RuFARS 2018 of the Faculty of Allied Health Sciences for their efforts to make this event a success. I wish all the best for all abstract presenters and participants of RuFARS 2018.

Senior Professor SGJN Senanayake
Vice Chancellor - University of Ruhuna

Message from the Dean, Faculty of Allied Health Sciences

It is with great pleasure to write this message to the First Research Symposium of the Faculty of Allied Health Sciences (FAHS) under the theme "Professional empowerment through research and education". It is a proud occasion for all of us in the FAHS to have been able to organize an event like this during a very short period.

We at FAHS had hard time during the year 2018. As a Faculty we separated from the Faculty of Medicine on 20th of November 2017. From a battle for survival after separation to work effectively as a Faculty with many shortcomings was achieved within a reasonable time. Then trying to match or compare with other Faculties of Allied Health and to improve ourselves became a target in our work. We are yet to attract the full quota of students to our faculty. However, it started to improve this year filling the full quota in two-degree courses. I hope things will change next year for the other degree course as well.

It is in this backdrop, we undertook the challenge of organizing the First Research Symposium of the FAHS to mark the 40th anniversary of University of Ruhuna. The theme selected suits the new Faculty and its objectives well. We in FAHS will cater to improve quality of health care in Sri Lanka by producing quality graduates in allied health to fill the vacuum of skilled health work force in the national health system. Already it is happening. These programmes will empower and entrust the responsibility of the allied health professionals to improve quality of health care and uphold integrity of the professional life without compromising their professional standards. The self-confidence gained through education and research, will strengthen the health system and it should complement the medical services rather than challenging it.

The success of the event is already visible and is reflected by the number of abstracts and the responses received from the allied health community. The whole credit must go to the organizing committee chaired by Dr. Sujeewa

Hettihewa and the other members. Many scientists from Nursing, Pharmacy, Medical Laboratory Science and other fields are presenting abstracts in the symposium. I wish to congratulate all these scientists for getting their abstracts selected for the presentations.

Finally I wish to thank the organizing committee for their hard work during the last few months amidst all the difficulties.

Senior Professor TSD Amarasena
Dean
Facullty of Allied Health Sciences
University of Ruhuna

Message from the Chairperson – RuFARS 2018

It is with immense pleasure that I convey this message on behalf of the organizing committee of the "1st Ruhuna Faculty of Allied Health Sciences Research Symposium (RuFARS 2018)" organized by the Faculty of Allied Health Sciences to make a podium for leading academics, students, scientists and researchers in the country to exchange and share their knowledge and experience in different disciplines in Health Sciences and further to establish global partnerships among research communities for future developments.

This very first research conference of the Faculty of Allied Health Sciences has been organized to mark 1st anniversary of the Faculty and 40th anniversary of the Ruhuna University with the clear understanding of the concept of strong research is a prerequisite for academic excellence.

As the chairperson of the organizing committee, I would like to express my heartfelt gratitude to Senior Professor Gamini Senanayaka, the Vice Chancellor of the University of Ruhuna, Dr. Nayana Alagiyawanna, the Deputy Vice Chancellor of the University of Ruhuna and Senior Professor Sujeewa Amarasena, the founder Dean, Faculty of Allied Health Sciences, University of Ruhuna for their excellent guidance to make RuFARS 2018 a success. I express my sincere gratitude to Professor PSM Gunaratne, Vice Chairman, University Grants Commission, Sri Lanka who accepted our invitation in a short notice as the Chief Gust.

We received over 80 abstracts for presentation in this very first conference and it was great to see a large number of participants in the symposium. Furthermore, the support extended by the Heads of the Departments, academic and non-academic staff members of Faculty of Allied Health Sciences, Senior Assistant registrar, Senior Assistant bursar, joint secretaries, the advisory board, the editorial board, the panel of the reviewers, the panel of the judges of the presentations, those who chair sessions and the rest of

organizing committee are also duly acknowledged for all their hard work, sense of responsibility and team work. I greatly appreciate the financial contribution made by the sponsors of this symposium, and without their assistance, we would not be able to organize such an event like this.

I would express my sincere gratitude to the Dean and the staff of Faculty of Engineering, Univeristy of Ruhuna for providing facilities to make this event a success.

I have all the reasons to envisage that our first symposium will be productive and exciting. May I wish all the authors, presenters and the participants a very successful, fruitful and productive symposium, RuFARS 2018 for their enthusiasm and willingness shown in sharing the knowledge on their research findings at RuFARS 2018.

Dr. SK Hettihewa
Chairperson
RuFARS 2018

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Oral Presentations

OP 01 – Impact of Health Promoting Lifestyle Modification Education Intervention on Anthropometric Adiposity Measures and Physical Performance of Postmenopausal Women

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Background: Menopause causes structural and functional impairments in postmenopausal women (PMW) such as anthropometric adiposity measures (AAMs) and physical performances (PPs).

Objectives: This study aimed to evaluate the impact of a health promoting life-style modification education intervention (HPLEI) on AAMs and PPs in a group of PMW.

Methodology: A quasi-experimental study was conducted with randomly selected, sociodemographic status matched, 72 PMW from two geographically separated areas in Galle, Sri Lanka allocated as experimental (n=37) and control (n=35) groups. HPLEI focused on postmenopausal lifestyle management was performed during 8 weeks and printed health education package was provided only for the experimental group. Both groups were followed-up for 6 months period after the HPLEI. AAMs and PPs were measured before the intervention and after 6 months follow-up in both experimental and control groups. Measured AAMs were body mass index (BMI, kg/m^2), waist circumference (WC, cm) and waist to hip ratio (WHR). Evaluated PPs were hand grip strength (HGS, kg) and gait speed (GS, m/s).

Results and conclusions: Mean (SD) age of experimental and control groups were 54.6 (4.5) and 56.5 (3.4) (p=0.06) years respectively and sociodemographic factors were not different between groups. Before the intervention, AAMs and PPs were not significantly different between experimental and control groups (p>0.05). In the follow-up evaluation, BMI, WHR and WC were significantly (p<0.05) reduced and all the measured PPs were significantly improved (p<0.001) in experimental group. However, AAMs showed significant or non-significant increments while PPs showed significant impairments (p<0.001) in control group in the same evaluation. In the follow-up evaluation, AAMs and PPs were improved positively in experimental group compared to control group (p<0.05). HPLEI provided after menopause was effective in improving AAMs and PPs in PMW. The usefulness of such interventions needs to be confirmed in a larger study.

Keywords: Health promotion, life-style modification, education intervention, postmenopausal women

OP 02 - Health Related Quality of Life of Patients with Heart Failure and on Treatment in National Hospital Sri Lanka

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Background: Heart failure (HF) is defined as a chronic, progressive condition in which the heart muscle is unable to pump enough blood to the heart to meet the body requirements of blood and oxygen. Basically, the heart cannot keep up with its workload. According to World Health Organization (WHO), 2014 coronary heart disease deaths in Sri Lanka reached 32,582 or 25.74% of total deaths. Patients with heart failure experience various physical and emotional symptoms such as dyspnoea, fatigue, oedema, sleeping difficulties, depression and chest pain. These symptoms limit patients' daily physical and social activities and result in poor quality of life (QOL). Understanding the factors that influence on the wellbeing of patients with heart failure will allow nurses to focus on specific intervention for enhancing their quality of life.

Objectives: To assess the health related quality of life of patients' with heart failure on treatment in National Hospital Sri Lanka (NHSL).

Methodology: Descriptive cross-sectional study was conducted among sample of randomly selected 197 patients having heart failure on treatment in NHSL cardiology clinic. Data were collected using interviewer administered WHOQOL-BREF questionnaire after the pre-test. Ethical approval was obtained from the ethical review committee of KAATSU International University and NHSL. Data were analysed according to the WHOQOL user manual

Results and conclusions: Most of the participants were Sinhala (64.3%, n= 110), Buddhist (56.1%, n= 96) males (66.7%, n= 114) belong to age group 50-59 (45%, n= 77). Among the participants 83.6% (n= 143) were married and 24% (n = 143) were educated up to advance level. Most of the participant having poor physical (64.3%), psychological (66.1%) and social (64.3%) QOL. Nearly half of the participant (48%) having poor environmental QOL. The overall quality of life was poor in most of the patient with HF. Health education and health promotion programmes should be conducted to uplift the QOL of the patients.

Keywords: Heart failure, NHSL, patients, QOL

OP 03 - Perceived Stress and Its Correlates among Advanced Level Students in Anamaduwa Educational Division, Sri Lanka

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Background: The child undergoes enormous biological, psychological, cognitive and social challenges with the rapid transition from childhood to adolescence. Adolescents are more vulnerable for stressors with the continued maturation of brain during this period. Present study was conducted to assess perceived stress, stress contributing factors, coping methods and its correlates among sample of Advanced Level (A/L) students.

Objectives: To assess the perceived stress levels and its correlates among advanced level students in Anamaduwa educational division.

Methodology: A descriptive cross sectional study was conducted among 394 (n=394) A/L students selected from three schools in Anamaduwa educational division. Self- administered perceived stress scale was used to assess the stress levels. Another questionnaire was developed to assess socio- demographic data, coping methods, stress factors and correlates. Data was analyzed by SPSS 22 version software.

Results and conclusions: Sample consists of 73% (n=288) females and 27% (n=106) males. Mean Perceived Stress Scale (PSS) score was 22.91 ± 4.39. The highest mean PSS score was indicated by Science stream students (23.81 ± 4.208) whereas the lowest score 22 (SD ± 4.26) was indicated by Commerce students. Academic workload, financial issues in family, peer problems and issues in romantic relationship were the main factors contributing to stress. Talking with friends, TV watching, sleeping were the main strategies used by adolescents to cope with stress. 50% (n=53) and 42.44% (n=45) of male students use alcohol and cigarette smoking and illegal substances respectively as coping methods. Results of the present study revealed high-perceived stress among A/L students. School based interventions such as counseling programs, promotion of recreational and physical activities, training on relaxation and parent awareness programs are recommended.

Keywords: Advanced Level, Anamaduwa, correlates, perceived, stress

OP 04 - Occupational Stress and Its Correlates among Female Garment Factory Workers in Polgahawela MOH Area, Kurunegala

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Background: The garment industry contributes to fulfill majority of job opportunities in rural areas. In that female workers are the majority of the working personnel. Occupation related stress has become a major issue in Sri Lankan garment industry. Occupational stress influences on health of the workers as well as the productivity of the organization.

Objectives: This study was aimed to assess the perceived stress and its correlates among female garment factory workers in Polgahawela MOH area, Kurunegala.

Methodology: A descriptive cross sectional study was conducted with 200 female garment factory workers from three garment factories within the Polgahawela MOH area in Kurunegala district. Self-administered questionnaire was used to collect data. The translated and validated Perceived Stress Scale (PSS) was used to measure perceived stress. Ethical approval was taken from the ethical review committee of the Faculty of Medicine, University of Ruhuna.

Results and conclusions: Most of the study participants were sewing machine operators (54.5%), aged between 20 to 29 years (45.0%), married (61.5%) and had secondary education (93%). Mean age (±SD) of the sample was 29.98 (±9.16) years. Minimum PSS score obtained by the participants was 1 and maximum was 32. Mean PSS score (±SD) of the sample was 16.76 (± 6.21). Perceived stress was reported by majority of the participants (75.5%; n=151). Among the factors assessed, the age (p=0.009), religion (p=0.049), race (p=0.023), number of children (p=0.001), being the bread-winner of the family (p=0.007), residence (p=0.041), working hours per week (p=0.000), work load (p=0.045), obtaining leave (p= 0.000), target achievement (p=0.004), doing another job (p=0.020), noise (p=0.000), ventilation (p=0.003), sanitary facilities (0.000), exposure to abuses (0.020) and conflicts with colleagues (p=0.007) were significantly associated with the perceived stress. The study revealed that female garment factory workers in Polgahawela MOH area, Kurunegala were suffering from stress. Number of personal factors, job related factors and working environment related factors were associated with perceived stress of the female workers.

Keywords: Female, garment factory workers, occupational stress, stress related factors

OP 05 - Evaluation of the Effectiveness of Learning Strategies in Mathematics to the Academic Performance of Senior Secondary Students in Galle Municipal Council Area in Sri Lanka

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Background: Learning is a complex cognitive process. It can be improved with different techniques. Learning strategies are very efficient in improving learning and academic performance. There are many different learning strategies and the effect of different learning strategies differ on the individual, subjects and many other confounding factors.

Objectives: The objective of this research is to identify the effectiveness of learning strategies in mathematics to the academic performance of senior secondary students in Galle Municipal Council Area in Sri Lanka.

Methodology: A descriptive cross-sectional study was conducted among 352 senior secondary (grade 11) students who were preparing for the G.C.E. ordinary level examination from three randomly selected schools within the Galle municipal council area. The correlation between the academic performance in the term test and the score obtained from the modified version of mathematics motivated learning strategies (self-administered) questionnaire was analyzed.

Results and conclusions: Significant positive correlation was seen only between academic performance and Meta cognitive learning strategies (p=0.015) out of four main categories. Further analysis revealed that there is a significant positive correlation between academic performance and each of the following factors; rehearsal (p=0.027), critical thinking (0.008) and help seeking (p=0.045). The results of this study studies show that leaning strategies have a significant effect on the academic performance of students. In addition, some specific learning strategies have variable effects on learning. Therefore, steps should be taken to improve the teaching and learning process by considering the effects of specific learning strategies to the academic performance of students.

Keywords: Academic performance, learning strategies, mathematics

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OP 06 - Extended Spectrum of Beta Lactamase Producing *Escherichia Coli* Prevalence of Chicken Stools in Selected Broiler Farms in Galle District.

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Background: *Escherichia coli* (*E.coli*) is commensal inhabitant of the gastro intestinal tract and one of the most important pathogens in human. The frequent administering of antibiotics in poultry may contribute to the emergence of antimicrobial-resistant strains. So it is necessary to examine antibacterial activity of chicken feed and water. Consumption of chicken in meals is higher compared to other livestock in Sri Lanka. Human can be infected with extended spectrum of beta lactamase (ESBL) via food chain, mainly through chicken.

Objectives: The aim of this research is to determine the extended spectrum beta lactamase producing *E .coli* prevalence of chicken stools in selected broiler farms in Galle district and to determine chicken feed and water as a contributory factor.

Methodology: Stool samples (n=80) were collected from selected broiler farms in Galle district. Isolates were confirmed as *E.coli*. ESBL confirmatory double disk method was performed according to the Clinical & laboratory standard institute method (CLSI). Ready to serve chicken feed and water samples were collected and those were tested against two types of *E.coli* to detect the presence of the effect of any antibacterial substances.

Results and conclusions: Different types of *E. coli* (n=86) were isolated from 80 chicken stool samples. There were no ESBL producers among all isolated E coli. There were no antibacterial activities demonstrated in food or water served for chicken in the farm no 01 & no 02 against *E.coli* ATCC 25922 and ATCC 35218. There were antibacterial activites in farm no 03 and 04 although only the farm no 04 declares the use of the antibiotic Cotrimoxazole. There were no ESBL producing *E.coli* prevalent in chicken stool in the selected farms in Galle district indicating the risk of transmission of ESBLs to the human via consumption of chicken meat is minimum. This may be due to the least usage of antibiotics containing food in poultry farms. Further island wide studies are necessary to determine the prevalence of ESBL producing chicken stool in *E.coli* in poultry farms in Sri Lanka

Keywords: Broiler farms, chicken stools, contributory factors, prevalence of ESBL producing *E. coli*

OP 07 - The Sinhala Version of Short Form McGill Pain Questionnaire -2 (SF MPQ-2-Sinhala): Outcome of Preliminary Validation Study among Patients with Cancer Pain in Sri Lanka

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Background: Pain is among the most common and unpleasant symptoms affecting the well-being of patients with cancer. The McGill Pain Questionnaire (MPQ) and its short-forms, the SF-MPQ, SF MPQ-2 are the most widely used tools of pain descriptors. There is much evidence supporting their validity and reliability in people with cancer. Many pain assessment tools are available worldwide although limited number among them have been translated in to Sinhala and validated in Sri Lanka.

Objectives: Our aim was to assess validity and reliability of Sinhala version of SF MPQ-2 among the Sinhala speaking patients with cancer pain in Sri Lanka.

Methodology: Translation has been done according to the guideline given by Mapi Research Trust. Translation steps include forward, backward translation, expert opinion, cognitive debriefing interviews and proof reading. Questionnaire was administered among 86 patients with cancer pain attending Apeksha Hospital, Maharagama. Content validity and face validity were tested by expert opinion and by interviews with patients respectively. Construct validity was tested by factor analysis while reliability was tested by internal consistency with Cronbach's alpha.

Results and Conclusions: A total of 86 participants with minimum of 3 months pain history (44 males, 42 females) age between 24 - 78 years, were included in the study. Factor analysis identified four factors in line with similar studies done in other countries, namely neuropathic, affective, intermittent and continues subscales, which explained 58.7% of the variance. The analysis of data indicated Cronbach's alpha of above subscales as 0.778, 0.775, 0.859, and 0.820 respectively, which were over the acceptable threshold of 0.70. We conclude that the SF‑MPQ -2-Sinhala version is a valid and reliable tool which can be used among Sinhala speaking patients with cancer pain in Sri Lanka. However, validation studies with larger sample sizes are recommended before its wider use in Sri Lanka.

Keywords: Cancer pain, SF MPQ-2-Sinhala version, reliability, validity

OP 08 - Stress Level among Disabled Army Soldiers in Gampaha District

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Background: Stress is a normal reaction of body and mind to a demanding situation. Most people already know about the effect of stress on different health conditions; but there is less awareness of its influence on the disabled. Disability can be extremely stressful; studies had revealed that high levels of stress have been associated with morale and well-being issues among disabled soldiers.

Objectives: This study investigated the stress level among disabled army soldiers at 'Ranaviru Gammana' in Gampaha District.

Methodology: A descriptive cross sectional study was conducted among 400 disabled army soldiers after obtaining ethical approval. Self-prepared questionnaire was administered to gather socio demographic data, coping methods and substance usage. Further, self-administered Perceived Stress Scale (PSS) which validated and widely used in Sri Lanka was used to measure perceived stress. Data were analysed using SPSS 22 version.

Results and conclusions: Mean age of the sample was 42 (SD±8.42); age ranged from 22-57. All participants were disabled; legs (51%) were the most lost/ disabled body part followed by spinal injuries (21%), hands (18%) and other body parts like eye, ear and etc. (9%). Mean stress level of the overall sample was 18.36 (SD±5.06), ranged between 7 -28. Highest mean PSS was 18.33 (SD±5.29) that obtained by the army soldiers who lost their legs and minimum PSS score was obtained by the army soldiers who lost their other body parts. Although army soldiers had used different coping methods; they had reported higher stress level in this study. Majority of the soldiers had used some substances like Alcohol (85%); Cigarettes (73%); Ganja (Cannabis) (24%), but few of them were addicted to the usage of substances. Majority of the army soldiers suffered from different disabilities due to loss of different body parts. Losses of legs were the major disability among them and reported higher stress level than of others. Mild to moderate stress was observed among the overall sample. Coping methods were not much helpful for dealing with the stress of army soldiers. Different stress management and coping methods should be implemented in those settings effectively to relieve their stress.

Keywords: Army soldiers, disabled, Gampaha district, perceived stress

OP 09 - Effect of *Murraya koenigii* Leaf Extract on Antioxidant Status, Lipid Peroxidation and Myeloperoxidase Activity in Wistar Rats Treated with Doxorubicin

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Background: Doxorubicin is one of the most potent and widely used chemotherapeutic agents. However, clinical utility is limited by dose-dependent cardiotoxicity, which leads to severe heart failure. Previous studies favour reactive oxygen species as one of the main factors responsible for doxorubicin-induced cardiotoxicity and administration of antioxidants has been shown to protect cardiac tissues. *Murraya koenigii* leaves are rich in various phytochemicals and have strong antioxidant potential.

Objectives: To investigate the effect of aqueous extract of *Murraya* leaf on antioxidant status, lipid peroxidation and myeloperoxidase activity in Wistar rats treated with doxorubicin.

Methodology: Wistar rats were divided into five groups of 10 animals in each. Group 1 served as the normal control. Group 2, plant extract control received 2.0 g/kg lyophilized plant extract for 14 days and 10 mL/kg saline on 11th day. Group 3 received 2.0 g/kg lyophilized plant extract for 14 days and 18 mg/kg doxorubicin on 11th day while group 4 received 10 mL/kg distilled water for 14 days, 18 mg/kg doxorubicin on 11th day. Group 5 which served as the positive control was given 10 mL/kg dH_2O for 14 days, 180 mg/kg dexrazoxane 0.5 hr prior to administration of doxorubicin (18 mg/kg). Animals were sacrificed on the 15th day. A portion of heart tissues was collected for the estimation of antioxidant parameters.

Results and conclusions: A significant reduction in reduced glutathione, glutathione reductase, glutathione peroxidase, total antioxidant capacity, superoxide dismutase and catalase activity and a significant increase in lipid peroxidation and myeloperoxidase activity was observed in doxorubicin control compared to the normal control group ($p < 0.05$). Plant extract treated group showed a significant decrease in lipid peroxidation, myeloperoxidase activity and significant increase in rest of the parameters compared to the doxorubicin control ($p < 0.05$). It can be concluded that *Murraya* leaf extract has the potential to ameliorate doxorubicin induced oxidative stress and inflammation in Wistar rats.

Keywords: Doxorubicin, *Murraya koenigii* leaf extract, oxidative stress, Wistar rats

OP 10 - Evaluation of the Nephroprotective Activity and Acute Toxic Effects of Leaf Extract of *Abelmoschus moschatus* in Experimental Rats

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Background: A revival of interest in the use of medicinal plants as nephroprotective agents has emerged worldwide recently as a source of new drug lead molecules targeting the management of renal diseases. Many medicinal plants have been detailed in Sri Lankan traditional medicinal pharmacopoeias, however a scientific scrutinization has not been carried out for most of the plant species.

Objectives: To evaluate the nephroprotective activity of the leaf extract of *Abelmoschus moschatus* (common name; Kapukinissa, Family; Malvaceae) and to determine its acute toxic effects on adriamycin induced nephrotoxic rats and on healthy rats respectively.

Methodology: The nephroprotective activity of the lyophilized powder of the aqueous refluxed (4 hr) leaf extract was investigated in adriamycin (20 mg/kg, ip) induced nephrotoxic Wistar rats (n=6/group). The plant extract was orally administered at three selected doses (200, 400 and 600 mg/kg) for three consecutive days following the induction of nephrotoxicity in Wistar rats. Fosinopril sodium (0.09 mg/kg) was used as the standard drug. Nephroprotective activity was assessed by estimating selected biochemical parameters and by assessment of histopathology. Acute toxicity studies of the aqueous plant extract were carried out in healthy rats.

Results and conclusions: The plant extracts at the selected doses reduced the increase in serum creatinine concentration by 23%, 40%, and 40% in nephrotoxic rats respectively. The serum concentration of albumin (1%, 9% and 8%) and total protein (16%, 16% and 20%) were increased significantly (p<0.05). The loss of urine total protein was decreased significantly (51%, 55% and 83%) with the increased dose of *A. moschatus* in nephrotoxic rats (p<0.05). Histopathological findings corraborated the biochemical results. Neither mortality nor behavioural changes were observed in healthy rats. The results revealed that the aqueous leaf extract of *A. moschatus* possesses significant dose dependent nephroprotective activity in adriamycin induced nephrotoxic rats. Further the extract did not show acute toxic effects in healthy Wistar rats.

Keywords: *Abelmoschus moschatus*, adriamycin- induced nephrotoxicity, acute toxic effects

OP 11 - Experiences of the Patients with Fourth Stage Breast Cancer in Teaching Hospital, Anuradhapura

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Background: The cells in the breast begin to grow out of control is called as breast cancer. This is classified into stage zero to stage four according to the amount of severity and nature of spread. Among them fourth stage breast cancer is extended beyond the immediate region of the tumor and may have invaded nearby lymph nodes to distant organs causing many challenges to patients. Assessing experiences of breast cancer patients could contribute to improved treatments as well as help to increase the quality of life.

Objectives: To explore experiences of patients with fourth stage breast cancer attending to oncology clinic at Teaching Hospital Anuradhapura.

Methodology: A phenomenological design was carried out to explore the experiences of patients with fourth stage breast cancer. Fifteen participants were purposively selected with fourth stage breast cancer, on chemotherapy and radiotherapy after they had surgical treatment during year 2016, 2017 and 2018 and who are attending the clinic at Teaching Hospital Anuradhapura. Ethical approval was obtained from the Ethical Review Committee of National Hospital Sri Lanka. Semi-structured interviews were conducted to collect data and thematic analyze was used for the analysis.

Results and conclusions: Three major themes were derived from the data. Major themes are severe discomfort due to disease condition, variation of mental status and effectiveness of disease condition to the socio-economic life. Severe discomfort is commonly due to pain, loss of appetite, barriers to day-to-day activities and problems of sexuality. Variation of mental status mostly have been observed as a result of emotional dizziness, anxiety, fear and uncertainty about life. Lack of family support, social support and decline economic status were affected to negative experiences in socio-economic life. It is concluded that pain was the mostly faced discomfort after undergone surgical interventions and chemotherapy. Emotional dizziness have been observed in high extent once they heard about the disease condition and after. Patients suffered a lot due to deviation from families because of long length of hospital stay. All these experiences collectively affect the quality of life in fourth stage breast cancer patients. Hence, it is recommended to educate the patients about the copping mechanisms in advance.

Keywords: Fourth stage breast cancer, teaching hospital

OP 12 - Assessment of Knowledge on First aid and Safety Measures for Sports Related Injuries among School Athletes in Anuradhapura Educational Zone, Sri Lanka

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Background: Improving the skills of first aid and safety measures in school children are of great importance as it helps to prevent, minimize the extension and complications of injuries.

Objectives: To determine the knowledge on first aid and safety measures regarding sports related injuries among school athletes in Anuradhapura educational zone.

Methodology: A descriptive cross sectional study was conducted among school athletes in Anuradhapura Educational Zone. Sample of 168 students aged between 12 -17 years were recruited for the study. A self-administered questionnaire which consists of both open ended and closed ended questions were distributed. The results were analyzed using SPSS 20.

Results and conclusions: There were 168 school athletes of which 73 (43.5%) participants in the age group of 14 – 15 years in Anuradhapura (Sri Lanka) educational zone. Out of all subjects,only 52 (32.1%) had previous exposure to first aid training. However, primary assessment in first aid was known only by 1.2% athletes correctly in the study. Nearly 25% correctly explained the term "cardiopulmonary resuscitation". Out of them only 6 (40%) males and 9 (60%) females were able to mention the ratio of chest compressions to rescue breaths as 30:2. Also 102 (60.7%) had satisfactory knowledge regarding cool down exercise. Only 51 (30.4%) students had good knowledge of emergency care for fractures. Overall there was a significant difference in knowledge of safety measure equipment who were not first aid training participants than participants (p =0.045). The knowledge on emergency first aid care for wound management were below than (60%) knowledge score among school athletes. According to the results of the study, the students in this Educational Zone are willing to gain their knowledge regarding first aid and it's measures through school curriculum and also standardize all of the existing first aid training programs. Health care professional need to improve the first aid knowledge and guide to correct emergency care among school athletes.

*Keywords***: :** First aid, knowledge , school curriculum, sports injuries, safety measures

OP 13 - Why Do Allied Health Undergartuates and Graduates Move towards the Unrelated Professions; A Study Focused to University of Ruhuna

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Background: Allied Health Sciences (AHS) degree programmes were started to uplift the standard of the allied health professions. However, every year a large number of allied health undergraduates and graduates change their profession to other professions creating many issues in AHS higher education.

Objectives: This cross-sectional study was aimed to identify the trend and reasons leading to shift Allied Health undergraduates and graduates towards the other professions as their future carriers among the undergraduates and graduates of University of Ruhuna (UOR).

Methodology: Two pre-tested questionnaires were used separately for AHS graduates (n=201) and AHS undergraduates (n=210) of University of Ruhuna during May-June 2017.

Results and conclusions: Majority of Pharmacy (82%) and MLS (96%) undergraduates were willing to continue into same profession that they are trained while only 47% of nursing undergraduates were happy to become nurses. Of the nursing graduates of 1st and 2nd batches 16 (33.3%) have selected teaching as their carrier. Stressfulness (31.3%), low remuneration (26.2%), lack of interest (21.4%) and lack of job satisfaction (13.1%) in nursing were the main reasons they indicated. But most of the 3rd batch graduates (n=20, 58.8%) are practicing nursing because of their own satisfaction and influence of family member. Considerable proportion (20, 43.5%) graduates of 4th batch were unemployed. However, almost all the pharmacy and MLS graduates are engaging their career with relevant job field as pharmacists and MLTs, majority with their own interest (Pharmacy; 82.6%, MLS; 65%). Most of nursing undergraduates have decided not to engage in relevant job in future, because of its stressfulness (45.7%). Most of the nursing graduates have shifted to other job fields and majority nursing undergraduates have decided not to engage relevant job in future. Stressfulness in nursing profession is the most important reason to deviate the undergraduates and graduates from Nursing. Pharmacy and MLS undergraduates and graduates have no such movements to unrelated professions.

*Keywords***:** Allied health graduates, undergraduate, unrelated professions

OP 14 – Formulation and Evaluation of Antioxidants Rich Herbal Cream Enriched with *Canna* (red) Flowers Grown in Sri Lanka

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Background: The importance of natural antioxidants has arisen due to the carcinogenic nature of the synthetic antioxidants found in commercial herbal creams.

Objectives: The study was aimed to formulate a herbal cream enriched with dried powder extract of *Canna* (red) flowers grown in Sri Lanka and evaluate its in vitro antioxidant activity.

Methodology: Acidified 70% aqueous acetone crude extract of *Canna* flowers prepared by steeping method was subjected to preliminary phytochemical tests. The total phenolic, total flavonoid contents were determined by using Folin Ciocalteu method and aluminium chloride method respectively. In vitro antioxidant activity was evaluated by using 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay and ferric-reducing antioxidant power activity (FRAP assay). A herbal cream was formulated by incorporating the freeze dried powder of the flower extract followed by evaluating in vitro antioxidant activity and physical parameters (pH, odor, appearance, homogeneity) for 45 days at room temperature.

Results and conclusions: The phytochemical screening exhibited the presence of phenolics, flavonoids, quinones, reducing sugars and saponins and absence of alkaloids in the extract. The results of the total phenolic and total flavonoid contents of the extract were 5389.067 ± 681.343 mg Gallic acid equivalent (GAE)/100 g and 6017.442 ± 158.343 mg Catechin equivalents (CAE)/100 g dry weight (DW) of the flowers. This study revealed promising antioxidant capacity (17.430 ± 2.673 mmol Trolox equivalents/100 g DW of flowers and 3.881 ± 0.033 mmol Trolox equivalents/100 g weight of the cream) by DPPH assay and (43.742 ± 2.047 mmol Fe (II) equivalents/100 g DW of the flowers and 10.422 ± 0.055 mmol Fe(II) equivalents/100 g weight of the cream) by FRAP assay. The formulated herbal cream was found to be semi-solid, homogenous and pink caramel colour with a pleasant odor. The pH of the cream was found to be in the range of 6 to 7. It is concluded that the *Canna* (red) flowers have promising antioxidant activity and the formulated cream can be commercialized as a herbal cream with potent antioxidants.

Keywords: Antioxidant activity, *Canna*, DPPH assay, flavonoids, FRAP assay

OP 15 – Microalbuminuria and Blood Pressure in Nondiabetic Hypertensive Subjects Investigated at Family Practice Centre, University of Sri Jayewardenepura

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Background: Hypertension is a common asymptomatic disease which is a growing issue of public today. Microalbuminuria in hypertensive patients reflects systemic dysfunction of vascular endothelium, blood pressure control, changing of vascular permeability and haemostasis. Detection of microalbuminuria may help to identify early risk of cardiovascular diseases in hypertensive patients.

Objectives: This study was carried out to determine the correlation between microalbuminuria and blood pressure in non-diabetic hypertensive patients.

Methodology: A cross sectional study was carried out among 98 randomly selected non-diabetic hypertensive patients of age group between 35-85 years attending to family practice centre, University of Sri Jayewardenepura. Morning mid-stream urine sample, negative for proteinuria was used to calculate microalbumin to creatinine ratio. Microalbumin in urine was measured by a turbidimetric immunoassay method. The creatinine level in serum was estimated using a colorimetric kinetic method. Blood pressure, weight and height were measured and socio-demographic characteristics were noted by interviewer administered questionnaire. Data evaluation was done by independent sample t-test and Pearson correlation.

Results and Conclusions: There were 75 males and 25 females in the study population. The mean (SD) age and body mass index (BMI) of the subjects were 62.11 (8.22) years and 25.73 (5.15) Kg/m^2 respectively. The prevalence of microalbuminuria was found as 21%. Out of the subjects with microalbuminuria, 66.6% were females and 33.3% were males. Statistically significant weak positive correlations were found between microalbuminuria and systolic blood pressure (r=0.27, p=0.007), and microalbuminuria and diastolic blood pressure (r= 0.28, p=0.004). The mean (SD) of the diastolic blood pressure of subjects with microalbuminuria (89.52 (9.2)) is significantly higher (p=0.003) when compared to diastolic blood pressure of subjects with normoalbuminuria (82.47 (9.9)). There was no correlation of microalbuminuria with age (r=0.009, p=0.92), body mass index (r=0.08, p=0.4). Microalbuminuria was associated with blood pressure. There was no statistically significant association of microalbuminuria with age and body mass index.

Keywords: Creatinine, hypertension, microalbuminuria

OP 16 - Effect of Sample Volume Variation and Time Delay in Analysis on Plasma Glucose Concentrations in Healthy Adults

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Background: The primary test in the diagnosis and management of diabetes mellitus is the plasma glucose concentration. Venous blood is collected into tubes that contain antiglycolytic agents to prevent *in vitro* glycolysis. However, a complete inhibition of *in vitro* glycolysis is a major challenge in current laboratory practice. In addition to overfilling and under filling of tubes, samples are rarely analyzed within the recommended time period of one hour from collection.

Objectives: To determine the effect of sample volume variation and time delay in the analysis of plasma glucose results in healthy adults.

Methodology: A total of 30 individuals aged between 20-25 years were selected for the study. A 6.5 mL of blood sample was taken from each participant and added into three fluoride oxalate collection tubes in volumes of 1.0 mL, 2.0 mL and 3.0 mL. Samples were centrifuged and plasma glucose concentration measured at 1 hour, 3 hours and 5 hours after the sample collection using glucose oxidase method. Samples were kept at room temperature until analysis.

Results and conclusions: There is a statistically significant difference in glucose concentration in 1.0 mL, 2.0 mL and 3.0 mL volumes of samples analyzed after 5 hours of collection with the baseline control; 2.0 mL sample analyzed after 1 hour of collection (p< 0.05). There is no significant difference in plasma glucose results between different sample volumes (p>0.05) at a specific time point. At constant sample volumes, there is a significant difference between results after 1 and 5 hours of collection in 2.0 mL and 3.0 mL volumes and between 3 and 5 hours in 3.0 mL of samples (p<0.05). The sample volume variation in 2.0 mL fluoride oxalate tube from 1.0 mL to 3.0 mL does not significantly affect the plasma glucose results. However even in the presence of a glycolytic inhibitor the plasma glucose concentration decreases upon delaying the analysis after one hour of sample collection.

Keywords: Diabetes mellitus, glucose estimation, glycolysis, volume variation.

OP 17 - Assessment of the Prevalence of Recreational Sports as a Lifestyle Adaptation in the Colombo District, Sri Lanka

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Background: Recreational sports (RS) allows a person to be physically and mentally fit, without practices and pressure of competition. Most people lead a sedentary lifestyle, which makes them unhealthy and the victims of many conditions such as cardiovascular diseases and diabetes mellitus. In addition, being physically inactive has a negative impact on one's mental well-being.

Objectives: To assess whether RS are a part of people's day to day lives, and their health in association with it.

Methodology: A descriptive cross-sectional study was conducted on people between ages of 16 to 50 who were selected using a convenient sampling method in an urban setting in Colombo District, using self-administered online questionnaires.

Results and conclusions: From the total participants, 52.2% take part in RS out of which, 64.8% do so for fitness reasons. 56.6% were aware of the mental and physical benefits of RS, however, majority (59.5% from the 52.2% that participate in RS) only participated in RS less than 3 hours per week and 48.6% people consider themselves to be neither too healthy nor unhealthy. It was also found that most people (55.9%) drink 1-3 glasses more water than their usual intake before and after (63.6%) RS, which keeps them better hydrated throughout the day. Most (64%) do not follow a diet plan, as they do not perform these sports for weight loss or competing purposes. Majority of the people participate in RS, but they do not perform it for the recommended time duration, and therefore, it does not have as much of a significant effect on their well-being.

*Keywords***:** Health, recreation, sports, stress, well-being

OP 18 - Prevalence of Renal Dysfunction among a Farming Community in Diyatalawa Area – a Pilot Study

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Background: Chronic Kidney Disease (CKD) is a potential health burden globally. Agricultural workers and people drinking stagnant water in reservoirs are at greater risk of developing the disease. In Sri Lanka, prevalence of CKD is on the rise since the 1990's. Screening of CKD among agricultural workers has been studied intensively among paddy cultivators in Sri Lanka, but none has been focusing on the agricultural workers in the hill country.

Objectives: To identify the prevalence of renal dysfunction among a farming community in Diyatalawa area and to identify contributory factors for renal dysfunction if any.

Methodology: A descriptive study was conducted in three Grama Niladhari divisions where vegetable cultivation is done at a considerably high level in Diyatalawa area. 143 farmers were selected by convenience sampling, interviewer administered questionnaire was filled to gather supportive information and serum creatinine of each subject was analyzed on a venous blood sample.

Results and conclusions: Although not at an alarming magnitude, the farming community had a higher chance of getting affected from renal dysfunction showing significance in eGFR values between the farming and non-farming communities (U = 5426.50 , p = 0.006), 30.8% of the subjects of the farming community had impaired renal function whereas it was 15.6% in the non farmers. The data revealed that, impaired renal function was higher in females of the farming community representing 79.5% of the diseased. Exposure to agrochemicals showed a positive impact to renal dysfunction where 80% of farmers who used agrochemicals weekly or more frequently had impaired renal function. Of the farmers who had impaired renal function, 67.5% used less protection during the use of agrochemicals. Among the farmers with impaired renal function, 93.2% drink less than 3 liters of water per day. When both the frequency of use of agrochemicals and the water intake is considered, 68.1% of the farmers who use agrochemicals weekly or more frequently and drink less than 3 liters of water had mildly decreased renal function.

Keywords: Chronic kidney disease, farming community, ground water, serum creatinine

OP 19 - Comparative Study of Environmental and Socio-behavioural Factors Influencing Dengue: Findings from a Study in Eastern Sri Lanka

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Background: The Ministry of Health in Sri Lanka has reported over 80,000 dengue cases and over 200 deaths from January to July of 2017.This is in 15 districts including Batticaloa district in Sri Lanka where monsoon rains most heavily affected with failures to clear mosquito breeding grounds primarily in urban and suburban areas. The study gives an insight into the surveillance, prevention and control of an infectious disease as well as evaluating how it impacts public health in general.

Objectives: This project aims to bring an understanding of the individual, familial and contextual risk and protective factors for dengue infection and the consequences of dengue contraction from an infectious disease epidemiological perspective.

Methodology: Twenty dengue prevalence villages in Batticaloa district were chosen for the study as one of the high occurrence locations for dengue. The sampling method is snowball-purposive and random sampling. The present study was done by giving questionnaires to both dengue infected and non-infected people and had direct interview with the same and health professionals. This study examined the individual, family and community factors placing individuals at greater and lesser risk of contracting dengue and experiencing its consequences between dengue patients (n=213) and non-infected people (n=100). The study informed us which of the hypothesized factors are significant predictors of dengue risk, resilience and consequences of contraction.

Results and conclusions: How the environmental, sociobehavioral risks and protective factors influencing dengue infection and implication were found from this study. Individual socioeconomic and demographic characteristics (gender, education, race), physical contextual factors (urbanity/rurality, clustering of houses, within-home density, distance to stagnant water) and social contextual factors (familyism, collectivism, community prevention) influence dengue infection directly and indirectly through cognitive-behavioral processes (knowledge and preventive behavior). Government prevention services directly reduce dengue infection. Psychological consequences of dengue contraction were identified that were dengue contributes to elevation of depressive and anxiety symptoms.

Keywords: Dengue infection, ecological influence, sociodemographic influences

OP 20 - Impact of Heavy Workload on Quality of Nursing Care among Nurses Working in Medical and Surgical Wards in National Hospital Sri Lanka

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Background: Among the health care professionals, nurses are the majority and essential drivers of quality health care. Their workload is directly related to the quality of nursing care. Understanding workload and its impact on quality patient care particularly from nurses' perspectives, is an urgent requirement in health care today.

Objectives: To identify factors related to increased workload among nurses and to determine the correlation between heavy workload and quality of nursing care.

Methodology: Descriptive cross-sectional study was conducted among 359 nurses from surgical and medical wards of National Hospital of Sri Lanka using a pre tested self-administered questionnaire.

Results and conclusions: Most of the participants belonged to the age 25 to 35 years category (68.8%) with less than ten years of working experience (68%) and completed their professional education with a diploma in nursing (66.6%). Among the participants 288 (80.2%) nurses perceived as having a high workload during their duty shift. Higher number of patient allocation for a one nurse (90.5%), lack of nursing staff allocation for a shift duty (89.7%), engaging non-nursing activities (86.6%), and lack of time management (86.4%) were the major reasons for increasing workload as perceived by nurses. Two hundred eighty-seven (79.9%) nurses perceived that they have to do low quality nursing care to the patient during their shift. Most of the participants (90.8%) accepted that mistakes and ignorance happened during their duty shift and 354 (98.6%) believed that the optimal patient care is not received by the patient due to the nurses' burnout. A negative relationship was found between nurses' workload and quality of nursing care (R= -0.031, p<0.05). High workload of nurses' have a significant impact on poor quality nursing care and it is essential to address the issues of nurses' high workload to improve the quality of nursing care.

Keywords: Workload, quality, nursing care, nurses

OP 21 - Formulation of Herbal Cream Using Essential Oils of *Cymbopogon citrus* (Lemon grass) and Evaluation of Mosquito Repellent Activity against *Aedes aegypti*, *Anopheles stephensi*, *Culex quinquefasciatus*

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Background: *Aedes aegypti, Anopheles stephensi* and *Culex quinquefasciatus* mosquitoes are the major vectors for dengue fever, malaria, filariasis in Sri Lanka. The most of mosquito repellents presently available in the market are mainly prepared with active ingredients of synthetic origin and known to be harmful.

Objectives: Formulation of less toxic herbal cream and evaluation of in vitro mosquito repellent activity against *Aedes aegypti, Anopheles stephensi* and *Culex quinquefasciatus*.

Methodology: Oil in water emulsion based 10% w/w active ingredient cream was formulated by using lemon grass essential oils and evaluated for physical stability parameters (pH, odor, appearance, washability and colour) for 45 days at room temperature. The repellent efficacy of the cream was tested by trained panel at medical research institute in Sri lanka. Briefly, 1 g of herbal cream formulated was applied on the dosal hand area (25 cm^2) of the trained panel. The treated hand and untreated hand (negative control) were exposed to 100 caged, blood starved, laboratory breeded female mosquitoes of three species and repellency test was performed for 300 minutes after every 30 minutes.

Results and conclusions: The formulated cream was found to be homogenous, semi-solid, washable and white color with pleasant odor and pH was in the range of 6 to 7. Total protection without sitting or biting of all three species of mosquitoes was recorded to be 240 minutes for the formulated cream. A commercial herbal cream was tested as positive control and its protection for mosquitoes sitting or biting was only 30 minutes. The results suggested that the cream formulated with *C. citrus* essential oils has the potential mosquito repellent activity and can be commercialized as a new, safe repellent product to prevent *Aedes aegypti, Anopheles stephensi* and *Culex quinquefasciatus* bites.

Keywords: *Aedes aegypti, Anopheles stephensi, Culex quinquefasciatus, Cymbopogon citrus,* mosquito repellent

OP 22 - Evaluation of Phenolic Profile and in vitro Antioxidant Activity of Fruit Extract Obtained from Madan (*Syzygium cumini*) Grown in Sri Lanka

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Background: Natural antioxidants present in herbs, fruits and vegetables can bring substantial health benefits as dietary nutrition supplements and therapeutic agents.

Objectives: The aim of the present study was to evaluate phenolic profile and in vitro antioxidant activity of *syzygium cumini* (madan) fruit grown in Sri Lanka.

Methodology: Two different solvents namely, acidified 80 % aqueous methanol and acidified 70 % aqueous acetone were used to obtain the crude extracts from the fruit. Preliminary phytochemical screening of crude extracts was performed. Total phenol, total flavonoid contents and antioxidant activity were investigated using Folin-Ciocalteau method, aluminium chloride colorimetric method and 2-2-diphenyl-1-picrylhydrazyl (DPPH) assay respectively.

Results and conclusions: Preliminary phytochemical screening revealed the presence of carbohydrates, reducing sugars, flavonoids, phenolics and anthocyanins in each crude extract while alkaloids and saponins were absent. Total phenolic contents were determined as 1433.984 ± 35.649 and 1247.214 ± 65.979 mg Gallic acid equivalent (GAE)/100 g dry weight of edible fruit for acidified 80 % aqueous methanol and for acidified 70 % aqueous acetone respectively. Total flavonoid contents were 417.184 ± 16.687 and 355.722 ± 21.928 mgCatechin equivalent (CAE)/100 g dry weight of edible fruit for acidified 80 % aqueous methanol and for acidified 70 % aqueous acetone respectively. The promising antioxidant activity (2.326 ± 0.130 mmolTrolox / 100 g dry weight of edible fruit) was exhibited by the acidified 80 % aqueous methanol extract for DPPH assay followed by acidified 70 % acetone extract (2.047 ± 0.110 mmolTrolox / 100 g dry weight of edible fruit). The results of this study concluded that *S. cumini* fruit is a good source of antioxidants and further studies are needed for any other potential benefits, separation and isolation of individual antioxidant compounds.

Keywords: Antioxidant activity, *Syzygium cumini,* total flavonoid content, total phenol content

OP 23 - Counselling Patterns of Community Pharmacies when Dispensing Antibiotics

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Background: Antibiotic resistance has been identified as a significant health issue across the world. Inappropriate antibiotics prescribing by physicians, dispensing antibiotics without prescription and counseling by pharmacists and the misuse of antibiotics by patients make many populations "sick populations". It is recognized that community pharmacists have a major responsibility to counsel the patients before dispensing antibiotics.

Objectives: The aim of this study was to investigate counseling patterns of community pharmacies when dispensing antibiotics and to examine whether the community pharmacists demand a prescription when dispensing antibiotics in Galle.

Methodology: This was a simulated patient study involving community pharmacists/ pharmacy assistance who work in community pharmacies in Galle AGA division. Scenarios of specific product request (Erythromycin tablets, Ciprofloxacin tablets, Amoxicillin syrup) were presented by a simulated patient. Data was recorded by the simulated patient after purchase of each product.

Results and conclusions: Most of the pharmacists/ pharmacy assistance (72.0%) didn't demand a prescription for antibiotic dispensing. About 82.0% of the pharmacies visited had dispensed antibiotics without a prescription. Only 14% community pharmacies in the area have been taken the medical and life style history of simulated patients. Advice or counseling regarding antibiotics were given by only 24.0% of community pharmacies . The side effects of the antibiotics were not explained to the patient by almost all the the pharmacists/ pharmacy assistance when dispensing. Counseling patterns of community pharmacies in the area were very unsatisfactory. Major issues of dispensing antibiotics such as not demanding a prescription were common, and these issues needed to be addressed by health aothorities and policy makers to safeguard the patients.

Keywords: Antibiotics, counseling, dispensing, pharmacy

OP 24 - Fruit of *Opuntia dillenii* (katu pathok) as a Source of Natural Coloring Agent

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Background: The importance of natural coloring agents has arisen due to the harmful effects of the synthetic coloring agents.

Objectives: The present study was aimed to use riped fruit of *Opuntia dillenii* (katu pathok) as a source of natural coloring agent mainly for the preparation of flooda drink.

Methodology: Water extract was prepared from blended flesh pulp of *O. dillenii* riped fruits and was subjected to preliminary phytochemical tests. The in vitro radical scavenging activity of the extract was evaluated by using 2, 2-diphenyl-1-picrylhydrazyl (DPPH) assay. Betanin content, vitamin C content, total soluble solids, pH of the fruit pulp were also determined. Ready to consume falooda drink was prepared by using *O. dillenii* fruit extract as a natural food coloring agent. Paired preference sensory evaluation tests were performed between developed falooda drink and commercial falooda drink using 30 semi trained sensory panel. Five point hedonic scale was tested. Complete Randomized Design (CRD) was used as experimental design.

Results and conclusions: Preliminary screening tests revealed the presence of phenolic compounds, flavonoids, carbohydrates, anthocyaninin in the fruit extract. The radical scavenging activity was 38.30 ± 0.60 mmolTrolox equivalent/100 g dry weight of fruit extract. Quantity of betanin was found as 26.379 ± 0.225 g/L. Total soluble solids were determined using hand refractometer and expressed as 7.376 ± 0.045 % Brix value. The pH and vitamin C content of the fruit pulp were determined as 2.71 ± 0.06 and 8.612 ± 0.919 mg/100 ml respectively. No significant difference was observed between the new product and the commercial product for all the attributes namely, color, aroma, taste, mouth feeling, sweetness and overall acceptability. It is concluded that the fruit of *O. dillenii* is an excellent source of natural coloring agent in the preparation of drinks.

Keywords: Opuntia dillenii, radical scavenging activity activity, colouring agent, phenolics

OP 25 - Herbal Mouthwash with Potential Antioxidant Activity

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Background: Herbal mouthwash provides a viable alternative as they are alcohol-free, chemical free and contains time tested herbal oils and plant extracts that promote oral health.

Objectives: The aim of the present study was to formulate herbal mouthwash with potential antioxidant activity using freeze dried powder of 70% aqueous acetone defatted crude leaf extract obtained from *Buahinia racemosa* plant.

Methodology: Aqueous acetone (70%) crude extract was prepared by steeping method and partitioned with hexane to obtain defatted crude extract which was subjected to preliminary phytochemical tests. The total phenolic, total flavonoid contents of the extact were performed by using Folin Ciocalteu method and Aluminiumchloride method respectively. In vitro antioxidant activity was evaluated by using 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay. A herbal mouthwash with different formulations were prepared by incorporating the freeze dried powder of the leaf extract and subjected to evaluate in vitro antioxidant activity compared to two different commercial products. The physical parameters (pH, odor, appearance, homogeneity) were also tested for 14 days at room temperature.

Results and conclusions: Preliminary phytochemical screening revealed the presence of phenolic compounds, flavonoids, saponins, carbohydrates and reducing sugars. The results of the total phenolic content, total flavonoid content and antioxidant capacity measured by DPPH assay were 5244.353 mg GAE/100 g, 3704.488 mg CAE/100 g and 5.934 mmolTrolox equivalents/100 g dry weight (DW) of the leaves respectively. The formulated herbal mouthwash was found to be liquid, homogenous and red colour with pleasant odor. The pH of the mouthwash was found to be in the range of 6 to 7. It is concluded that the *B. racemosa* leaves have promising antioxidant activity and the formulated mouthwash should be further investigated to be commercialized as a herbal mouthwash with potent antioxidants.

Keywords: Antioxidant activity, *Buahinia racemosa*, DPPH assay, flavonoids, mouthwash

OP 26 - Formulation and in vitro Evaluation of a Face Gel with Seed Extracts of *Coriandrum sativum* L. for Acne Vulgaris

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Background: Acne vulgaris is one of the most prevalent chronic dermatologic pathological conditions in the world involving inflammation of pilosebaceous units (hair follicles and their accompanying sebaceous gland). It is characterized by follicular hyperproliferation, seborrhea, *Propionibacterium acnes* (an anaerobic bacterium that mostly resides in the pilosebaceous follicles of the skin) and *Staphylococcus aureus* infection and inflammation. Extracts of spices like seeds of *Coriandrum sativum* L. possess a diverse array of natural phytochemicals which play a vital role in bacterial infections, and consequently may have propitious anti-acne activity.

Objectives: The objectives of this study were to screen anti-bacterial effect of the seed extracts of *C. sativum*, develop a topical gel base and to formulate an anti-acne face gel against *P. acnes* and *S. aureus*.

Methodology: The gel base was prepared by using carbapol 940, phenoxy ethanol, EDTA, rose water and triethanolamine. The anti-bacterial effect of series of anti-acne gel formulations with three different concentrations of the seed extract of *C. sativum* was evaluated by agar well diffusion method. The agar plates were incubated in an anaerobic jar with a gas pack and an indicator for 48 hours under 37 ^{0}C to determine the anti-bacterial activity against *P. acnes*, and to determine the anti-bacterial activity against *S. aureus*, agar plates were incubated for 24 hours under 37 ^{0}C.

Results and conclusions: All gel formulations with the seed extract of *C. sativum* exhibited anti-bacterial effects against *P. acnes* and *S. aureus*. The zones of inhibition were observed as 7-9 mm and 7-11 mm against *P. acnes* and *S. aureus,* respectively. The observations demonstrate that all the topical gel formulations developed with the extract of *C. sativum* possess anti-acne activity and the effect becomes greater when the proportion of the extract in the formulation increases.

Keywords: Acne vulgaris*, Coriandrum sativum L., Propionibacterium acnes, Staphylococcus aureus*

OP 27 - Awareness on Risk of Using Agrochemicals among Farmers in Central Province, Sri Lanka

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Background: The use of agrochemicals instead of traditional organic farming methods to prevent infections and harmful pests in crops is on the rise. The farmers spend a lot of time exposed to these harmful agrochemicals. However, most of the farmers are not fully aware of the health risks and complications that pesticides can cause to them due to exposure to pesticides resulting from inadequate education, training and safety measures.

Objectives: The aim of this study was to identify health risk from use of agrochemicals and the methods of using them by farmers in the central province of Sri Lanka. Further, to assess the complications caused by use of agrochemicals and level of the first aid knowledge that farmers have to overcome harmful situations.

Methodology: A descriptive cross sectional study was done on farmers who are over 25 years of age, in the Central Province, Sri Lanka. A convenient sampling was used for the study with a self-administered data collection form based on a questionnaire.

Results and conclusions: Of 94 farmers participated, majority was between in the age group of 35- 55. 78% of them were using fertilizers and 57% were using insecticides. 83% used back pack spray as the application method. Only 7% were using goggles and 65% who used personal protective equipment stated that they did not have any complications. Overall 78.7% of the farmers were aware about risks of agrochemicals whilst 39% of the farmers who had education only till grade five, were not aware of the complications for their health by agrochemicals. 50% of the farmers were suffering with headache, 44.7% had dizziness while 32.7% had eye irritation. 40% of the farmers, who use agrochemicals weekly, has got health complications. 41.9% of them use washing away the burned place with water as a first aid. Most of the farmers were aware about the risks of agrochemicals but they do not use protective measures to prevent health risks. The awareness about the first aid knowledge was low among the study group.

Keywords: Agrochemicals, complications, insecticides

OP 28 - Antibacterial Screening of Chromatographic Fractions from Dichloromethane Crude Extract of Leaves of *Croton tiglium* (Japala)

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Background: Plant based medicines have over the years contributed to treat diseases and illnesses. Infectious diseases have become a leading cause for premature deaths worldwide. Evidence based validation of medicinal plants is the need of the day for developing better and safe antimicrobial agents. Chromatography is a significant analytical technique that plays an important role in natural product chemistry and it helps finding new therapeutic agents. *Croton tiglium* is a plant belongs to the family Euphorbiaceae that has a long role as traditional medicine.

Objectives: The current study was focused on the fractionation of crude ethyl acetate extract of *C. tiglium*, step by step visual demonstration of fractions and screening of antibacterial activity of those fractions.

Methodology: Crude extract was fractionated using a silica gel column chromatography eluted with hexane and ethyl acetate in stepwise gradients with increasing polarity. Antibacterial activity was evaluated by resazurin-based broth microdilution method against three bacterial strains; *Staphylococcus aureus*, *Escherichia coli* and *Pseudomonas aeruginosa*.

Results and conclusions: According to the results obtained, six fractions exhibited significant antibacterial activity against *S. aureus* and *P. aeruginosa* with minimum inhibitory concentration (MIC) in the range of 62.5- 125 µg/mL. Interestingly, four fractions showed significant activity against *S. aureus* while five fractions showed significant activity against *P. aeruginosa*. The high-performance liquid chromatography (HPLC) and nuclear magnetic resonance (NMR) data indicated the presence of low-polar metabolites in the extract; Thus, further studies are needed to isolate, purify and elucidate the structures of these metabolites.

Keywords: Chromatography, *Croton tiglium*, resazurin, *Staphylococcus aureus*

OP 29 - Formulation of Non-alcohol Based Hand Scrubs with Medicinal Plant Extracts and Evaluation of the Antimicrobial Efficacy

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Background: Hand hygiene is taken as an effective preventive measure to avoid spread of antimicrobial resistance.

Objectives: The aim of the study was to develop non-alcohol based hand scrubs using natural plant extracts and evaluate the antimicrobial efficacy against selective microorganisms.

Methodology: Two formulations (F_1 and F_2) of non-alcohol based herbal hand scrubs with medicinal plant extracts were prepared. F_1 formulation was prepared by the combination of clove oil and medicinal aloe while the F_2 formulation by the combination of cinnamon oil and medicinal aloe as the herbal extracts. Two positive controls and two negative controls were used. Health care professionals were randomly tested to identify the viable pathogens, which are present on hands. Among the identified microorganisms, antimicrobial activity was tested using agar well diffusion method against standard cultures of *Candida albicans* and *Streptococcus pyogenes* identified. The physical stability parameters (pH, odor, appearance and color) were measured for 90 days at room temperature.

Results and conclusions: F_1 and F_2 hand scrubs were found to be homogenous liquid and milky white in colour with a pleasant odor. The mean values of zones of inhibition of F_1 hand scrub were 34.67±1.16 mm and 21.00±0.00 mm against *C. albicans* and *S. pyogenes* respectively. The mean values of zones of inhibition of F_2 hand scrub were 21.00±3.00 mm and 12.33±0.58 mm against *C. albicans* and *S. pyogenes* respectively. The mean values of inhibition zones of negative controls (distilled water-N1, glycerin-N2) and 70% ethanol (positive control-P1) against *C. albicans* and *S. pyogenes* were zero (0.00) mm. The mean values of inhibition zones of the market product (positive control-P2) were 11.30±1.53 mm and 10.00±0.00 mm against *C. albicans* and *S. pyogenes* respectively. It is concluded that the formulated two non-alcohol based hand scrubs (F_1 and F_2) have promising antimicrobial activity against pathogens tested.

Keywords: *Candida albicans,* cinnamon oil, clove oil, non-alcohol based hand scrub *Streptococcus pyogenes*

OP 30 - Melanoma Skin Cancer Detection Using Image Processing and Computer Vision Algorithms

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Background: Skin cancer is a common type of cancer in the world. The incidence has been increasing rapidly all over the world; especially, in recent years, fairly rapid increment can be seen in melanoma skin cancer patients. Melanoma is a deadliest form of skin cancer, must be diagnosed earlier as soon as possible for effective treatment. For early diagnosis of melanoma a skin lesion should be segmented accurately. However, the segmentation of the melanoma skin cancer lesion using traditional approach is challenging due to the high number of false positives and time consuming in prediction. Hence, the development of automated computer vision systems are becoming as essential tools today.

Objectives: The aim of this study was to identify the specific cancer region accurately compared to traditional approach by examining existing systems, identifying the major issues of the systems and finding future directions.

Methodology: The proposed methodology was implemented the segmentation for melanoma skin cancer detection using image processing. A sample of 250 cancer affected patients' images were collected from Ethical Review Centre, University of Jaffna, Sri Lanka. The input for the system was the image of the skin lesion which was speculated to be a melanoma lesion image, was then pre-processed to upgrade the image quality.

Results and conclusions: According to our finding, the proposed approach could achieve 97.54% sensitivity, 97.69% specificity, and 97.56% accuracy. This tool is more useful for the rural areas where the experts in the medical field may not be available. Since the tool is user friendly and robust for images of any quality, it can serve the purpose of automatic probable diagnosis of the melanoma skin cancer. Finally, the proposed methodology is also a financially attractive solution, since it runs on ordinary computers, available in the hospitals too.

Keywords: Segmentation, canny edge, thresh holding, watershed

OP 31 - Pathogenic Bacterial Spectrum and Susceptibility Pattern in Adult Cancer Patients at Apeksha Hospital, Maharagama – Preliminary Findings

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Background: Infectious diseases are an important cause of death among cancer patients. The main risk factor for infection is neutropenia associated with chemotherapy.

Objectives: To determine the spectrum and the antimicrobial sensitivity pattern of the bacteria causing respiratory infections, skin and soft tissue infections (SST) and complicated Urinary Tract Infections (UTI) in cancer patients.

Methodology: Cancer patients who were given both immunosuppressive therapy and parenteral antibiotics, presented with respiratory infections, SST and UTI were included (n=55). Pathogenic bacteria were isolated from sputum, pus, urine, wound swabs and bronchio-alveolar lavage specimens.

Results and conclusions: Of the 55 patients, 25 (45.4%) had haematological malignancies and the rest had solid organ tumours. The most common infection was respiratory infection (43.6%). Majority of the infections were caused by coliform bacteria (61.8%) followed by *Staphylococcus aureus* (16.3%) and *Pseudomonas* species (10.9%). Of the 9 *S. aureus* isolates, 5 were methicillin resistant. Extended spectrum of β-lactamase production was detected in 20.4% of the coliform bacteria. Inducible clindamycin resistance was observed in one *S. aureus* isolate. Multi drug resistance Acinetobacter species was isolated from 4 patients with respiratory infections. One Acinetobacter isolate was resistant to all recommended antibiotics while the other three were only sensitive to colistin. Higher resistance rates were observed (>50%) for first line antibiotics in coliform bacteria. Resistance rates of coliform bacteria for imipenem/meropenem and piperacillin-tazobactam are 48.4% and 74.2% respectively. The highest sensitivity rate of coliform was detected for amikacin (71%). Coliform bacteria were more prevalent as a pathogen in adult cancer patients receiving immunosuppressive therapy. Antibiotic resistance is a main problem when selecting antibiotics for the treatment in this patient group.

Keywords: antibiotic resistance, cancer, coliform

OP 32 -Rational Use of Medicines by Patients in Galle Area

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Background: There are many adverse consequences of irrational use of medications. Irrational use of medications will reduce the quality of treatment which will result in increased morbidity and mortality, development of resistance to antimicrobial drugs and increased number of adverse drug reactions. World Health Organization established prescribing indicators and recommended values to promote rational use of medications.

Objectives: The aim of this study was to assess the rational use of medicines by patients who attended health care facilities (public & private) in Galle municipality area.

Methodology: A descriptive cross-sectional study was conducted at outpatient department pharmacy of Teaching Hospital and a selected community pharmacies with in Galle municipality area. Outpatient encounters treated for acute illnesses were included in the study. Data were collected prospectively using prescriptions and drug used was recorded in the indicator data collecting sheet.

Results and conclusions: Total of 400 prescriptions were analyzed. Average number of drugs per encounter was 2.88. The percentage of drugs were prescribed by generic name was 49.35%. Percentage of encounters with an antibiotic/s and percentage of drugs prescribed from essential drug list were 52.0% and 72.85% respectively. None of the encounters observed with an injection prescribed. The results of this study demonstrated that all the prescribing indicator values were far from recommended level of rational use by WHO. Specially, in terms of prescribing antibiotics and generic name of medicines.

Keywords: Prescribing indicators, rational use of medications

Poster Presentations

PP 01- Physical Care Domains among Institutionalized Elders in Sri Lanka: a Qualitative Study

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Background: "Elderly" has been defined as a chronological age 65 years old or older. Presently the population of people aged 60 years and above is increasing rapidly in the world. Residential care or personal care homes offer personalized service to small groups of elders. The quality of life of the institutionalized elders depend on quality of physical care they received.

Objectives: Identification of the physical care domains among institutionalized elders in Sri Lanka.

Methodology: Phenomenological study design was used to conduct the study. In-depth interviews (IDI) were conducted by the investigator in order to obtain the perceptions of physical care received by elders at the elderly homes after obtaining ethical approval from the Ethical Review Committee of the Faculty of Medicine, University of Ruhuna, Sri Lanka. Participants were recruited by convenient sampling technique at all the elderly homes in Galle Municipal area. Institutionalized elders (n=50) in Galle municipal area were recruited by convenient sampling method. Informed consent was obtained from the participants before starting the data collection. IDIs were transcribed verbatim. Data analysis was done manually using thematic analysis on the same day of the data collection.

Results and conclusions: Three domains of physical care were identified; care for generalized body pain; care for visual and hearing impairments and care for chronic disease conditions. There are three domains to address when providing physical care in order to improve the quality of life among institutionalized elders in Sri Lanka.

Keywords: Physical care, institutionalized elders, qualitative study, Sri Lanka

PP 02 - Impact of Diabetes Self-Care Management Education on Changing Self- Care Practices among Type 2 Diabetes Mellitus Patients

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Background: Diabetes self-care management education (DSME) facilitate all people with diabetes to improve knowledge, skills and ability to self-care themselves and sustain their behaviors required to manage their condition on an ongoing basis.

Objectives: This study was carried out to investigate the impact of DSME on changing self-care practices among Type 2 Diabetes Mellitus patients.

Methodology: This descriptive cross-sectional study was conducted among 50 voluntary diabetes clinic attendees at the Teaching Hospital, Peradeniya in early 2018. Data were collected using content validated, pre-tested, self-administered questionnaire which comprised of four essential self-care behaviors; medications, eating habits, physical activeness and risk reduction behaviors (foot care and regular blood testing). The questionnaire was administered prior to the DSME session (Pre-DSME) and one month following the session (post-DSME). Data were analyzed using descriptive statistics.

Results and conclusions: Most of the participants were males (n=29, 57%), married (n=57, 94%), employed (n=41, 84%), had oral hypoglycemic medications (n=42, 84%) while others had both oral medications and insulin. According to the findings of pre-DSME, the most known self-care behavior found among clinic attendees was compliance for hypoglycemic medications (94%) and it was reached to 96% at the post-DSME assessment. According to the finding of post-DSME session, there was an apparent improvement in regular testing of blood glucose (pre-DSME -32%, post-DSME - 86%), and in foot care (pre-DSME - 14%, post-DSME - 24%). However, there was very little improvement in other important self-care behaviors including physical exercises (pre-DSME - 62%, pre-DSME - 64%), and use of appropriate dietary patterns (pre-DSME - 52%, post-DSME- 60%). Medication compliance in this cohort shown to be sound good. Though findings show some improvement in regular monitoring of blood glucose status because of DSME, some important aspects of self-care management including, dietary pattern, physical exercises and foot care need to be encouraged through continuous education.

Keywords: Type 2 Diabetes Mellitus, self–care practices, diabetes self-care management education (DSME)

PP 03 - The Level of Dependence in Activities of Daily Living (ADL) of Patients with Stroke Admitted to Teaching Hospital, Karapitiya

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Background: Stroke is the third leading cause of disability worldwide. In Sri Lanka, it was reported as the most important cause of adult disability. The level of dependence is an independent predictor of the post-stroke Health-Related Quality of Life (HRQOL). Moreover, assessment of post stroke level of dependence is necessary when planning rehabilitation interventions. The Barthel Index has been widely used to assess functional outcome or activities of daily living of patients with stroke.

Objectives: This study was aimed to assess the level of dependence of patients with stroke.

Methodology: A descriptive cross-sectional study was conducted in Teaching Hospital, Karapitiya with the participation of 257 patients with stroke. The convenient sampling method was used to collect data. The BI was used to assess the level dependence. The maximal score is 100 indicating that the patient is fully independent in physical functioning. Patients were further categorized to totally dependent (score 0-20), severely dependent (21-60), moderately dependent (61-90) and slightly dependent (score between 91-99) based on the overall score. Propotions of the level of dependence were calculated using SPSS version 20.

Results and conclusions: The mean age of the participants was 66.05 (range 33-80 years), (SD±11.66) with two-thirds of the study sample comprising males [61% (n=157)] . Out of the study participants, 16.7% (n=43) were totally dependent for Activities of Daily Living (ADL). The percentages of severely dependent, moderately dependent and slightly dependent were 42.4% (n=109), 36.6% (n=94), and 3.1% (n=8) respectively. Only 1.2% (n=3) was completely physically independent at the time of discharge. The age and the quality of life scores were significantly correlated with the BI total score (p<0.05). High level of dependence at the time of hospital discharge emphasizes the need for proper rehabilitation care. The findings of this study suggest the necessity of implementation of community-based rehabilitation and post-stroke care facilities.

*Keywords***:** Stroke, level of dependence, activities of daily living, rehabilitation

PP 04 - Awareness of Palliative Care among Student Nurses in School of Nursing, Colombo

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Background: Palliative care (PC) consist of providing, comfort, support and quality of life to patients who are living with life threatening diseases. Each year there is forty million people who need palliative care.

Objectives: To assess knowledge, skills and attitudes of palliative care among student nurses in School of Nursing (SON), Colombo.

Methodology: The study was a descriptive cross-sectional study, conducted in the SON Colombo. Self-administered validated and pre-tested questionnaire was used to collect data from a convenient sample (n=137) of third year nursing students. It was prepared by the researcher according to the literature search and face validity of the questionnaire was done by subject experts. Sample calculation was done according to the Raosoft online sample size calculation method. Descriptive analysis was performed using Statistical Package for Social Sciences (SPSS) version 20. Ethical clearance was obtained by the International Institute of Health Sciences (IIHS).

Results and conclusions: Majority of the participants were female (96%). 100% of participants were Sinhalese. Mean age 23 yrs – 25 yrs (71%). According to the findings most (72.8 %) of the student nurses had satisfactory level of knowledge, 20.4% have good knowledge level and 6.8% have not heard about palliative care. Among the participants 50% had favorable attitudes and 50% had unfavorable attitudes about palliative care. When considering the practice of palliative care, 90.15% had experienced in terminal ill patient care, 64.12% had not discussed about the death of the patient, 79.41% felt uncomfortable when discussing about death, 97% had never experienced on PC practice. According to the finding of the study, more learning hours of palliative care should be added to the Diploma in nursing curriculum.

Keywords: Palliative care, student nurses, nursing school

PP 05 - Practices of Nurses on Specimen Collection for Bacteriological Cultures (Blood, Urine and Wound Swabs) at A Tertiary Care Hospital in Southern Province of Srilanka

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Background: Culture tests perform a major role in the diagnosis and treatment of the infective diseases. The practices of nurses and health care staff have a greater impact on proper culture sample collection in order to avoid contamination, reduce errors and harmful events.

Objectives: To assess practices of nurses on specimen collection for bacteriological cultures.

Methodology: A descriptive cross sectional study was carried out involving 73 nurses working in medical, surgical and paediatric wards and special care units at Teaching Hospital Karapitiya. Blood, urine (from catheterized and non-catheterized patients) and wound swab collection procedures were observed and assessed in 20, 20, 20 and 13 nurses respectively using check lists. Data were analysed using SPSS version 20.

Results and conclusions: Just above 1/3 of (40%) participants followed 10 or more steps (out of 14 steps) correctly in the blood culture collection procedure. Regarding urine culture collection 95% (n= 19) nurses instructed patients to obtain mid stream sample and all the nurses were able to select the correct container. When collecting catheter urine samples 75% (n=15) followed more than 6 out of 8 steps correctly and 95% (n=19) of the time sterile gloves were used. About 52% (n=7) participants removed surgical exudate with sterile normal saline and 92.3% (n=12) participants practiced surgical hand washing before collecting wound swabs for culture. In overall, the practices of nurses on specimen collection for bacteriological cultures are good. There are some aspects still to be improved.

*Keywords***:.** Practices, nurses, culture specimen collection

PP 06 - Assessing the Perception and Practices towards Antimicrobial Stewardship among Community Pharmacists in Western Province of Sri Lanka

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Background: Antimicrobial stewardship (AMS) is defined as a coordinated program that promotes the appropriate selection, dosage, and time period of antimicrobial treatment for treating or preventing infections caused by multidrug resistant organisms that result in improved clinical and patient outcomes.

Objectives: Main objective was to assess the perception and practices towards Antimicrobial Stewardship among Community Pharmacists in Western Province, Sri Lanka.

Methodology: Descriptive cross sectional study was carried out and a self-administered questionnaire was used on community pharmacists. Convenience based sampling method was used and the targeted study population was 100 community pharmacists in the Western Province. A questionnaire including 25 close ended questions was used and data was collected by researcher himself on face to face basis at the community pharmacies.

Results and conclusions: Among the 84 participants, 76.2% of the community pharmacists were unaware on Antimicrobial Stewardship program and concept. Approximately 64.3% of the participants agreed that AMS reduces the antimicrobial resistance. All participants agreed that more educational activities, conferences and workshops should be implemented to build awareness on antimicrobial use and that AMS should be incorporated at community pharmacy level. Majority of the participants (69%) believed that AMS program helps healthcare professionals to improve the quality of patient care. Most of them (58.3%) dispense antimicrobials on prescription with complete clinical information. Rarely (64.3%) sought additional clinical information before dispensing while 67.9% of them rarely ask the patients about their knowledge of prescribed antimicrobial usage. Half of the participants does not collaborate with other healthcare professionals and take part in awareness campaigns on AMS. Therefore this research finding shows that majority of community pharmacists show positive perception and practices on AMS. More awareness programs and education should be given to them on AMS.

Keywords: Antimicrobial stewardship, resistance, awareness, community pharmacists

PP 07 - Comparison of Measurement of Plasma Glucose Using In-House Glucose Reagent and Commercial Glucose Reagent on a Fully Automated Biochemistry Analyzer

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Background: Estimation of plasma glucose using glucose oxidase/peroxidase is one of the most frequently used assays in clinical biochemistry laboratories. Although, commercial reagents are widely used, for large scale analysis, use of in-house reagents can be more cost effective.

Objectives: To compare the performance characteristics of a specific in-house glucose reagent (glucose oxidase/peroxidase) with commercial glucose reagent (glucose oxidase/peroxidase) on a fully automated biochemistry analyser and also to assess the stability of the specified formula of the in-house glucose reagent.

Methodology: In this study, 200 retained blood samples received for estimation of plasma glucose were analysed using the in-house glucose reagent and the commercial glucose reagent within 6 hours of collection on fully automated biochemistry analyzer. The analyzer was simultaneously loaded with both reagents and calibrated with the same commercial calibrator. Daily two levels of Internal Quality Controls and monthly External Quality Assurance samples were run to assure the precision and accuracy. Stability of the in-house reagent was assessed within a period of three months.

Results and conclusions: Mean values of the in-house glucose reagent and the commercial glucose reagent were 142.28 and 141.44 mg/dL; respectively (P= 0.001) and showed a positive correlation of 0.9993. There was no significant difference between the two methods in the range between 0-300 mg/dL (P >0.05). The in-house reagent showed a slightly higher glucose concentration compared to the commercial reagent in patients with glucose levels above 300 mg/dL which was statistically significant (P= 0.007). The agreement between two methods was compared using Bland-Altman plot and it showed a positive bias of 0.835 in the range from 0-500 mg/dL. Accuracy, sensitivity and specificity of the in-house reagent were 96.5%, 96.15% and 97.14%; respectively. The reagent was stable for three months period at 2-8 ˚C. Performance of in-house glucose reagent is well correlated with that of commercial reagent for the range up to 300 mg/dL.

Keywords: Commercial glucose reagent, fully automated analyzer, in-house reagent, plasma glucose measurement

PP 08 - Beggar's Impact on Sociological Development in Colombo District, Sri Lanka

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Background: During the past decade, the beggar population in Sri Lanka has been increasing at a rate of nearly 1,000 a year. By 2002, two thousand seven hundred child beggars could be identified and it has inclined to 2800 by 2006 especially in Colombo area. Beggars seem to have a negative impact to the country such as increasing the poverty of the country, reducing individual income, negative impact on the tourism industry and increase the rate of drug abusers in Sri Lanka. Hence, assessing their impact on sociological development in Colombo district is significant.

Objectives: To assess the beggar's impact on sociological development in Colombo District, Sri Lanka.

Methodology: A descriptive qualitative study was done on 13 beggars until the point of saturation was achieved in Colombo district using convenience sampling through one to one interview with the participants.

Results and conclusions: Majority of the beggars had at least a minor amount of literacy. However some had never been schooled due to lack of enrolment or bunking school. The vast majority have been begging at least more than three years. Moreover, most of the beggars are unaware of the conditions they have regarding health. Certain respondents however, have diagnosed as having phlegm, asthma hyperlipidaemia, hypertension and vision problems. Majority of participants refuse to take free government health services currently, though they have been using those services at the initial stages. Major amount of the participated beggars earned an income to spend on the medicine and their other basic needs via begging. A few of them had other sources of income such as part-time jobs or support from family. Respondents were earning money ranging from Rs. 100 to Rs. 2000 per day. Furthermore, most of the respondents stated that public perception towards begging is irrelevant.

Keywords: Beggars, sociological

PP 09 - Contributory Factors of Patient Satisfaction with Nursing Care; a Phenomenological Study

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Background: Patient satisfaction is a complex process having many contributing factors to the degree of satisfaction. Satisfaction of a patient has become a critical task due to increased educational status and changing the roll of the patient from passive user to active participants.

Objectives: This study aimed to explore the contributory factors of patient satisfaction with nursing care in surgical-medical wards of Teaching Hospital Karapitiya.

Methodology: In this phenomenological study, experiences were explored through the purposive sample of key informants including two nurses, two middle and lower level nurse administrators and a nurse educator. Data were collected through in-depth interviews with semi-structured interview guide in August 2018. They had 23-26 years experiences in nursing. Interviews were audiotaped and transcribed verbatim. Data were coded and analysed using thematic analysis (hermeneutic approach). Trustworthiness was maintained throughout the study.

Results and conclusiona: Three major themes and nine sub themes emerged associated with patient satisfaction. Patient factors, nurse factors and organizational factors were the key themes. Subthemes of patient factors included attitudes and needs of the patients. Nurse factors included soft skills, nurses' education, caring behaviours, and nurses' satisfaction. Subthemes of organizational factors included nurses' workload, physical condition of the hospital and organizational culture. One of the participants stated that patients do not expect more. However, key informants were in the view that patients' dignity should be maintained. Some needs of the patients according to key informants were warm welcome and opportunity to charge mobile phones. Nurses were knowledgeable and technically competent, but soft skills including caring behaviour affect with patients satisfaction adversely. Satisfaction of the patients depends on the factors related to patients, nurses and organization. Satisfactory surveys, improvement of organizational culture, update knowledge of nurses and behavioural change of nurses will increase patient satisfaction.

Keywords: Phenomenology, patient satisfaction

PP 10 -Awareness of Symptoms of Chickenpox and its Management among Housewives in Ranala Area

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Background: Sri Lankan epidemiological reports, demonstrate strong evidence of a high level of susceptibility for Varicella Zoster Virus (VZV) infection or chickenpox among the adult population in Sri Lanka.

Objectives: Specific objectives of the study were, to describe the awareness of the housewives in Ranala area on symptoms and transmission of chickenpox and practices with regard to management and prevention of chickenpox.

Methodology: This descriptive cross-sectional study was conducted among randomly selected sample of 200 housewives in Ranala area, using an interviewer administered questionnaire.

Results and conclusion: Prevalence of chickenpox was 4% within two years in the area. More than 90% (n= 184) was aware about the symptoms of chickenpox irrespective of their education level or occupation. Almost all the participants (n=198) knew that chickenpox was a communicable disease and 46.5% knew that the causative organism is a virus. Nearly 80% knew that the mode of disease transmission is droplets and more than half of the participants over 35 years, avoided from unnecessary contact and avoided bathing until 7 days. Sleeping on Margosa leaves was the commonest traditional treatment practice known to participants (40.5%). Two third of participants refused providing a nutritional diet to the patient. Nearly 70% of participants knew about both pharmacological treatment and vaccine while 17% knew neither treatments nor vaccines. Majority of women knew that the vaccine for this is not available in the child welfare clinics (95%) or the school (99.5%) when 45.5% of women knew that the vaccine is available in the private hospitals. The elder women (>35 years) still follow traditional practices for curing and prevention of chickenpox than younger women (<35 years). Majority in the study population was aware of the symptoms and transmission of chickenpox, but the awareness with regard to treatment and the availability of the vaccine was less. Providing information about modern practices, treatment options and vaccines are some important means of reducing prevalence of chickenpox among public.

Keywords: Awareness, chickenpox, housewives, management, symptoms

PP 11 - Prescription of Antibiotics for Patients with Symptoms Suggestive of Influenza and Common Cold for less than Three Days in Outpatient Department at Teaching Hospital Karapitiya, Galle

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Background: Irrational use of antibiotics can cause adverse drug reactions, treatment failure and drug resistance. It is a known fact that antibiotics are often used for viral infections such as common cold and influenza. However still acute respiratory infections are a common reason for unnecessary prescription of antibiotics.

Objectives: To assess the prevalence of antibiotic usage among patients with symptoms suggestive of influenza and common cold for less than three days who received treatment from the outpatient department (OPD) of Teaching Hospital Karapitiya (THK), Galle

Methodology: This descriptive cross sectional study was conducted among 612 patients attending the OPD of THK. Convenient sampling was used to select participants for the study. A pre-tested interviewer administered questionnaire was used to collect information.

Results and conclusions: Antibiotics have been prescribed to 71.9% (n=440) of patients from the total sample. Amoxicillin (80.7%) was the most commonly prescribed antibiotic for patients. Antibiotic prescription for youngers (≤12yrs) was less than for older persons (>12yrs). Sore throat 69.3% (n=305), runny nose 54.5% (n=240), cough 82.7% (n=364) and hoarseness 46.8% (n=206) were frequently considered symptoms for prescribing antibiotics. Although there was no relationship between duration of symptoms and antibiotic prescription (p>0.05), there was a relationship between presenting symptoms and antibiotic prescription (p<0.05). There were 72.7% (n=227) of patients prescribed with antibiotics when symptoms presented less than 48 hours (n=304), 70.9% (n=221) were prescribed from symptom presented more than 48 hours (n=320). Results revealed high frequency of antibiotic prescription for symptom suggestive of viral infections. Duration of symptoms do not affect on prescribing antibiotics. Amoxicillin was the most commonly used antibiotic for these patients.

Keywords: Antibiotic, common cold, influenza like symptoms

PP 12 - Exploration of the Experiences of Family Care Givers towards End of Life Care of the Patients with Cancer

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Background: Cancer is an uncontrolled growth of cells in the body. It gradually leads to major health problems, that makes the person dependant on another. It affect both patients and their families adversely especially in the stage of their end of life.

Objectives: To explore family care givers experiences towards the end of life care of the patients with cancer who have registered in palliative care unit of the Teaching Hospital, Karapitiya.

Methodology: Fifteen care givers were selected purposively those who have registered and followed up by the Palliative care unit of Teching Hospital Karapitiya. These family care givers were interviewed at their home residences those who resided in the Galle urban area, those who aged between 35 to 50 years. This was conducted as a phenominological study. Data was collected by interviews with semi structured questionnaire guide from February to April 2018. Thematic analysis was used to analyse data. Ethical approval was obtained from the ethics review commitee of Faculty of Medicine, University of Ruhuna.

Results and conclusions: Five themes emerged from the data, they were, horrible experiences, experiences beyond the reality (religious beliefs and traditionl healing methods), social life changes, loss of strength and heart touching feelings. Deadly feeling of cancer and body image changes were sub categories of the theme horrible experince. Belief on religious concepts and traditional healing methods were sub categories of the theme of beyond the reality. Under the theme of social life changes, lack of family support and reduction of family income were identified sub categories. Moreover feeling tired and sleep pattern changes were the sub-categories emerged under the theme of loss of strength.Ultimately under the theme of heart touching feelings, fear of loosing loved ones and excitement of being a care giver were identified as sub-categories. According to the findings, care givers of cancer patients presented with adverse negative experiences such as horrible experiences, social life changes, loss of strength, experiences beyond the reality and heart touching feelings that has occured due to the end of life care provided by the family care givers by themselves, which lead to affect the life of the care givers adversely. Hence it is recommended to prepare them with pre educational programes before take them as the care givers.

Keywords: End of life care, family care givers, experinces, cancer

PP 13 - Knowledge, Attitudes and Practises regarding wafarin Therapy, among the Patients at Sri Jayewardenepura General Hospital

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Background: Warfarin is the most commonly used oral anticoagulant that requires frequent laboratory monitoring to ensure optimal therapeutic outcomes and to minimize bleeding complications. Hence Patients on wafarin therapy are more prone to face fatal incidents due to lack of awareness.

Objectives: To explore the knowledge, attitudes and practices on warfarin therapy, among the patients at Sri Jayewardenepura General Hospital.

Methodology: A descriptive cross-sectional study was conducted at hematology, cardiology, cardiothoracic electrophysiology clinics and cardiology, cardiothoracic wards at Sri Jayewardenepura General Hospital, during six weeks period on January to February, 2018. Patients were recruited according to the convenient sampling method (n=200). Ethical approval was obtained from the Ethical Review Committee of Sri Jayewardenepura General Hospital. A self administrated questionnaire was used for data collection.

Results and conclusions: The response rate was 98%. More than half (58%) were males. Considerable amount (58%) had accurate knowledge about the drug effect. More than half (52.5%) knew, high International Normalized Ratio (INR) levels may caused to increase risk of bleeding and 53% knew low INR levels may caused to increase risk of clotting. One hundred and twenty one (60.5%) patients answered that women need observation for extra bleeding during menstruation. Majority (75.5%) agree with small amount of spinach taking better than avoiding them and 76% have adequate attitude about safety measures that we should be taken before driving while on warfarin. Less than half (49.5%) have not adequate practices to take an action when making big change in diet and 45.5% respondents have not adequate practices and concern to avoid walk on wet floor or slippery places. More than half of the patients have good knowledge and attitudes on warfarin therapy, while less than half showed poor practices. Sri Lankan health care workers should educate patients on warfarin to improve patients' awareness on warfarin therapy.

Keywords: Warfarin, knowledge, attitudes, practices

PP 14 - Mother's Knowledge about Childhood Diarrhoea and Its Management in Balangoda MOH Area: Cross Sectional Community Based Study

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Background: Diarrhoea which is more common among young children is one of the major health concerns in Sri Lanka. This disease can be managed easily in primary home care level without hospitalization or advice of professionals. Mother is the primary care giver of youngers. Hence it is important to assess the mothers' knowledge and ability to manage it at home care level.

Objectives: To assess mothers' knowledge about childhood diarrhea and its management.

Methodology: A community based descriptive cross sectional study was conducted among 400 mothers who have children in 1-5 age group in Balangoda MOH area. Simple random sampling technique was used to select participant. Self-administered questionnaire was used to collect the data. Mothers who were not willing to participate in the research study were excluded from the study. Data were analysed using SPSS (21 version) software. Ethical clearance was obtained from the ethical review committee of Faculty of Medicine, University of Ruhuna.

Result and conclusions: Mean age of the study sample was 30.98±4.954 years and 50% mothers had educated upto O/L. Majority of mothers' (93.3%) had adequate knowledge of homecare management on the childhood diarrhea. Most of them have got this knowledge from public health midwives (87.5%). Among the different knowledge aspects, the knowledge of cause of childhood diarrhea (p=0.006) was significantly associated with the higher maternal age but the overall knowledge and home care management were not associated with the maternal age (p=0.076). But overall knowledge and homecare management (p=0.000), knowledge of causes of childhood diarrhea (p=0.005) knowledge of severe symptoms of dehydration (p=0.003) and knowledge of ORS (p=0.002) significantly associated with higher maternal educational level. This study reveals that considerable number of mothers had adequate overall knowledge about child hood diarrhea and it's management. But it is very important to plan educational interventions to improve their knowledge furthermore based upon their educational level.

*Keywords***:** Childhood diarrhea, dehydration, mothers knowledge, oral rehydration solution

PP 15 - Knowledge on the Management of Upper Respiratory Tract Infections: A Comparison between Health and Non-Health Science Undergraduates in University of Ruhuna

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Background: Prevalence of upper respiratory tract infections (URTIs) is high among university undergraduates due to easy spreadability which drives them for self-medication.

Objectives: To compare the knowledge between health science (HS) and non-health science (NHS) undergraduates on the management of URTIs.

Methodology: A cross-sectional study was conducted in four NHS faculties and Faculty of Allied Health Sciences in University of Ruhuna. Data were collected from 400 NHS and 100 HS students who were studying in 3rd and 4th years, using a self-administered questionnaire. Recent history of URTIs and Knowledge related to antibiotics, URTIs, spreadability of URTIs and antibiotic resistance were assessed. Score of 1 was given for each correct response while 0 was given for wrong and uncertain responses (Range:0-14).

Results and conclusions: Majority of NHS students were aged 23 (34.2%), males (51.3%) while majority of HS students were aged 24 (34%), females (79%). Most of NHS students (30%) had URTIs twice during last 6 months period, but it was more than four times in HS students (28%). Common cold was the most common symptom among both groups during last episode of URTIs (~70%). 32% of the NHS students usually take antibiotics without a prescription when they develop URTIs and it was 28% in HS students. The median total knowledge score was 6 in NHS students while it was 11 in HS students. There were significant differences in knowledge with gender (p=0.003), faculty of participant (p<0.001), profession of the participants' parent (p=0.005) among NHS students and academic year (p=0.013) and monthly family income (p=0.019) among HS students. HS students had moderate knowledge on management of URTIs and the knowledge of NHS student was poor. Nearly 30% of HS and NHS undergraduates have taken antibiotics without prescriptions. Both HS and NHS undergraduates should be educated about the danger of antibiotic self-medication.

***Keywords*:** Health science, knowledge, non-health science, URTIs

PP 16 – *In vitro* Thrombolytic Activity of Flowers of *Nerium oleander* (Kaneru)

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Background: Thrombosis leads to many severe complications including myocardial infarction, deep vein thrombosis by blocking the blood flow through the circulatory system. Thrombolytic agents such as streptokinase, urokinase are used to dissolve the thrombus formed inside blood vessels, however, those possess some limitations. In indigenous medicine, herbal products are used in the treatment of various diseases. *Nerium oleander* (kaneru) is widely employed in traditional medicine to treat cardiovascular disorders. A preliminary screening of several plant extracts for the thrombolytic activity has revealed that the flowers of *N. oleander* is a good thrombolytic agent, thus the present study was conducted as a continuation of our previous investigation.

Objectives: The objective of the present study was to determine the concentration of *N. oleander* extract responsible for the maximum thrombolytic activity and to compare its efficacy with the positive control streptokinase.

Methodology: Four concentrations (0.5, 1.0, 5.0, 10.0 mg/mL) were prepared from the methanolic extract *N. oleander*. Using the blood of selected sixteen individuals, in-vitro thrombolytic activity was assessed where streptokinase (150,000 IU) was used as the positive control and normal saline as the negative control. The clot lysis percentage was calculated using weight reduction of the blood clot in comparison to the initial clot weight.

Results and conclusions: The mean clot lysis percentages at 0.5, 1.0, 5.0 and 10.0 mg/mL concentrations were determined as 6.09%, 6.37%, 6.68% and 19.26% respectively in comparison to streptokinase (23.74%) and normal saline (1.11%). Our observations revealed that 10 mg/mL is the concentration resulting the highest thrombolytic activity and there is no significant difference between mean clot lysis percentages of streptokinase and *N. oleander* extract. Therefore, 10.0 mg/mL concentration of methanolic extract of flowers of *N. oleander* has a good thrombolytic ability, however, further investigations on its chemical and toxic properties are required before developing it as a therapeutic agent.

*Keywords***:** *Nerium oleander*, streptokinase, thrombolytic
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PP 17 - Antimicrobial Effect of Four Medicinal Plants used in Unani Medicine on Selected Bacterial Pathogens

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Background: Infectious diseases have been a leading course of morbidity and mortality in the world. In western medicine antibiotics are used in the treatment of infectious diseases for decades. However, treatment with the antibiotics have become difficult, ineffective and complicated due to the increasing prevalence of multi - drug resistance in pathogenic microorganism as well as the undesirable side effects of antibiotics. Hence, there is a dire need to discover new antimicrobial agents with novel mechanism of action for new and re – emerging infectious diseases. In this respect, the plants used in Unani medicine could be explored as a potential source of new antimicrobials.

Objectives: The aim of this research is to identify the antimicrobial effect of four medicinal plants used in Unani medicine, i.e. *Cissus quadrangularis* (Heerassa), *Vernonia cinerea* (Monara kudumbi), *Mimosa pudica* (Nidikumba) and *Mikania cordata* (Vatupalu) against *Escherichia coli, Staphylococcus aureus* and *Pseudomonas aeruginosa.*

Methodology: The antimicrobial activity of the methanolic extracts of above plants were tested against standard cultures of *E.coli*, *S. aureus* and *P. aeruginosa* by the disc diffusion method according to CLSI guidelines. Ciprofloxacin (5 µg) and dichloromethane soaked filter paper discs were used respectively as the standard drug and negative control. The broth dilution method was employed to determine the minimum inhibitory concentration (MIC). Then minimum bactericidal concentration (MBC) was identified by plating the content of microplatewells in agar plates.

Results and conclusions: Only the methanolic extract of *M.cordata* showed zone of inhibition against *E. coli* and *S.aureus* in disc diffusion method at the defined concentration of 2000 µg /mL. However, the broth dilution method resulted antibacterial effect in all four plant extracts with MIC of 250 µg /mL against *S.aureus*, 62.5 µg /mL against *E. coli* and 500 µg /mL against *P. aeruginosa*. Therefore, the results of this study have shown that each tested plant extract exhibit antimicrobial activity agaisnt the tested bacteria

*Keywords***:** antibacterial effect, plant extract, disc diffusion technique, zone of inhibition, minimum inhibitory concentration

PP 18 - Risk Factors Associated with Road Traffic Accidents in People who are Admitted to the Accident Service in National Hospital Sri Lanka

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Background: Road traffic accident (RTA) is defined as "collision or incident that may or may not to lead injury, occurring on a public road and involving at least one moving vehicle". Victims of road traffic accidents, lose their lives on the road every day and many more left with disabilities or emotional scars that they will carry for the rest of their lives. RTA represents significant causes of morbidity and mortality in both developed and developing countries. Assessment of the risk factors associated with road traffic accidents is vital to prevent RTA.

Objectives: To assess the risk factors associated with road traffic accidents in people who are admitted to the accident service in National Hospital Sri Lanka (NHSL).

Methodology: Descriptive cross-sectional study was conducted among sample of randomly selected 267 victims of road traffic accidents using interviewer administered pre tested questionnaire.

Results and conclusions: Majority of the victims were males (85.4%), belong to 13- 30 age group (48.9%). Common vehicle types used by the victims were motorbikes (44.6%), three-wheelers (34.8%), vans (10.1%). Most of the victims were drivers (76.9%) and they reported that the speed of the vehicle when the time of accident were of 61 kmph- 80 kmph (33.3%) and 81 kmph- 100 kmph (33.4%). More than half of the accidents occurred in mild traffic conditions (57.7%) and dark light condition (52.1%). Most of the victims obeyed to the road traffic rules and regulations such as wearing helmets (94%), Seat belt use (93.6%), avoid phone use while driving (85.8%), not driving under the influence of alcohol (85%). Risk factors for road traffic accidents were high speed, driving motorbikes, three-wheelers and poor environment conditions such as dark light conditions.

*Keywords***:** Factors, road traffic accidents, NHSL

PP 19 - Hypoglycaemic Potential of Ethyl Acetate-Soluble Fraction of Mature Fruits of *Averrhoa carambola* (Star Fruit) on Normal Glycaemic Rats

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Background: *Averrhoa carambola* (star fruit) or "kamaranga" is a popular antidiabetic fruit. The hypoglycaemic activity of fruit pulp and leaves were well proven, with different in-vitro and in-vivo methods. Determination of the hypoglycaemic effect of several fractions of the fruit, including ethyl acetate (EA) soluble fraction remains as an unmet challenge.

Objectives: The objective of this study was to determine the hypoglycaemic effect of EA fraction of mature fruits of *A.carambola* on normal rats by assessing the alterations of post-prandial metabolism and the in-vivo α–amylase inhibitory activity.

Methodology: The EA soluble fractions were extracted from fresh fruits of both sweet and sour varieties separately. The study was designed as an animal experiment, which was conducted using 10 adult, male Sprague-Dawley rats with normal blood glucose levels. Animals were divided equally (n=5) into test and control groups. After 10 hours fasting, the test group was given ethyl acetate soluble fraction at the rate of 30 mg (dry weight)/kg body weight. The oral glucose tolerance test (OGTT) and oral starch tolerance test (OSTT) were done (for both varieties separately) and results were analysed. Parallel to this study an in-vitro study was conducted by another researcher.

Results and conclusions: In OSTT, sweet type treated group decreased peak blood glucose (PBG) level, area under curve (AUC), blood glucose levels (BGL) at 60 min and 90 min significantly ($P < 0.05$). In OGTT, both test groups did not produce significant reduction of PBG or AUC, while showing a significant reduction in BGL at 60 min (in sweet type). In-vivo α–amylase inhibitory activity could be predicted using OSTT which may be caused by delayed digestion of starch and/or prolonged carbohydrate absorption. Also our concurrent in-vitro study had shown a 19% α–amylase inhibition of EA extract of sweet type which comply with this in-vivo observations. Therefore, EA extract of sweet type may have contained some phytochemicals which are responsible for starch tolerance. Thus, isolation and recognition of phytochemicals responsible for α–amylase inhibitory activity may result in successful therapeutic approach against diabetes mellitus in future.

Keywords: *Averrhoa carambola*, ethyl acetate soluble fraction, hypoglycaemic activity

PP 20 - Explore the Socio-economic Issues on Garbage Collectors in Gampaha District, Sri Lanka

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Background: Garbage collectors clear up all house hold garbage. They spend most of their time on roads and interact with the society. Society's negative perception towards them most likely comes from the work they do. But no one pays attention focusing or investigating on the life of garbage collectors, how they work, how they spend time, what they do apart from this job, how about their family support and their social interaction.

Objectives: The objectives were to investigate the social life of garbage collectors in Gampaha District, Sri Lanka and to investigate their social problems and quality of life.

Methodology: Qualitative, one to one in-depth interview method was used to conduct the study using convenience sampling in Gampaha District. The data saturation point was reached at 20 participants. Data analysis was conducted using thematic analysis and data was disseminated thematically.

Results and conclusions: Majority of the participants belong to the age 41-50 years (70%). Moreover, among the total participants, 14 participants were male. 13 participants studied only up to grade 8 while minority studied up to ordinary level. Out of 20 participants, 12 worked twelve hours per day. Majority of the participants had more than fifteen years of experience in their field. Among the total candidates, most of them do not engage much in leisure activities. Most subjects stated that they satisfy about their salary and also their families are more supportive and happy about the job. Out of 20 participants, 12 of them mentioned that they faced social discrimination while working. Discrimination affects their psychosocial well-being. They don't receive the respect they deserve. They chose this job due to the privileges they get later in the life like pension, over time. And also as they cannot get another job from their qualifications.

Keywords: Economic, garbage collectors, social problems

PP 21 - Sleep and Wake Habits with Academic Performances of Allied Health Sciences Students of Selected Universities in Sri Lanka - A Comparison Study

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Background: Allied Health Sciences students are a unique group of students found in university system and health care system. Although ample sleep is very important for physical and mental fitness of healthy beings, sleeping may be deprived due to academic and clinical commitments. It may lead to memory impairment and, poor academic and psychomotor performances. Hence, it is a concealed problem among students that has not been recognized as a problem.

Objectives: To compare sleep and wake habits with academic performances of Allied Health Sciences students of selected universities in Sri Lanka.

Methodology: This descriptive cross sectional and comparative study was conducted with 292 Allied Health Sciences students in University of Ruhuna and University of Peradeniya. All students except first year students and new comers were invited for the study. Data was collected using a pre tested self-administered questionnaire and academic performance was assessed by GPAs of students at the end of the first year. Data was analysed using SPSS 21 software. Ethical clearance was obtained from the Ethical Review Committee of Faculty of Medicine, University of Ruhuna.

Results and conclusions: In our study, majority of students were female (81.2%). Mean Grade Point Average for the whole sample was 2.59 ± 0.51. According to Chi – square test, Fragmentation of sleep ($P = 0.031; P < 0.05$), poor sleep health (having sleep problems) ($P = 0.042; P < 0.05+$) had significant relationships with GPA. Spearman's correlation was used to measure the relationship between those two aspects with GPA. According to the Spearman's correlation, Fragmentation of sleep ($P = 0.002; P < 0.01$), poor sleep health (having sleep problems) ($P = 0.005; P < 0.01$) had significant relationships with GPA. Therefore, it can be concluded that there is a significant relationship between sleep wake habits and the academic performance. This relationship is completely independent of the university. The findings may show the traditional sleeping patterns of the Sri Lankan students. Further, students suffering from any kind of sleeping problems were more proned to have low grades at the examinations than who did not have any sleeping problems.

Keywords: Academic performances, Allied Health Sciences students, Grade Point Average

PP 22 - Selection of Traditional Bone Setting Treatments Following Fractures among Patients Attending Ayurvedic Treatments Centers in Akuressa area

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Background: Sri Lanka is a historical country claiming for a valuable Ayurvedic Medicine culture, which extends to the traditional bone setting (TBS) treatments for the management of low energy fractures (LEF).

Objectives: This descriptive cross-sectional study was aimed to determine the incidence of selecting TBS treatments as the first choice following LEF and associated factors for such selection among patients attending ayurvedic treatments centers in Akuressa area.

Methodology: An interviewer administered questionnaire was administered among 205 patients who attended to three randomly selected ayurvedic treatments centers in Akuressa Grama Niladari division during March – April 2018.

Results and conclusions: Most of the study participants were males, aged between 61-89 years, unemployed and had only primary education. The incidence for selecting TBS for LEF as the first choice of treatment was 70.7% during the period of study. The common LEF patients who came for the TBS during this month, were lower and upper limb fractures (54.6%) occurred due to the road traffic accidents (49.3%). Among the evaluated sociodemographic factors, only the age (p=0.01) and marital status (p=0.02) were significantly associated with the incidence rate of selecting TBS as first line treatment for LEF. The common factors lead to the patients to select TBS treatments were the self-preference on TBS (78%), previous positive outcomes of known people LEF with TBS (76.6%), cost effectiveness (59.5%) and unwillingness to obtain western medical treatments (54.6%). This study revealed incidence for selecting TBS as first line treatment option for LEF was high. Age and the marital status were significantly associated with the incidence rate. The common factors that lead the patients to select TBS treatments, were self-preference on TBS, previous positive outcomes of LEF with TBS for known people, cost effectiveness and unwillingness to obtain western medical treatments.

*Keywords***:** Factors, incidence, low energy fractures, sociodemographic status

PP 23 - Work-Related Factors for Low Back Pain among Intensive Care Nurses

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Background: Low back pain is a common musculoskeletal disorder affecting many nurses in Sri Lanka, especially Intensive Care Unit (ICU) nurses. This has many negative consequences both on the nurse and the patient. Low back pain reduces work efficiency and work life satisfaction of nurses and sometimes leads to early retirement or even to high turnover.

Objectives: To determine the prevalance and work-related factors of low back pain among ICU nurses.

Methodology: Three hundred twenty nurses (93.3% females and 6.7% males) aged between 21-40 years with more than one year working experience in ICUs in the National Hospital of Sri Lanka and De Soyza Hospital for Women were purposively recruited for this quantitative descriptive study. Data were collected using self-administered questionnaires and descriptive technique was performed for data analysis.

Results and conclusions: Prevalance of low back pain was 53.4% among the participants. Duration of having low back pain for more than one year which originated following duties was 54.6%. Only 9% of them were having back pain before they assumed duties in ICUs. Majority of participants (64.7%) had to complete assigned tasks within a very limited time. Lifting patient (37%), transferring a patient from bed to chair (11.8%), and positioning a patient without any help (9.2%) were found to be the initiating factors of low back pain. Working in insufficient work space (52.1%) and working more than 40 hours per week (79.8%) were also identified. 37.8% participants were working under above conditions for more than five years in ICU. Strenous duty schedule, incorrect working positions used for lifting and positioning of patients, seem to be associated with low back pain among ICU nurses. Furthermore, nurses are often exposed to poor work postures due to the uncomfortable working condition and inappropriate materials. Other factors that might cause low back pain should be further studied.

Keywords: Factors, Intensive Care Unit, low back pain, nurses, prevalence

PP 24 - Knowledge, Skills and Attitudes of Psycological Counseling among Nursing Officers in Psychiatric Units, Sri Lanka

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Background: Professional counselling is a skilled activity that involves assisting others in managing and resolving psychological, emotional, behavioral development, relational, vocational and other personal challenges. Nurses who are working in psychiatric units have major responsibility regarding psychological counselling.

Objectives: This study was designed to assess the knowledge skills and attitudes towards psychological counseling of nursing officers of psychiatric units Sri Lanka.

Methodology: This is a descriptive cross- sectional study and the data collection was done through a self-administered questionnaire which was distributed randomly among 173 nurses who are working in psychiatric unit in 14 government hospitals in Sri Lanka.

Results and conclusions: Out of 173 participants, majority were married females. 65% had more than 10 years of work experience in the field of nursing. Only 69 nurses have worked more than 5 years in a psychiatric ward. 43% satisfied with the knowledge that they received from psychiatric counselling. 92 nurses did not believe that everyone is capable of counselling and only 7% were strongly confident with identifying people who require counselling. More than half of the population (53%) strongly believed that psychiatric counselling workshops are essential for every nurse. But, 71 did not satisfy with psychiatric knowledge which was given during nurses' training period. 65% of population stated that they have the better skill of being active listeners. Majority had the knowledge on managing a proper counselling session and paraphrasing patient's information. But, 42 nurses were not confident of conducting a counselling session though they have knowledge. 73% of population were more confident of counselling patients who had suicidal attempts and 10% could counsel both depressive and schizophrenic patients. 42 participants did not conduct counselling due to lack of psychiatric knowledge. Although many nurses have more than 10 years of work experience in nursing field, they have lack of knowledge and experience on psychological counselling. Many participants stated that adequate knowledge was not given during nurses training period to build up the confident of counselling.

Keywords: Academic performance, intelligence quotient, socioeconomic status

PP 25 - A Review on the Role of Molecular Biology in Medical Therapy: Trends and Challenges

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Background: Application of molecular biology techniques and principles have become more common in designing therapeutics.

Objectives: To identify the use of molecular biological techniques and principles in current and emerging therapeutics and their challenges.

Methodology: This is a comprehensive literature critique from the last five years of literature, searched through google scholar and PubMed search engines using keywords: molecular biology, techniques, principles, therapeutics, recombinant DNA.

Results and conclusions: Today recombinant DNA and cell hybridoma technologies are used to harvest mainstream protein drugs as therapeutics such as insulin. Also biofilm formation in the body via commensals is also in practice as a method of therapy. Novel aspect of these therapeutics are formation of biofilm or enhancement of an existing nonpathogenic biofilm forming commensal using a drug carrying novel bacteria. Also recombinant technology is used in many drug discovery studies and also in synthesis and extraction of medicinal extracts in biotechnology. Proto- oncogenes become cancerous due to genetic malfunctions such as mutation and deletion. Hence knocking out these genes using inference techniques such as retro viruses, CRISPR, Zn finger proteins are used as therapeutic methods in cancer treatments. Although, molecular biology assisted therapeutics are feasible in principle they face many challenges in progressing to the future and in becoming more accessible. As therapeutics or delivery systems, designing a bacterium with desired qualities without compensating safety and efficiency is a must yet challenging. The cost of some therapeutics is high due to limited technology available in production methods and also due to necessary quality control and analysis throughout batch productions. Hence design of better recombinant systems that includes desired post translational modifications is a future outlook. Furthermore inference techniques used in cancer therapy cause limitations such as complete and temporary knockdown of genes and these should be addressed. Hence though promising, molecular biology assisted therapeutics pose some challenges yet to overcome in future.

Keywords: drug discovery, genes, molecular biology, recombinant technology, therapeutics

PP 26 - Quality of Life Style of Slum Dwellers in Kelaniya, Sri Lanka

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Background: A slum is a highly populated urban residential area consisting mostly of closely packed, dilapidate housing units in a situation of worsen infrastructure, inhabited primarily by impoverished persons. Sri Lankan experience on slums is discussable and it is one of current topics of national policy planners. As existing data showed, slums are continuously on the increase. Of the total housing stock about one half belongs to middle income while the balance half belongs to low-income population.

Objectives: The general objective was to investigate the quality of life style of slum dwellers and the specific objectives were to explore scio-economic status of slum dwellers and to explore problems faced by slum dwellers.

Methodology: This was a one-to-one, in-depth interview-based qualitative study design and the study population in this research was the urban slum residents in Kelaniya in Colombo district. As the inclusion criteria, age of the slum dwellers from 18-65 years and people from the Kelaniya district was only included in this study. People with mental disorders were excluded in this study. The sample size considered in this research is 14 people. Thematic analysis was performed on the data collection.

Results and conculsions: Four major themes were identified. Economic status, Health sanitary and infrastructure, educational status and family structure were the major themes. Secondary education was the highest education that most of them have achieved. Sanitary facilities and infrastructure were at a very low standard which have caused conditions like common cold, cough, fever, cholera and typhoid frequently. The risk of natural disasters was noticed in the area which the authorities should pay their attention immediately. To conclude, this study has identified two issues where poverty was identified as the major issue. It is recommended that their lives can be uplifted through eliminating or reducing poverty as well as changing their attitudes.

Keywords: Qulity, life style, economy, status, scioeconomic

PP 27 - Does the IQ level and Family's Social Economic Status affect the Academic Performance in Girls' School Students in Kandy Educational Zone?

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Background: Academic achievements of the school students are vital for their own future and the economic and social development of the country. The individuals who show poor academic performance get stigmatized, depressed and socially isolated and this in turn could affect their personality and higher education. It would be worthy to identify factors that affect the academic performance (AP) of the students.

Objectives: The objective of the study was to assess the association of Intelligence Quotient (IQ) level of the schooling students and family's socio-economic status with the AP.

Methodology: Descriptive cross sectional study was conducted with 650 female students who were in Grade 10, 11 and 12 in Kandy educational zone. Convenient sampling method was used to select the sample. A self-administered questionnaire to assess socio-economic status, students' results records and Standard Thomas IQ test were used to collect data. Data was analyzed using descriptive and analytical statistics (Pearson correlation coefficient, Independent sample t test and ANOVA). SPSS version 20 used as the analytical tool.

Results and conclusions: The mean IQ score of the participants was 7.79+1.47 out of 10. There was a positive correlation (r=0.21) between IQ level and students' AP. Students whose father (p=0.04*) and mother (p=0.01*) were educated up to tertiary educational levels showed significantly higher AP. Those who had no siblings (p=0.02*) and had family income above 35, 000 LKR (p=0.03*) than their counterpart showed better AP. There was no association between parent's job type and child's academic performance (p*<0.05). IQ level and socio-economic factors such as parent's educational status, family income and number of family members had a significant association with the AP of the girls' school students in Kandy educational zone.

Keywords: School students, academic performance, intelligence quotient, socioeconomic status

PP 28 - Exploration of Mothers' Experiences with Very Premature Babies in Neonatal Intensive Care Unit, Teaching Hospital Kandy

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Background: Babies born before completing 37 weeks of pregnancy are called as premature babies. Among them babies born between 28 – 32 weeks of pregnancy are categorized as very premature babies. Premature births and their admissions to Neonatal Intensive Care Unit (NICU) are considered as a time of crisis for every mother. New mothers are rarely prepared for the shock, tension, anxiety as well as behavioural changes and social experiences caused by premature birth and their hospitalization.

Objectives: To explore mothers' experiences with very premature babies in NICU at Teaching Hospital Kandy.

Methodology: This phenomenological study was conducted with purposive sample of 15 mothers of very premature babies at NICU, Teaching Hospital Kandy during the period of March to April, 2018. Semi-structured interviews were used to obtain in-depth information and Colaizzi's analytical framework was used for analysis. Ethical clearance was obtained from ethical review committee, Teaching Hospital, Kandy.

Results and conclusions: Five themes were emerged from data, namely emotional stress, family support, social isolation, interaction with others and adaptation. Due to separation from babies, hopeless situation, fear and sadness about baby's condition and attitudes regarding baby's recovery leads to emotional stress. Social isolation caused by long term hospitalization and separation from families and loved once also leads to emotional stress. Effective and supportive communication with health professionals leads to positive interactions. Early provision of information regarding premature deliveries and previous experiences helped to adapt to the new situation. Premature birth and NICU admissions are the most important determinant of adverse outcomes in quality of life of mothers. Further, mothers experiences are affected by emotional stress, family support, social isolation, interaction with others and adaptation to the situation. Hence, coping strategies should be introduced to mothers to minimize the stress level and provide family centered, supportive care with therapeutic relationship.

*Keywords***:** Mothers' experiences, neonatal intencive care unit, premature babies

PP 29 - Usage of Facebook as a Communication Channel: Adolescents' Perspective

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Background: As a method of socializing, Facebook was opened to be used by the general public and now Facebook users are increasing all over the world including Sri Lanka. However, the danger of using Facebook may be an issue particularly for adolescents. Eventhough it has some negative effects, usage of Facebook has become one of the most common practices among young generation.

Objectives: The main objective of this study was to explore the adolescents' perspective on their Facebook usage.The specific objectives were to identify the supportive factors available in the environment for adolescents to use Facebook, to determine the adolescents' perceived advantages and disadvantages of using Facebook and to identify the barriers experienced by adolescents to use Facebook.

Methodology: A qualitative descriptive study design was used with purposive sampling technique to select 16 adolescents who are currently using Facebook from Theldeniya National School, Kandy, Sri Lanka. The data collection tool was semi-structured interview and data was analyzed by using content analysis method.

Results and conclusions: Peer involvement such as peer pressure, peer acceptance, seeking standards and sense of group membership and high availability of resources such as mobile phones, desktops and laptops were identified as supportive factors for adolescents to use Facebook. Adolscent's perceived advantages of using Facebook were keep in touch with friends, get to know each other, communication and sharing information, enhance the motivation in academic performances and self enhancement. Wasting time and negligence of compulsory works due to addictive behaviour for online games and sleeping disturbances such as awakening, tiredness, less sleep and irregular sleep were identified as main disadvantages of overusage of Facebook among adolescents. Parental displeasure towards patterns of habitual, compulsive and addictive usage of Facebook was identified as a barrier experienced by adolescents' to use Facebook. Although Facebook seemed to entertain adolscents, addictive usage was found to be problematic towards maintaing day to day life.

*Keywords***:** Adolescents, communication channel, Facebook, perspective

PP 30 - Awareness of Undergraduate Nursing students on Female Contraceptıves Safety, Effıcacy and Sıde Effects: KIU

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Background: Unplanned pregnancies had rapidly emerged as a social issue that severely deteriorates the quality of life of parents and children. It can be prevented by using contraceptive methods. Since nurses are an integral part of any health care system they should have sufficient knowledge and awareness about contraceptives, its efficacy, safety and side effects.

Objectives: To assess the knowledge on contraceptive safety, efficacy and side effects among nursing undergraduates at KAATSU International University.

Methodology: A descriptive cross-sectional study was conducted among 362 undergraduate nurses studying at KIU higher institute of Sri Lanka. The data was collected using pretested self-administered questionnaire consists of separate parts for contraceptive safety, efficacy and side effects. The collected data were analysed using descriptive statistic and Pearson Chi square test. The knowledge of the participants were assessed by using knowledge assessing scale, less than 39.9% is considered as poor knowledge, whereas between 40-59.9% as average knowledge and 60% and above as good knowledge.

Results and conclusions: 74.6% of the participants had an average knowledge regarding different type of female contraceptives and 74.5% had average knowledge regarding major side effects of female contraceptives. Participants who responded correctly to the statements regarding efficacy include OCP 8.6%, IUD & Depo-provera 1.1%, Implant 5% and female condom 37%. A significant relationship was found between knowledge and special training regarding family planning (p= 0.019). This study reflects that majority of the nurses had average knowledge regarding safety and major side effects of female contraceptive methods. Majority were unaware about the efficacy of different types of female contraceptive methods. Therefore, it is essential to provide nurses an adequate knowledge and training about female contraceptive methods with continuing education in order to advance their knowledge in this area.

Keywords: nurses, female contraceptives, knowledge, efficacy, side effects

PP 31 - Prevalence of Dental Caries and Oral Hygiene Practices among Children Attending a Primary School in Piliyandala Educational Zone; A Descriptive Cross Sectional Study

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Background: Dental caries is an important dental public health problem and is the most prevalent oral disease among children.

Objectives: To determine the prevalence of dental caries and oral hygiene practices among children aged 6 to 7 years attending a semi urban primary school in Piliyandala educational zone.

Methodology: A descriptive cross sectional study was carried out among 304 children aged between 6 to 7 (grade 1 to 2) who are attending a semi urban primary school in Piliyandala educational zone. An interviewer administered questionnaire was developed and modified based on WHO oral health questionnaire for children. Data collection was done among mothers. Dental examination was conducted for all students to assess decayed, missed, filled teeth for primary (dmft) and permanent (DMFT) teeth by the school dental therapist.

Results and conclusions: The study population comprised of 160 (52.6%) males and 144 (47.4%) females. Prevalence of dental caries was 38.5% (n=117) and five had caries in both primary and permanent teeth. The mean total dmft/DMFT score was 1.184/0.019. Among male students, 61 (38.1%) had decayed teeth and the dmft/DMFT score was 1.156/0.006 and among female students 56 (38.9%) had decayed teeth and the dmft/DMFT score was 1.215/0.013 respectively. Majority stated that they brushed the teeth at least twice a day (84.2%) and at bedtime (86.8%). There was a statistically significant association between oral health practices such as frequency of tooth brushing, brushing before bedtime, and the prevalence of dental caries in children (p< 0.05), but no significant association between consumption of various food items. Prevalence of dental caries was 38.5%, which is less than National Health statistics for 2015. Mothers perception was good about their childrens teeth and most of them had good oral health practices. There was a significant association between tooth brushing and preventing dental caries rather than sugar/sweet consumption.

Key words: dental caries, DMFT score, prevalence, school children

PP 32 - Effect of Calcium Level in the Drinking Tube Well Water of Urelu West Area Jaffna Peninsula on the Dissolution / Solubility of Ciprofloxacin (BP) tablets

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Background: Calcium concentration in drinking water provides bio availability in human body which is as high as that of milk and milk products. The average daily water intake of a human via drinking is 1.7 L. It is not advised to take the combination of calcium supplements with Ciprofloxacin hydrochloride via oral route as calcium interferes with Ciprofloxacin absorption by forming complex in the stomach.

Objective: The aim of this study was to determine the calcium level present in the tube well water and there effects on the in-vitro dissolution of Ciprofloxacin hydrochloride tablets.

Methodology: Calcium level present in the tube well water of Urelu west area of Jaffna peninsula was determined by EDTA titration. In-vitro drug interaction of Ciprofloxacin Hydrochloride 500 mg oral tablet with calcium was studied according to the United State Pharmacopea (USP) apparatus II using distilled water as dissolution medium. $CaCl_2$ was added to the dissolution medium prior to the test which contains an equal amount of Ca^{2+} present in 1.7 L water to create an artificial medium that contains calcium ions.

Results and conclusions: Ca^{2+} present in 1.7 L tube well water was 201.098 mg (118.293 mg/L). Dissolution of oral Ciprofloxacin hydrochloride 500 mg was increased by 17.92% in 10 minutes, 8.4% in 30 minutes, and 2.85% in 50 minutes and decreased by 2.46% in 20 minutes, 5.59% in 40 minutes and 10.10% in 60 minutes of dissolution compared to Ciprofloxacin HCl tablets alone. According to the British Pharmacopeia tolerance level of Ciprofloxacin dissolution should be higher than 80%. This study considered only the percentage reduction and increment in the dissolution of Ciprofloxacin tablet and it shows irregular deviation pattern. So it is important to have in vivo interaction study to correlate in-vitro dissolution.

***Keywords*:** Ciprofloxacin, In-vitro dissolution, water calcium level

PP 33 - Evaluation of Antiurolithiatic Potential in *Crataeva religiosa* (Lunuwarana)

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Background: Urolithiasis is the condition where urinary calculi are formed in the urinary tract and is identified as one of the most prevalent diseases worldwide. None of the known and available treatments could prevent the recurrence of kidney stone formation. However, a number of plant species are used in traditional systems of medicine to treat and/or prevent urinary calculi. *Crataeva religiosa* (lunnuwarana) is one of the medicinal plants employed in indigenous medicine in Sri Lanka to dissolve kidney stones and to treat other urinary disease conditions.

Objectives : The objectives of the present study is to evaluate the effect of *C.religiosa* on kidney stones and to determine the effective concentration/strength of the plant extract needed to exert antiurolithiatic effect.

Methodology: Three kidney stones were taken from patients who underwent kidney stone surgery and the stones were crushed to homogenize the sample. Methanol extracts of bark of *C. religiosa* was prepared at different concentrations (62.5-2000 μg/mL) and kidney stones were dissolved in different concentrations of the extract. At 24, 48 and 72 hours, the reduction in weight and percentage weight change were simultaneously determined. The results were compared with a marketed polyherbal combination, cystone.

Results and conclusions: Methanol extract of bark of *C.religiosa* has proved that its antiurolithiatic potential was statistically equal to that the standard drug, cystone. The maximum mean percentage weight loss (3.3073%) was observed at 2000 μg/mL concentration. The mean percentage weight loss was found to be directly proportional to the increase in concentration and was time dependent. The highest mean percentage weight loss of kidney stones was observed at 72 hours. Thus our study indicated that the bark of *C.religiosa* is a potent and promising antiurolithiatic agent, which is in accordance with its use in traditional medicine.

Keywords: antiurolithiatic, *Crataeva religiosa*, urinary calculi

PP 34 - Role of Traditional and Herbal Medicines in Mother Initiated Medication for Young Children-A Qualitative Study

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Background: Use of traditional and herbal medicines is continuously increasing around the world. WHO identified that the children are more vulnerable to receiving inappropriate, non-evidence based over-the counter, traditional and herbal medicines.

Objectives: The objective of the current study is to identify the reasons for using traditional and herbal medicines for mother initiated medications for young children aged between one to five years old.

Methodology: Study participants were mothers who have children between aged one to five years. Purposive sampling method was used to select the sample. Focus group discussions (FGDs) were used to explore reasons of the use of traditional and herbal medicines for mother initiated medication for young children aged between one to 5 years old. Thematic analysis was used to analyze the data.

Results and conclusions: Twenty seven mothers between the ages of 28 to 42 years participated for three FGDs. This group consisted of working and non-working mothers. Mothers widely used traditional and herbal medicines for childhood illnesses due to several reasons. Participants perceived traditional and herbal medicines as a safe, nontoxic treatment option which did not cause harm to the body. Their natural origin and the misconception of "natural things are nontoxic" leads mothers to use traditional and herbal medicines for treating children. Mothers believe that herbal and traditional medicines work on the disease gently and slowly compared to the pharmaceuticals and the effects of these treatments last a long time. Mothers discussed that they tried to self-medicate their children with traditional and herbal medicines at the first sign of illness because they think that these medicines allow child's body to recover by itself and thus increase body's immune system. Mothers widely used traditional and herbal medicines for managing childhood illness. The misconceptions on traditional and herbal medicines may contribute to delay of proper treatment with masking the symptoms.

Keywords: Self- medication, children, traditional, herbal, medicines

PP 35 - Anticandidal Activity of Ten Selected Medicinal Plants in Sri Lanka

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Background: *Candida* is commensal yeast that lives harmlessly in the gastrointestinal tract and the oral and vaginal mucosa, and is the most common cause of fungal infections worldwide. These yeasts often cause superficial infections such as vaginitis and mouth sores. However, Antifungals used in the treatment are toxic and have become ineffective due to emerging resistance. Therefore, people are using plant materials which have antimicrobial effect for healing wounds and mouth sores in Ayurveda and traditional medicine.

Objectives: The aim of this study was to determine the anticandidal activity of ten selected medicinal plants i.e. *Senna alata* (eth-tora), *Citrus aurantiifolia* (lime), *Curcuma longa* (turmeric), *Cymbopogon citratus* (lemon grass), *Sesbania grandiflora* (kathurumurunga), *Phyllanthus emblica* (indian gooseberry), *Ricinus communis* (castor), *Psidium guajava* (guvava), *Tamarindus indica* (tamarind) and *Cinnamomum verum* (cinnamon) against *Candida albicans* and *Candida glabrata*.

Methodology: Methanol extractions prepared from each plant were subjected to antifungal susceptibility testing against both Candida species, suspensions of $1\text{-}2 \times 108$ organisms/ml was prepared using sterile normal saline for each isolate by comparing with 0.5 McFarland turbidity standards. Sabouraud dextrose agar plates will be inoculated separately with both species. Fluconazole and dichloromethane were used as the positive and negative controls respectively. The minimum fungicidal concentration (MFC) was determined for each plant extract by broth microdilution method.

Results and conclusions: The initial concentration of 0.2 g/mL of plant extract showed no clear zone of inhibition, however there was a suppression of growth around the discs of *C. aurantiifolia*, *C. verum*, *P. emblica* and *P. guajava* against *C. Glabrata* and in *C. Verum* against *C. albicans*. Hence MFC was determined with different concentrations of plant extracts (minumum concentration = 31.25 mg/mL). It revealed an inhibition of growth of *C. albicans* by *C. verum*, *C. Longa* and *P. guajava* at all the concentrations tested. An inhibition of the growth of C. glabrata was observed in *S. Grandiflora*, *C. verum*, *P. emblica* and *P. guajava* at all the concentrations tested. The results of this study indicated the anticandidal activity in several selected plant extracts against both *Candida* species.

Keywords: Anticandida, disc diffusion technique, plant extracts

PP 36 - A Follow up Study on Antibiotic Compliance of Those Who Take Antibiotic from Outdoor Pharmacy of Teaching Hospital Karapitiya

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Background: Any substance that inhibits the growth and replication of a bacterium or kills it outright can be called as an antibiotic. Misuse of antibiotic lead to global health problem such as antibiotic resistance. The reduction of patient compliance leads to irrational use of antibiotics.

Objectives: To study the adherence to antibiotic regimens by patients who take antibiotic from outdoor pharmacy in THK and to identify common types of malpractices leading to non-adherence to the regimens.

Methodology: A descriptive cross sectional study was conducted. Patient data were collected in OPD in THK, when patient collect antibiotics from pharmacy. After three days, patient compliance was collected using telephone conversation.

Results and conclusions: 43.9% of participants were males. 56.4% of participants were females. 62.35% of participants responded to the follow up telephone calls. 45% of participants showed overall good compliance to the regimen. There was no relationship between socio-demographic data of patients and compliance to the regimen. Better compliance was found with bd (60%) than tds (47.3%) and qds (33%) antibiotic formulations. The antibiotic type with highest compliance was Ciprofloxacin (63.9%). Erythromycin was the antibiotic with least patient compliance. The major reasons for noncompliance were forgetfulness (30.9%), side effects (13.1%), deliberately avoiding (11.4%) and family commitments (11.4%). Overall compliance for antibiotic was unsatisfactory. With the increase of the frequency of regimen, the patient compliance decreased. The patient compliance depended on the complexity of the regimen and the type of the antibiotic. Socio-demographic data was not influenced by the patient compliance. The major reasons for noncompliance were identified as forgetting to take a dose, experience of side effect, family commitments and deliberately avoiding.

Keywords: Antibiotics, compliance, counseling, practices

PP 37- Patient Related Factors Affecting Accuracy of Fasting Blood Sugar Value among People with Type 2 Diabetes Mellitus

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Background: The prevalence of type 2 diabetes and its complications have risen in Sri Lanka. Although the HbAIc is the most accurate investigation for testing glycaemic control, Fasting Blood Sugar (FBS) test is the most common and the lowest-cost investigation.

Objectives: To investigate patient related factors affecting accuracy of Fasting Blood Sugar value of people with type 2 diabetes mellitus in diabetic clinic in District General Hospital (DGH), Gampaha in Sri Lanka.

Methodology: A cross sectional quantitative approach with a descriptive design was utilized in this study. A validated self-administered questionnaire was used for data collection among 200 patients with type 2 diabetes mellitus aged above 40 years. Data analysis was done by using the SPSS Version 16.0.

Results and conclusions: Minority of patients (28.5%) stated that average level of FBS in diabetes patient should be 80-110 mg/dL. Approximately two-thirds of the participants, 63.5% has identified the correct number of hours need to be fasting for FBS test. When considering the overall knowledge level, only 30.5% possessed good knowledge level regarding FBS test. The majority of respondents (84.5%) visit the diabetic clinic and 78% do the test of FBS once a month. Among participants, 91% have taken usual diet on the previous day of the FBS test and 96% have not taken any kind of food or drink during fasting period. Among the participants 54% of the patients were having misconceptions. FBS results showed that 62% of them were not having controlled diabetes mellitus. The results drawn from this study lead to the conclusion of that the type 2 diabetes patients are having an unsatisfactory knowledge regarding FBS test and demonstrated satisfactory practice level. Results revealed that high rate of diet related misconceptions, specially herbal treatment are used for reducing blood sugar.

Keywords: Type 2 DM, fasting blood sugar, knowledge, practices, misconceptions

PP 38 - Parents' Knowledge and Practice Regarding Use of Spectacles in Children in the Age Between Two to Ten years Old Children with Refractive Errors Participating in Eye Clinic at Lady Ridgeway Hospital, Colombo

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Background: Globally 123 million people have been affected refractive errors. Among them 19 million are children and 80% of them are visual learners.

Objectives: To assess the parents' knowledge, practice, and factors regarding wearing spectacles among children with refractive errors.

Methodology: Descriptive cross sectional study was done among 350 of parents who have children with refractive errors age between 2-10 years using convenient sampling method. Interviewer administered pre-tested questionnaire was used to obtain data of demographic, knowledge, practice and factors regarding refractive errors and spectacle wearing.

Results and conclusions: Majority were age between 5 - 7 years children with refractive error 42.9% and 53.7% were female. 58% of parents' educational level was up to ordinary level. 51.4% of parents did not know about available treatment method of refractive errors. 56.3% of parent did not obtain knowledge about refractive error. 7.4% of parents were having consanguinity marriage. There were statistically significant associations between, parents' educational level with knowledge of the parents about wearing spectacles, parents educational level with parents' knowledge about treatment methods in refractive error and parents knowledge on child's refractive error with parents knowledge in type of refractive error (p-0.001). There were associations between, age of the child with practice of the parents about wearing spectacle (p-0.043), gender of the child with practice of the parents about wearing spectacles (p-0.023), age of the child with child forgetting or missing of the spectacle (p-0.037), medical history of the child with factors association of spectacles. There were associations between, parents' educational levels with knowledge of the parents about wearing spectacles, knowledge about treatment methods available for refractive error, parents knowledge on child's refractive error with parent's knowledge in type of refractive error.

Keywords: Refractive errors, knowledge, practice, factors, spectacles

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