

URSFMAS 2022



**Fourth Undergraduate Research Symposium
Faculty of Medicine & Allied Sciences
Rajarata University of Sri Lanka - 2022**

Abstracts of Poster Presentations

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Proceedings of the Fourth Undergraduate Research Symposium,
Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka

April 2022

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Message from the Vice-Chancellor Rajarata University of Sri Lanka



Universities are responsible for generating and disseminating the knowledge with the ultimate objective of contributing to regional, national and global development. Researches and innovations are must in this endeavor. As one of the stakeholders in the university systems, students' research with the supervision of academics might create knowledge pool which will be useful for policy makers and strategic planners in making future policies and strategic plans of the area Medicine and Allied Sciences.

I gratefully appreciate the sincere effort of the Faculty of Medicine and Allied Sciences for organizing their Fourth Undergraduate Research Symposium that will be held on 29th of April 2022. I congratulate budding researchers who will present their research findings in this symposium and their supervisors for trying to contribute to the knowledge pool in the area of Medicine while producing future medical researchers for this country.

Prof. (Mrs.) G.A.S. Ginigaddara
Vice-Chancellor
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Message from the Dean Faculty of Medicine and Allied Sciences



Scientific inquiry is a fundamental skill required in any academic field of study. Physicians need this skill as one of the most critical requirements of proper patient management. The research module in the undergraduate medical curriculum aims at inculcating the skill of scientific inquiry among medical undergraduates.

Despite being one of the youngest medical faculties in the country, our performance in research is among the top faculties in Sri Lanka. We do expect the same from our undergraduates. Faculty of Medicine and Allied Sciences has successfully conducted three research undergraduate symposiums, and this year, we are conducting the Fourth Undergraduate Research Symposium. I wish to congratulate all students, supervisors, academic staff of the Community Medicine Department and all other non-academic staff members who helped make this event a success.

Prof. Suneth Agampodi
MBBS, MSc, MPH, MD
Dean
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Message from the Head Department of Community Medicine



The compulsoriness and importance of extending medical education beyond traditional clinical oriented teaching by integrating scientific research training into the undergraduate medical curriculum to develop higher-order research competencies such as critical thinking, problem-solving and life-long learning is widely emphasized across the globe.

As the Head Department of Community Medicine, it is indeed a great pleasure to witness the fruitful results of the hard work of all the undergraduates who have researched a broad spectrum of important health related topics. I would like to congratulate all 32-research groups whose research findings will be featured in the Fourth Undergraduate Research Symposium of FMAS, RUSL, and I would like to thank all academic supervisors for their invaluable guidance throughout the period.

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PREVALENCE OF PROBLEMATIC INTERNET USE AND ITS ASSOCIATION WITH SOCIAL ANXIETY DISORDER AND SELF-ESTEEM AMONG FIRST-YEAR MEDICAL UNDERGRADUATES IN SRI LANKA

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Background: Even though global evidence suggests that Problematic Internet Use (PIU) and its associated negative mental health issues among young adults are on the rise, the local evidence on PIU and its associations is scanty.

Objective: The study aimed at determining the prevalence of PIU and its association with social anxiety disorder and self-esteem among first-year medical undergraduates in Sri Lanka.

Methods: A cross-sectional online survey was conducted from May 2021 to February 2022 using a Google form among all first-year medical undergraduates at ten state universities in Sri Lanka. The online questionnaire included; 18-item Problematic and Risky Internet Use Screening Scale (PRIUSS), 24-item Liebowitz Social Anxiety Scale (LSAS-SR) and 10-item Rosenberg Self-Esteem Scale (RSES). The prevalence (with 95%CI) of PIU was estimated and the associations of the PIU were determined by computing the adjusted odds ratios (AOR) using binary logistic regression.

Results: The final sample consisted of 772 first-year medical undergraduates from nine medical faculties (response rate=64.3%). The majority were females (n=437,56.6%) and the mean (SD) age was 22.8 (1.1) years. The prevalence of PIU was 48.3% (95%CI=44.8%-51.8%). Medical undergraduates with PIU were 6.3 times likely to have social anxiety in comparison to their counterparts (OR=6.3,95%CI=4.3-9.1,p<0.001). Further, medical undergraduates with PIU had statistically significant lower self-esteem in comparison to their counterparts [t(770)=10.625,p<0.001]. Male students (AOR=1.8,95%CI=1.3-2.4,p<0.001), students who spent more than 6 hours per day on the Internet (AOR=2.4,95%CI=1.8-3.3,p<0.001) and students who spent time on the Internet mainly for purposes other than education (AOR=2.7,95%CI=1.1-6.9,p=0.034) were more likely to have PIU in comparison to their counterparts.

Conclusion: The prevalence of PIU among the first-year medical undergraduates in Sri Lanka is high and there are statistically significant associations of PIU with social anxiety and low self-esteem. Hence, it is recommended to have awareness sessions on time management and strengthen the psychological support systems for medical undergraduates.

Keywords: Problematic Internet Use, Social Anxiety, Self-Esteem

ASSOCIATION BETWEEN CLIMATE ZONES AND COVID-19 TRANSMISSION IN SRI LANKA

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Background: COVID-19 transmission is influenced by various factors such as demographic, social and climatic elements. This study attempts to evaluate the impact of climatic elements in COVID-19 transmission.

Objective: To assess the association between climate zones and COVID-19 transmission in Sri Lanka.

Methods: Correlational study was conducted using secondary data of Gampaha, Ampara, Badulla districts obtained from Epidemiology unit, Meteorological department and Department of Census and Statistics, Sri Lanka. Regression analysis and ANOVA tests were performed with the significance level $p < 0.05$ using SPSS Statistics (Version 26) software.

Results: A low level of fluctuations in the percentile increase of COVID-19 cases with population density was observed in Gampaha district, while significant fluctuation was noted in Ampara district. Considering the correlation between climatic factors (relative humidity, environmental temperature, rainfall and cloud coverage) and reported cases of COVID-19 by population density (in percentage) in 3 selected districts, a statistically significant positive correlation ($p = 0.043$) was only observed with the rainfall in the Ampara district. Neither the other climatic factors in Ampara district nor all 4 climatic factors considered in Gampaha and Badulla districts showed statistically significant correlations. Statistically significant difference was not observed between the 3 selected districts when comparing the increase in COVID-19 cases by population density (in percentage).

Conclusion: There was no statistically significant association between climate zones and COVID-19 transmission. A significant positive correlation only observed in Ampara with rain fall and reported number of cases per population density.

Keywords: COVID-19 cases, climate zones, correlational study, Sri Lanka

**PHYSICAL ACTIVITY AND PREGNANCY OUTCOMES AMONG THE PREGNANT WOMEN
ANURADHAPURA**

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Background: Effects of physically active life during pregnancy on mother and newborn has become a controversial affair worldwide.

Objective: To describe the trimester-specific physical activities and their association with selected pregnancy outcomes among women who reside in Anuradhapura.

Method: Diaries filled by pregnant women during their pregnancy and data collected during baseline assessments of the Rajarata Pregnancy Cohort (RaPCo) were the sources for this Analysis. Metabolic Equivalent of Task (MET value) in the updated compendium of physical activity 2011 was used to assess the level of physical activity. A P-value of 0.05 was considered statistically significant.

Results: All 698 pregnant women who participated in this study were physically active. The mean MET in the first, second and third trimesters were 176.4 (SD±72.0), 180.2(SD±73.2) and 185.8(SD±78.8) respectively. Major delivery outcome was live births (92.7%, N=647). There was no significant difference between groups for the delivery outcomes with MET value distribution at the first trimester (F=1.215, P=0.271). The mean gestational age at delivery was 37.7 (SD±4.4) weeks. Gestational age at delivery has no direct correlation with the daily physical activities of pregnant women (Person r = -0.061, P = 0.143). 76.5% of newborns had normal weight (>2500kg) at birth with a mean of 2934.8 (SD±455.4). No significant correlation was observed between neonatal birth weight and physical activity level of pregnant women (person r =0.20, P = 0.640).

Conclusion: The level of physical activity during pregnancy in this rural population is higher than the global recommended levels, thus significant associations were not observed with the main delivery outcome, gestational age at delivery or neonatal birth weight.

Keywords: physical activity, compendium, pregnancy, RaPCo, Anuradhapura

**ATTITUDES AND PERCEPTIONS OF THE FINAL YEAR MEDICAL STUDENTS AND
INTERN MEDICAL OFFICERS REGARDING THE APPLICATION AND RELEVANCE OF
BASIC SCIENCES IN CLINICAL TRAINING AND PRACTICE**

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Background: Basic sciences are fundamental for systematic inquiry, problem-solving and decision-making in clinical training. Poor retention and application of basic sciences is a major concern as students progress in medical course.

Objective: To determine attitudes and perceptions regarding retention, application and relevance of basic sciences in clinical training and practice, among final-year students and graduates of Rajarata medical faculty in internship training.

Methods: A descriptive cross-sectional study was conducted. Data were collected using an online questionnaire, and analyzed using descriptive statistics and t-test.

Results: Two-hundred-eleven (female-63.5%) responded (Intern medical officers (IMOs)-47.9%, final-year students-52.1%). Response rate was 58.6%. Perceived knowledge retention was highest in physiology (5.7±1.8/10), followed by Anatomy (5.1±1.7/10) and Biochemistry (4.0±2.0/10), and there were no statistically significant differences between males and females, and final-year students and IMOs. Majority reported higher retention of clinically-relevant concepts (79.7%) and a gradual decline in retained knowledge during clinical years (75.8%). Content areas that were perceived clinically relevant most (>90%) were neuroanatomy, radiological anatomy, abdominal anatomy, blood, and gastrointestinal and hepatobiliary biochemistry, and cardiovascular, respiratory, endocrine, urinary, gastrointestinal and reproductive physiology. Knowledge on biomolecules, molecular genetics, histology and embryology were considered least clinically relevant. Pre-clinical sciences were perceived fundamental for clinical training (Anatomy-89.1%, Physiology-88.1%, Biochemistry-58.3%). Anatomy and Physiology were applied more in diagnosis (89.6% and 91.0% respectively) and patient management (83.9% and 86.7%), than Biochemistry (diagnosis-55.5%, management-64.0%). Majority expressed the need to revisit important content in Anatomy (82.0%) and Physiology (77.7%) during clinical phase. Majority (61.2%) stated the need to start clinical training earlier.

Conclusion: High level of relevance of pre-clinical sciences was perceived by the participants. The study suggests better retention when pre-clinical sciences are taught with clinical relevance and highlights the need for a spiral curriculum model with early introduction to clinicals and revisiting basic sciences during clinical teaching and training.

Keywords: Clinical relevance and application, Knowledge retention, Pre-clinical sciences

KNOWLEDGE, ATTITUDE, AND PRACTICE ON INTESTINAL PARASITOSEs AMONG UNDERGRADUATE STUDENTS

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Background: Intestinal parasitoses (IP) are one of the key community health challenges in Sri Lanka. Current study aims to describe knowledge, attitude and practice (KAP) on intestinal nematode and protozoan infections.

Objective: To describe KAP associated with intestinal nematode and protozoan infections among undergraduates, Rajarata University of Sri Lanka.

Methods: A descriptive cross-sectional online survey was conducted among first- and second-year undergraduates from the Faculties of Medicine, Social Sciences and Management. Participants answered a KAP-survey-questionnaire on IP. An overall score (%) was calculated based on the individual responses, and >75% was considered as good KAP. Independent T-test and chi-square test were used to compare scores and proportions respectively between medical and non-medical groups. (P<0.05)

Results: Of the total of 435 respondents 264(60.7%) were medical, 171(39.3%) non-medical students. The average KAP scores for the total group (n=435) were 39.28%, 92.23% and 91.37% respectively. Knowledge on IP among medical students (49.90%, 26.57%, p<0.05) was significantly higher with specifically low knowledge on transmission and deworming medications in both groups. Scores for attitude were good (medical;94.53%; non-medical;90.76%), with medical students having a significantly high average (p<0.05). Both groups had good scores for practice (medical;89.92%; non-medical;90.25%, p=0.629). The total group showed a significant association between attitude and practice (p<0.05), while knowledge-attitude (p=0.186), and knowledge-practice (p=0.924) associations were non-significant.

Conclusion: The overall knowledge on IP in the total cohort was poor. Attitudes and practices on prevention of IP are mostly general hygienic measures, hence the communities may have good attitudes leading to good practices even with a limited knowledge on IP. Relatively high level of knowledge and attitude among medical students could be due to their high-school education in biology. Measures need to be taken to improve the knowledge. Formal education system could be an effective mode of disseminating key health messages.

Keywords: Attitude, Intestinal protozoans and nematodes, Knowledge, Medical and non-medical, Practices

**PERCEPTION OF THE MEDICAL STUDENTS ON THE EFFECTIVENESS OF THE DIET
PLANS COMMONLY USED TO REDUCE BODY WEIGHT**

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Background: Obesity and overweight prevalence is rapidly rising in Sri Lanka. Increased intake of high calorie food and sedentary life have increased the rate of obesity among medical students. This study aims to check the discernment of medical students regarding the various dietary plans to reduce obesity and in future this will be useful research to take necessary interventions to raise their awareness based on current perceptions.

Objective: To determine the perception of the medical students on the efficacy of the diet plans commonly used to reduce body weight.

Methods: A descriptive cross-sectional study was conducted among 12th, 13th, 14th, 15th batches of Faculty of Medicine and Allied Sciences of Rajarata University of Sri Lanka. The data collection was performed using a questionnaire in a google form.

Results: Of the total of 325 medical students responded 36.3% have followed dietary plans to reduce body weight. 37.1% were females and 34.4% were males. A significant difference was not observed between the gender related to the proportion who followed the diet guidelines. The most common plan is reducing portion size(n=41) followed by keto diet(n=38) and half plate(n=21). Average weight reduced from keto diet is 2.1kg SD=1.2, reducing portion size of the meal is 2.0kg SD=1.6, skipping of meals 2.1kg SD=1.2, intermittent fasting 1.9kg SD=1.0, half plate 1.7kg SD=1.3.

Conclusion: Approximately similar percentages of male and female medical students have followed dietary plans to reduce body weight. Therefore, there isn't a significant association between gender and fond of following a dietary plan. According to data, medical students tend to follow more than one plan. Though keto diet has the most effect on reducing body weight, most students tend to follow reducing portion size of the meal. There is a good trend of following reducing portion size and keto diets.

Keywords: Dietary plans, Body weight, Medical students, Keto diet, Reducing the portion size of the meal, Skipping of meals, Intermittent fasting, Half plate

PREVALENCE OF DEPRESSION, ANXIETY AND SUICIDAL IDEATION AMONG CHRONIC KIDNEY DISEASE PATIENTS ATTENDING RENAL CLINIC IN ANURADHAPURA TEACHING HOSPITAL

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Background: Chronic kidney disease (CKD) is common in Sri Lanka, and rural agricultural communities are mostly affected by CKD. Anuradhapura district is one of the worst affected districts, therefore Teaching Hospital Anuradhapura (THA) plays a critical role in managing CKD patients.

Psychiatric disorders are co-existing with CKD due to physical as well as psycho-social challenges faced by the CKD sufferers. It is paramount that the depth of psychological morbidity is known in order to improve the care offered to the CKD patients.

Objective: Aim of this study is to determine prevalence of depression, anxiety and suicidal ideation among patients affected by CKD who are attending renal clinic in THA.

Methods: A descriptive cross-sectional study was conducted among patients with a diagnosis of CKD (Stage III or more) attending renal clinic at THA who are consenting for the study. Data collection was done using questionnaires that has been developed to collect sociodemographic and clinical factors, Depression, Anxiety and Stress scale 21 (Sinhala version) and Beck's Suicide Intent Scale.

Results: A total number of 40 individuals were recruited from the renal clinic of THA. 24 out of 40 (60%) reported significant anxiety, 15 out of 40 (37.5%) reported depression, and 2 out of 40 (5%) reported suicidal ideation during their illness. No statistically significant associations were found for any of the three conditions, namely anxiety, depression and suicidal ideation with sociodemographic or clinical characteristics.

Conclusion: Results of our preliminary sample showed that most of the patients who are attending the renal clinic for CKD stage III or more advanced disease had significant anxiety while one third of the sample had depression. Suicidal ideations were however not commonly observed in this sample. A larger sample would help identifying any demographic or clinical correlates of these psychiatric conditions in CKD patients.

Keywords Anxiety, Depression, Chronic kidney disease

KNOWLEDGE AND ATTITUDES ON CONTRACEPTIVE METHODS AMONG FIRST YEAR UNDERGRADUATE STUDENTS IN FACULTY OF SOCIAL SCIENCES & HUMANITIES (FSSH) IN RAJARATA UNIVERSITY OF SRI LANKA (RUSL)

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Background: Contraception is widely used for preventing or delaying conception. Knowledge and attitudes regarding contraceptives among those in reproductive age group vary in the world. Studies regarding contraceptive methods and uses conducted in Sri Lanka are limited.

Objective: To assess knowledge and attitudes regarding contraceptive methods among first year undergraduate students in FSSH in RUSL.

Methods: A descriptive cross-sectional study was conducted among all consenting first year undergraduate students in FSSH in RUSL. Data collection was done using a google form. Ethical approval was obtained from the Ethics Review Committee, Faculty of Medicine & Allied Sciences, RUSL. Data was analyzed using SPSS statistical software.

Results: A total of 196 students responded -14(7.3%) male, 178(92.7%) females. In a scale of 0 to 14 (0=worst, 14=best), the average knowledge scores were 8.9 and 9.7 among female and male students, respectively. There was no significant difference of level of knowledge regarding contraceptive methods between male and female undergraduates ($p = 0.2$). On a similar scale, the average knowledge scores were 9.1 and 8.3 among undergraduates from rural and urban home areas, respectively. A statistically significant difference was not observed ($p = 0.1$). While 'avoiding sexual activities' was the most known traditional contraceptive method (58.3%), 'lactational amenorrhea method' was the least known traditional method (2.6%). OCP and condoms were the best-known modern methods (71.9% and 72.4% respectively). While 91.1% of the participants were aware of at least one modern contraceptive method, only 72.4% were aware of at least one traditional method. Although 71.9% have heard about OCP, only 62% were knowledgeable about how to use OCP.

Conclusion: Overall knowledge of contraceptive methods among undergraduates is satisfactory. Better knowledge regarding modern contraceptive methods than traditional methods was observed. Knowledge of contraceptive methods among undergraduates was not affected by gender or area of residence.

Keywords: Knowledge, Attitudes, Contraceptive methods, Undergraduates

ARE PEOPLE RESIDING IN VILLAGES AFFECTED BY ELEPHANT ATTACKS PSYCHOLOGICALLY DISTRESSED; A CROSS-SECTIONAL COMPARATIVE STUDY

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Background: Sri Lanka has the highest annual elephant deaths and the second-highest human deaths in the world due to the Human-Elephant conflict (HEC). Anuradhapura district has become a primary focus of attention in this aspect. A substantial amount of injuries, deaths, crop and property damages occurring due to HEC may adversely affect their mental health.

Objective: To compare the psychological distress in people affected and not affected by elephant attacks in the Kahatagasdigiliya divisional secretariat area.

Methods: This cross-sectional comparative study was conducted in two villages in Kahatagasdigiliya among people affected (Bambarahela) and not affected (Kuda-Messalawe) by Elephant attacks (EAs). The data collection was performed using the GHQ-12 questionnaire. Age and sex-matched groups were recruited from both villages. Distress was defined as getting at least six positive answers out of 12 for the GHQ-12 questionnaire.

Results: A total of 65 individuals were recruited from the village affected by EAs and 61 from the village not affected by EAs. The mean ages of the affected and not-affected villages were 43.5 and 42.8 years respectively ($P=0.7$). The residents of the affected village were feeling significantly much less happy (Chi-square=30.3, $P<0.0001$), much less able to concentrate on what they were doing (Chi-square=23.3, $P<0.0001$), significantly felt worthless (Chi-square=8.1, $P=0.017$) when compared with those of non-affected village. In the village affected by EAs, 8 individuals out of 65 were distressed and none were distressed in the village not affected by EAs. The difference was statistically significant (Chi-square=8.0, $P=0.006$).

Conclusion: These results indicate a possible threat to the mental health of the people residing in villages affected by EAs. Therefore, prudent actions are needed to improve their mental health.

Keywords: Distress, Elephant attacks, GHQ-12, Mental Health, Anuradhapura

**DEVELOPMENT AND EVALUATION OF A NOVEL SIMPLE CAPILLARY TUBE
CLOTTING TEST TO MEASURE THE PROCOAGULANT ACTIVITY OF
SNAKE VENOMS *IN-VITRO***

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Background: Procoagulant activity of snake venoms is quantified by the time taken to clot human plasma *in-vitro* by a more precise microplate-based turbidimetric method (TCT) as well as manually conducted glass tube clotting test (GTCT).

Objective: We aimed to develop a novel capillary tube clotting test (CTCT) alternative to GTCT and to compare CTCT and GTCT with TCT in testing *in-vitro* procoagulant activity of Australian brown snake venom (BSV) and to define the minimum coagulant dose for plasma (MCD-P) based on CTCT.

Methods: Novel CTCT: 200µl of Fresh Frozen Plasma (FFP) mixed with 50µl different BSV concentrations at 37°C, and a ~1cm column of the mixture was taken into the capillary tube. The tube was kept horizontal and flipped vertical every 15s. Minimum time taken for stasis of the plasma column was considered the CTCT clotting time. MCD-P in the CTCT was defined as the minimum venom amount required to clot 200µl FFP in 60s.

GTCT and TCT followed the previously published methods. CTCT and GCTC clotting times were plotted to test the correlation with the TCT for corresponding BSV concentrations. All clotting tests were conducted for 5 concentrations of BSV. All experiments were replicated 3 to 6 times.

Results: CTCT clotting time decreased in a BSV-concentration-dependent manner, similar to GCTC and TCT. MCD-P of CTCT was 0.12µg for BSV. The CTCT clotting times were correlated with the TCTs for the corresponding BSV concentrations (R^2 , 0.9903; $p=0.0004$) while the GTCT clotting times too correlated with the TCT for the corresponding BSV concentrations (R^2 , 0.9638; $p=0.003$).

Conclusions: The new CTCT correlates well with the widely-used TCT and appears to be a promising alternative test for GTCT in quantifying the procoagulant activity of BSV. The novel CTCT needs to be validated across different snake venoms.

Keywords: Clotting time, Minimum coagulant dose for plasma, Capillary tube

**RELATIONSHIP BETWEEN SLEEP PATTERN AND ACADEMIC PERFORMANCE AMONG
MEDICAL UNDERGRADUATES IN FACULTY OF MEDICINE AND ALLIED SCIENCES,
RAJARATA UNIVERSITY OF SRI LANKA**

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Background: Sleep is an important component of learning, memory consolidation and good quality life. The relationship between sleep and academic performance of medical undergraduates is insufficiently addressed in the literature.

Objective: This study aims at describing the relationship between sleep pattern and academic performance of two batches of medical undergraduates in Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka (FMAS, RUSL)

Methods: A descriptive cross-sectional study was conducted among 211 volunteered medical undergraduates in 2016/2017 and 2017/2018 batches in FMAS, RUSL using an online self-administered questionnaire validated using a pilot test which inquires about the sleep pattern within 2 weeks before the most recent exam they faced.

Results: Out of 211 undergraduates, 83.4% (n=176) had slept less than 8 hours and 13.3% (n=28) had gone to bed before 10pm. Among the volunteers, 18.5% (n=39) had woken up before 4am and 77.7% (n=164) had taken afternoon naps. The percentage of undergraduates who had been referred was 37.4% (n=79) while 62.6% (n=132) have passed the exam. Those who went to bed before 10pm showed significantly good results (Chi square $P = 0.011$). Total sleep duration ($P = 0.392$), wake up time ($P=0.196$), having naps ($P = 0.585$) showed no significant association with academic performance. Total sleep duration showed no association with the concentration ability during studies ($P = 0.749$).

Conclusion: Even though there is no relationship between overall sleep pattern and academic performance, going to bed before 10pm shows a positive significance.

Keywords: Sleep, Sleep Pattern, Academic Performance, Medical undergraduates

**EXPLORING THE EFFECTS OF MALE PARTNER'S MENTAL HEALTH STATUS AND
EMOTIONAL QUOTIENT TOWARDS THE ANTENATAL MENTAL HEALTH STATUS
OF HIS FEMALE PARTNER**

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Background: Maternal mental health during pregnancy is a major public health concern due to its impact on both maternal and child health. Even though maternal depression has been vastly studied in Sri Lanka, the paternal influences towards maternal mental health have not been given sufficient attention.

Objective: This study was conducted within the Rajarata pregnancy cohort (RaPCo) study to explore the effects of male partner's antenatal Mental Health (MH) status and Emotional Quotient (EQ) towards the antenatal MH of his female partner.

Methods: Antenatal mothers in the 2nd trimester and their partners from 20 MOH areas were selected. Edinburgh Post-Partum Depression Scale (EPDS) were used for both paternal and maternal MH assessments and for the paternal EQ assessment the Schutte Self-Report Emotional Intelligence Test (SSEIT) were used.

Results: Out of the 159 sample, the mean age of female partners was 28.21 years, and the mean age of male partners was 31.71 years, 10 female partners were teenagers. Majority of the participants were Sinhalese 93.1%(n=148). 49.1%(n=78) were educated up to the advance level and 56.6%(n=90) fathers were educated only up to O/Ls. Maternal median EPDS score reported was 4 while 13.8%(n=22) reported EPDS score 9 or above. Median paternal EPDS score was also 4 with 16.4%(n=26) reported EPDS score 9 or above. Maternal age, ethnicity, maternal and paternal education level or paternal EPDS was not significantly associated with the high maternal EPDS scores. Paternal EQ scores revealed that 88.7% (n=141) fathers with average or good EQ levels. Only 2 mothers with partners with good EQ showed high EPDS score. Still the association between fathers EQ and mothers EPDS was not statistically significant (P=0.365).

Conclusion: Further studies may be beneficial to determine the similar effect during the postpartum period, where mothers need more emotional and physical support from her partner.

Keywords: Paternal Emotional quotient, Paternal mental health, Maternal mental health

MEDICAL UNDERGRADUATES' PERCEPTION OF COMPLEMENTARY AND ALTERNATIVE MEDICINE IN FMAS, RAJARATA UNIVERSITY OF SRI LANKA

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Background: Different types of Complementary and Alternative Medicine (CAM) systems are practiced worldwide. Ayurveda, Siddha, Unani, “deshiya chikithsa” and many other CAM systems are used by a significant proportion of Sri Lankans.

Objective: To describe medical undergraduates' knowledge, attitudes and practices on complementary and alternative medicine.

Methods: A descriptive cross-sectional study was conducted among medical undergraduates of Rajarata University using an online self-administered questionnaire.

Results: A total of 429 students have responded to questionnaire and 66.4% were females and 55.9% were pre-clinical students. Overall, 98.8% students knew about Ayurveda system while Unani and Siddha systems were known to 76.5% and 75.5% of students respectively. However, only 61.3% of students had some knowledge about “Deshiya Chikitsa”. With regards to fundamentals of CAM systems, 90% of students had some understanding about Ayurveda system while only a minority had an idea about fundamentals of other systems. Majority of students (63.2%) tend to discourage the practice of CAM concurrently with allopathic medicine unless it is scientifically proven and 68.1% believed that CAM may cause some complications. However, 90% students liked to combine CAM if proven to be effective while 73.7 % would allow the use of CAM for conditions where there is no definitive cure in the allopathic system. Majority (71.8%) prefers to learn basic principles of CAM within the MBBS curriculum and 82.5% were willing to allow clinical trials of CAM in an allopathic setting. Further a significant proportion of students use some form of CAM (38.5%) regularly for minor conditions as minor pains and skin conditions. There were no statistically significant differences in perceptions between genders o pre and clinical students.

Conclusion: Students level of understanding about some CAM systems practiced in Sri Lanka is not adequate. Basic principles of commonly used CAM systems should be taught within the medical curriculum.

Keywords: CAM, Medical undergraduates, Perception

ASSOCIATION OF G.C.E A/L EXAMINATION RESULTS ON ACADEMIC PERFORMANCES OF MEDICAL UNDERGRADUATES IN FACULTY OF MEDICINE AND ALLIED SCIENCES, RAJARATA UNIVERSITY OF SRI LANKA AND THE SIGNIFICANCE OF PASSING GRADE 5 SCHOLARSHIP EXAMINATION AMONG THEM

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Background: Around 1300 students with highest Z scores in GCE Advanced level Examination are selected as medical undergraduates each year, making it a very competitive degree. Grade 5 Scholarship examination is not a bar examination but applicants with high marks can apply for recognized, popular schools in the country.

Objective: To describe the association between GCE advanced level examination results and undergraduate academic performance of medical students in FMAS RUSL and to assess the significance of passing scholarship examination on GCE Advanced level Examination result and undergraduate academic performance among them.

Methods: A descriptive cross-sectional study was performed among undergraduates of FMAS RUSL. Data were collected using a google form distributed online. 332 responses were recorded and analyzed by SPSS software using independent T samples test and Chi-square test.

Results: Among the recorded responses, passing scholarship examination did not show any significant association with the z score obtained in GCE Advanced level Examination (2016/2017 batch P=0.323611, 2017/2018 batch P= 0.323675) or academic performance within the medical faculty (Second MBBS P=0.069, 3rd MBBS part 1 P=0.141, 3rd MBBS part 2 P=1.00). Undergraduate academic performance did not show any correlation with the z score obtained in GCE Advanced level Examination (2016/2017batch 2nd MBBS P= 0.061, 3rd MBBS part 1 P= 0.682; 2017/2018 batch Second MBBS P= 0.125). In determining the associations related to GCE Advanced level Examination, responses from 2013/2014, 2014/2015, 2015/2016 and 2018/2019 batches were excluded due to low response rate.

Conclusion: Despite the excessive competition for Scholarship Examination, its contribution towards future academic achievements in a child is low. Adapting to university medical education can be challenging, thus undergraduate academic performance may not correlate with the Advanced level Examination result.

Keywords: Medical-undergraduate, Scholarship, Advanced-level

ASSOCIATION BETWEEN THE LEVEL OF EMPATHY AND ACADEMIC PERFORMANCE AMONG MEDICAL UNDERGRADUATES, RAJARATA UNIVERSITY OF SRI LANKA

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Background: Empathy is one of the leading elements of excellent physician-patient relationships, and it has strong connection to better patient outcomes. It is important in the development of interpersonal understanding and in assisting communication proficiency. Empathy development among medical students, who will become tomorrow's doctors, is an important part of medical education.

Objective: The study aims to measure the level of empathy among study population and to assess the relationship between the level of Empathy and Academic Performances.

Methods: This cross-sectional study was conducted from June to September 2021 among 172 medical students of Faculty of Medicine and Allied sciences, Rajarata University of Sri Lanka. Jefferson Scale of Physician Empathy (S version) was used to determine empathy levels among students. Individual Empathy scores were calculated. Academic performances were evaluated according to 2nd MBBS examination results. Data was analyzed in IBM SPSS-26. Kruskal-Wallis test and Mann-Whitney tests were used to determine the association.

Results: Response rate was 100%. Of 172 responders, 65.6% (n=112) were female and 34.8% were (n=60) male. Median Jefferson empathy score was 46 (IQR =34 -53, Male= 44.5, Female=47). We found higher empathy score among female responders who passed 2nd MBBS examination which is statistically significant ($p= 0.067$). The results confirm that there is no significant relationship between empathy level and academic performances among study population ($p= 0.308$). Also, there is no statistically significant association between empathy levels of female and male responders and their academic performances.

Conclusion: There is a significantly higher empathy scores among female students who passed the 2nd MBBS examination. However no statistically significant difference was found between gender, academic performances and median empathy scores. The findings suggested that empathy is a relatively stable trait and the empathy level of the participants was not found to be influenced by their academic performances.

Keywords: Empathy, Jefferson scale S version, Academic performances, Medical students.

AWARENESS & PRACTICES OF MINDFULNESS AND EXPLORATION OF THE NEED AND STRATEGIES FOR PROMOTION OF MENTAL WELLBEING AMONG MEDICAL UNDERGRADUATES OF RAJARATA UNIVERSITY OF SRI LANKA

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Background: Medicine is a challenging undergraduate program instigating stress among learners. Mindfulness to reduce stress is a well-known strategy worldwide. Locally, there is a scarcity of knowledge.

Objective : To describe the awareness and practices of mindfulness, student stressors and to explore the need and the strategies that can be adopted to promote mental wellbeing among medical undergraduates of Rajarata University of Sri Lanka.

Methods: We used a mixed method design including an anonymized online questionnaire to assess the awareness, practices of mindfulness and perceived stressors. An open-ended question was given to describe the most stressful event faced in medical school. Medical undergraduates of all years were invited. We also conducted in-depth interviews with student counsellors/ selected staff members. We calculated proportions and conducted thematic analysis.

Results: We received 317 completed questionnaires and 64 logs for the open-ended question. Five staff members participated in interviews. Of the students, 84.5% (n= 268) were at least slightly aware of mindfulness. Religious (58.0%), Academic (34.4%) and health (12.9%) institutes were main sources. Of the students, 28.4% (n=90) practiced mindfulness activities often. Only 10.1% (n=32) practiced daily. The practices varied; daily mindful activities (38.5%, n=122), sitting meditation (25.2%, n=80) and in mindful movements (25.2%, n=80). Students practicing mindfulness reported reduced perceived stress during exams (p<0.05). Triangulated data suggested academic work load, examinations, personal relationships and adaption as common stressors. Present moment focus, yoga, meditation, relaxing activities, positive thinking helped in coping. Counselors revealed that enhancing leisure activities, establishing relaxation methods, uplifting student welfare, personal development and counseling are in need. Developing Infrastructure for recreation, training of trainers for mind body interventions, and introducing an online platform for mental wellbeing promotion were among suggested strategies.

Conclusion: Mindfulness is an adoptable practice among medical students. Enhancement of multiple strategies are in need to facilitate mental wellbeing.

Keywords: Mindfulness, Stressors, Medical students

**AWARENESS, KNOWLEDGE AND ATTITUDE REGARDING HPV VACCINATION AND
CERVICAL CANCER AMONG STUDENTS OF SELECTED NATIONAL COLLEGE OF
EDUCATION IN SRI LANKA- DESCRIPTIVE CROSS-SECTIONAL STUDY**

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Background: Cervical cancer is the Second most common cancer type among Sri Lankan women. Knowledge regarding cervical cancer, HPV infection and vaccination among undergraduates of National Colleges of Education (NCOE) is important in raising awareness in the community as future educators.

Objective: Determining awareness, knowledge and attitudes regarding HPV vaccination and cervical cancer among students of selected NCOEs in Sri Lanka.

Methods: An online based, descriptive cross-sectional study was conducted among 1260 undergraduates of selected NCOE (sample size is 424) in Sri Lanka. A non-probability volunteer response sampling method was used to select participants from 04/01/2021 to 01/08/2021. A self-administered questionnaire of 18 questions assessing the knowledge on HPV, HPV vaccine and cervical cancer (1mark per question) was distributed via emails and WhatsApp and analyzed using SPSS software

Results: 98 males (7.8%) and 1162 females (92.2%) representing all 25 districts from 9 different NCOE were recruited. 83.4% belonged to 23-25 age group with a median age of 24years. The median knowledge score of HPV, HPV vaccine and cervical cancer is 3,4 and 2 accordingly. 76.6%, 74.8% and 28.1% of participants were unaware of HPV, HPV vaccine and cervical cancer respectively. When arranged in the ascending order of the number of participants who scored above 50% for each section, 172(13.7%) scored for HPV awareness, 188(14.9%) scored for HPV vaccine awareness and 350(27.8%) scored for cervical cancer awareness. 88% of participants scored a total of less than 50% in all three sections. 94% of study population would like to share their knowledge about HPV vaccine in the society and 78% like to receive the vaccine if possible.

Conclusion: Knowledge regarding HPV, HPV vaccine and cervical cancer is limited in the undergraduates of NCOEs. As these are the educators of the next generations, even if they are interested in sharing this knowledge, they are unable because they lack basic awareness.

Keywords: Awareness, HPV, cervical cancer

**EPIDEMIOLOGY OF CHRONIC DISEASES AMONG PREGNANT WOMEN FROM
WELLAWAYA MEDICAL OFFICER OF HEALTH DIVISION, MONARAGALA DISTRICT,
SRI LANKA**

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Background: Maternal chronic diseases have a significant effect on pregnancy outcomes.

Objective: To describe the epidemiology of chronic diseases among pregnant women from a rural geography.

Methods: A descriptive cross-sectional study was conducted in Wellawaya medical officer of health division in Monaragala, Sri Lanka. Double stage cluster sampling method was used to select pregnant women registered at PHM offices from January 2019 to December 2019. Data were extracted from B portion of the pregnancy record after obtaining administrative and ethical approval and verbal consent from participants.

Results: We recruited 221 participants with 53 (24.1%) primigravida, 82 (37.3%) in second gravidity and 58 (26.2%) third gravidity. Mean age was 29.7 ± 5.5 years. Majority (77.4%) were unemployed and 22.2% were from farming families. Rubella vaccination and tetanus toxoid were received by (93.2%) and (95.9%) pregnant women, respectively. However, only 157 (71.0%) of pregnant women have taken prenatal folic acid supplements. Prevalence of asthma, hypertension, diabetes mellitus, thyroid disease and chronic kidney diseases are 4.6% (n=10), 2.8% (n=6), 1% (n=2), 0.5% (n=1) and 0.5% (n=1), respectively. There were 198 (89.6%) live births, 20 (9.1%) abortions and 2 (0.5%) neonatal deaths. There were 11 (5.5%) preterm deliveries. Prevalence of low birth weight and extreme low birth weight among the newborns was 13.6% (n=27) and 0.5% (n=1), respectively. In this study sample, asthma in pregnant women did not associate with low birth weight ($p=0.60$). Most common intrapartum maternal complication was vaginal tear (n=3, 1.4%) followed by fever (n=2, 0.9%) and foetal distress (n=1, 0.5%).

Conclusion: Rubella and tetanus immunization among pregnant women in Wellawaya were low compared to national data. Prevalence of chronic diseases was significantly low in this study compared with the available Sri Lankan studies and global studies, likely due to underreporting which warrants further exploration.

Keywords: Chronic diseases, Epidemiology, Pregnancy

PROBLEMS EXPERIENCED AND THE EXPECTATIONS OF PARENTS OF PAEDIATRIC PATIENTS WHEN INTERACTING WITH MEDICAL STUDENTS AT TEACHING HOSPITAL ANURADHAPURA

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Background: The medical training of a doctor relies heavily on the training environment and the healthy interaction he or she has with his or her patient. Since the patient plays an important role in medical training, it is important that patient care is given more attention. While this need is even more pronounced in patients of paediatric wards, there have been only limited research articles in this regard.

Objective: Assessing the problems of parents of paediatric patients when interacting with medical students at THA and assessing the expectations of parents of paediatric patients when interacting with medical students at THA

Methods: We conducted a descriptive cross-sectional analysis at paediatric wards of THA using self-administered questionnaires.

Results: Most of the parents mentioned that their child was not comfortable during history taking (92%) and examination (94%) by medical students, although most felt the examinations were conducted gently (89%) and with privacy (88%). Although most of the parents said that the medical students take consent before history taking (99%) and examination (97%) only 56% of parents knew that they could disapprove medical students in a clinical encounter. There were mixed opinions on the medical student involvement in the management process. 86.5% of parents had no gender preference of medical students. 90.4% of parents expected that medical students would help them in understanding the condition of their child. There were no correlations with the demographic characteristics and the responses of parents.

Conclusion: More attention must be given into considering the parents' point of view and reassuring them with regards to the involvement of medical students in the healthcare system. Medical students must be advised to be more considerate about ensuring patient comfort when dealing with paediatric patients.

Keywords: Medical students, Paediatric ward, Problems and expectations

ASSOCIATION BETWEEN PERCEIVED ACADEMIC STRESS AND DEPRESSION AMONG UNDERGRADUATES OF RAJARATA UNIVERSITY OF SRI LANKA

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Background: Many studies have shown that depression may emerge as a long-term sequel to persistent academic stress. Existence of academic stress and depression among undergraduates may adversely affect their career. However, there is a scarcity of local literature regarding the prevalence of academic stress and depression among the undergraduates in Sri Lanka.

Objective: To assess the prevalence of depression and perceived academic stress and correlation between academic stress and depression among undergraduates of RUSL.

Methods: A descriptive cross-sectional study was conducted among 2nd, 3rd and 4th year students at RUSL (n=283). Data was collected using a self-administered questionnaire distributed online as a Google form. Depression and Academic stress were assessed using validated questionnaires; Beck's Depression Inventory (BDI) and Perception of Academic Stress Scale (PASS) respectively. In both questionnaires, a likert scale was used to determine the level of depression and academic stress. Depression was categorized into severe, moderate, mild and minimal depression and Academic stress was categorized into high, moderate and low according to the score obtained in BDI and PASS respectively. Spearman Correlation Coefficient was used to assess the correlation between depression score and academic stress score. $P < 0.05$ was considered significant.

Results: Study population consisted of male (37.1%) and female (67.9%). Prevalence of depression was 3.2% (Severe depression), 9.2% (Moderate depression), 11.0% (Mild depression) and 76.7%. (Minimal depression). Prevalence of academic stress was 64.7% (High), 21.9% (Moderate) and 13.4% (Low). A significant positive correlation was observed between academic stress and depression ($r=0.48$, $p=0.001$).

Conclusion: A significant proportion of undergraduates is affected with academic stress, although the prevalence of depression is low. Since there is a positive correlation between academic stress and depression, we can conclude that depression may prevail as a long-term consequence of academic stress.

Keywords: Academic stress, Depression, Undergraduates

AWARENESS AND ATTITUDE OF INTIMATE PARTNER VIOLENCE AMONG MEDICAL UNDERGRADUATES IN SRI LANKA

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Background: Intimate partner violence (IPV) can affect male and female partners in an intimate relationship irrespective of the social and economic status. Knowledge and attitudes of health professionals are determinantal for providing optimal care for the IPV victims. They are important for their personal health and wellbeing as well.

Objective: Assess the awareness and attitude about IPV among Sri Lankan medical students.

Methods: All consenting medical students studying in Rajarata University were invited. A pretested, self-completed online questionnaire based on a vignette of IPV was sent to participants via batch WhatsApp groups. It could be answered in Sinhalese, Tamil or English. Answers to Open ended questions were analyzed thematically.

Results: Of the participants, 69.8% (n=353) were females and 30.2% (n=153) were males. Most (n=312, 63.5%) knew female victims, 173 (35.1%) knew male victims and 77 (15.4%) were IPV victims themselves. 95 % (n=470) identified physical violence while 70.2% (n=347) identified controlling partner's money as forms of IPV. 355 (70.3%) did not approve physical violence by male against the female he is in a relationship with, and 68.6% (n=345) did not approve the male's behavior even if they were married. Female responders (compared to males) were more likely to approve the male's behavior (Chi Square 7.483, p=0.02). 219 (71.1%) of participants who did not approve female partners behavior leading to the immediate incident disapproved the violence by the male. Respectively, 1.6%(n=8) and 33.1%(n=166) would approve violence by male if male was drunk or under stress. The majority (72.9%, n=364) did not approve nonconsensual sex in marriage. Personal freedom and rights emerged as themes justifying the female's behavior while expecting obedience and gender stereotypes emerged as themes to justify male's behavior in vignette.

Conclusion: Even though majority were against physical violence, traditional and patriarchal norms still influence the attitudes of medical students.

Keywords: Intimate partner violence, Medical undergraduate, Physical violence

THE ASSOCIATION OF DIGITAL DEVICE SCREEN TIME WITH GENERAL INTELLIGENCE IN AGE 14- 16 SCHOOL CHILDREN IN ANURADHAPURA EDUCATIONAL ZONE

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Background: Due to COVID-19 pandemic digital device usage has been increased significantly than early few decades. While there are benefits many studies have shown that electronic media use during childhood and adolescence is linked with physical health risks, and poor mental health.

Objective: This study was designed to determine the association between digital device screen time and general intelligence in age 14–16-year school children in Anuradhapura educational zone.

Methods: A cross sectional study was conducted among randomly selected school children of age 14–16 in Anuradhapura educational zone. The participants completed a questionnaire and Standard version of the Ravens IQ test through an online application. Data analysis was done by IBM SPSS statistics 26 software.

Results: One hundred and eighteen students participated in the study. Among them 53.4% were females (64) and 46.6% were males (55). Mean predicted IQ value was 106.36. Mean screen time of students was 10.9 hours. Standard multiple regression used to assess the correlation between predicted IQ value and digital device screen time. Although there was no statistical significance, screen time showed a negative impact on predicted IQ (beta = -0.194, r = -0.081, p = 0.22) once adjusted for the confounding factors.

Conclusion: Screen time negatively influence on general intelligence of adolescents. However, in-person assessments are required to refine the validity of these results.

Keywords: school children, Digital device screen time, Intelligence

**ISOLATION OF PATHOGENIC MICROBES AND ASSESS ANTIMICROBIAL RESISTANCE
IN NUWARA WEWA, TISSA WEWA, ERU WEWA, NACHCHADUWA WEWA, THURUWILA
TANK, AND MALWATHU-OYA STREAM IN ANURADHAPURA, SRI LANKA**

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Background: Due to urbanization, rapid population growth, and rapid livestock growth, the groundwater poses a significant risk of harboring pathogenic bacteria.

Objective: To isolate pathogenic microbes and assess antimicrobial resistance in *Nuwara wewa*, *Tissa wewa*, *Thuruwila* tank, *Eru-wewa*, *Nachchaduwa* tank, and *Malwathu-Oya* stream in Anuradhapura.

Methods: A descriptive cross-sectional study with a follow-up was done using randomly selected water samples from *Nuwara wewa*, *Tissa wewa*, *Thuruwila* tank, *Eru-wewa*, *Nachchaduwa* tank, and several sites in *Malwathu-Oya* stream. Four surface water samples; two without disturbing and two after disturbing the floor were taken from each site. As controls tap-water and well-water was taken. Hundred microliters from each sample were inoculated on blood and MacConkey agar and incubated at 35±2°C. Cowen and Steel manual was used to identify the microbes. Antimicrobial susceptibility was done using the Kirby-Baur disk diffusion method.

Results: Forty samples were collected. *Shigella* spp. were isolated from 9 sites (*Eruwewa*, *Nachchaduwa wewa*, *Thissawewa*, *Nuwarawewa*, *Thuruwilawewa*, all places of *Malwathu-Oya* except where the *Malwathu-Oya* crosses the German-bridge) while *Salmonella* spp. was isolated from *Malwathu-Oya* crosses the German bridge. *E. coli* was isolated from all ten sites. Three months later, 40 samples were collected from the same sites. *Shigella* spp. was detected in 3 sites (*Nachchaduwwewa*, where the *Malwathu-Oya* crosses A9-road and crosses over Bandaranayake *Mawatha*). *E. coli* was detected in all ten sites. *E. coli* and *Salmonella* spp. were amoxicillin and ciprofloxacin-resistant, while *Shigella* spp. were susceptible for all tested antimicrobials. Controls were devoid of pathogens.

Conclusion: Major water bodies around Anuradhapura are colonized with pathogenic bacteria, and continuous human and animal fecal contamination would be the potential source. Some of these isolates were resistant to several classes of antibiotics. Contamination of water sources has to be reduced, and further studies warrant to assess the level of antimicrobials in water sources.

Keywords: Pathogenic microbes, Water sources-Anuradhapura, Contamination, Antimicrobial resistance.

**KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS PREVENTION AND CONTROL
OF COVID-19 UNDERGRADUATES OF RAJARATA UNIVERSITY OF SRI LANKA,
MIHINTALE**

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Background: The pandemic of corona virus disease 2019 (COVID-19) is still ongoing causing a significant morbidity and mortality despite implementing numerous preventive and control strategies. Assessing knowledge, attitudes and practices on COVID-19 control and prevention is important in identifying effective measures for disease control.

Objective: To assess knowledge, attitudes, and practice of university students on control and prevention of COVID-19.

Methods: A cross sectional online survey was conducted among 2016/2017 academic year undergraduates of all six faculties at Rajarata University of Sri Lanka using a structured questionnaire. Knowledge, attitudes, and practices were compared between medical and non-medical undergraduates using student-t-test, and p-value<0.05 was considered as significant.

Results: Of the total of 403 participants, majority were female (n=403,63.52%) and the mean age was 24 years. The average knowledge on disease control and prevention was significantly higher (p<0.05) among medical students (92.8%) than non-medical students (84.7%). Non-medical students had inadequate knowledge on the disease transmission methods. The average scores for attitude were over 75% among medical (84.1%) and non-medical (82.7%) students. Importantly, majority in both groups had neutral attitude on country lockdown, closing educational institutions and online teaching. Compared to knowledge and attitudes, the average score for practices was low for both medical (65.8%) and non-medical (66.6%) students. Compared to knowledge, both attitudes and practices were significantly low among medical students (p<0.05). Although there was no significant difference between the knowledge and attitudes among non-medical students (p=0.209), a significant difference between knowledge and practices was observed (p<0.05).

Conclusion: Both groups showed a good knowledge and a positive attitude towards the control and prevention of COVID-19, with a better knowledge among medical undergraduates. However, compared to knowledge and attitudes, their practices were significantly low. Thus, undergraduates should be encouraged to apply knowledge and attitudes to improve their practices towards control and prevention of COVID-19.

Keywords: Attitude, Corona virus, Knowledge, Practice, University undergraduates

EXPLORATION OF ASSOCIATED FACTORS AND SELF-MEDICATION PRACTICES OF PMS AMONG SRI LANKAN ADULT WOMEN OF REPRODUCTIVE AGE GROUP: AN ONLINE SURVEY

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Background: Premenstrual syndrome (PMS) affects women's emotions, physical health, behaviour, and ultimately the quality of life.

Objective: To explore the prevalence, associated factors, and self-medication practices of PMS among Sri Lankan women aged 18-49 years.

Methods: A web-based cross-sectional analytical study was conducted for 2 weeks in June 2021. Self-reported; (1) sociodemographic details, (2) details of menstrual cycle and contraception, (3) assessment of PMS (based on ACOG Criteria), (4) behavioural changes and health practices, (5) supportive interaction, and, (6) depressive symptoms (PHQ 9), were collected through a Google-Form. Data were analysed with IBM-SPSS version-23.

Results: The sample consisted of 1667 women. Their mean age was 25.1 and the mean age of menarche was 12.8 years. The majority of the sample were Sinhalese (95.3%), never married (85.7%), and, degree/diploma holders (65.3%). PMS prevalence was 21.4%. More than half of them (58%) conversed with others; the majority (67%) with the mother. Nearly two-thirds (66%) of the women having PMS experienced social and economic disturbances due to the symptoms. The majority (58%) didn't seek health advice, mainly (44%) due to shyness. Women with PMS were slightly older than those who didn't (mean age 25.7 vs 24.9 years, $p=0.003$ (independent sample t-test)). Women having children had a 2-fold excessive risk for PMS (OR 2.1(95%CI 1.4-3.4). Women having PMS had a 4-fold excessive risk for depression (OR 4.1(95%CI 3.2-5.3). The most used self-medication was analgesics (80%), followed by hot water (62%) and coffee (49%). Symptoms of the majority of the women (89%) responded to analgesics. 13.1% of women reported aggravated symptoms during the COVID-19 pandemic.

Conclusion: PMS prevalence in Sri Lanka is 21.4%. It is common among women with children. PMS is significantly associated with depression. The majority do not seek professional advice for PMS. In-depth exploration with a more representative sample is recommended.

Keywords: Premenstrual syndrome, Sri Lanka, ACOG Criteria

ASSOCIATION BETWEEN NON-ALCOHOLIC FATTY LIVER DISEASE IN EARLY PREGNANCY (NAFLD) AND MATERNAL WEIGHT GAIN DURING PREGNANCY

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Background: Non-alcoholic fatty liver disease (NAFLD) is one of the most widespread metabolic conditions worldwide. Evidence suggests that NAFLD in pregnancy is associated with several pregnancy outcomes, including changing maternal weight gain. However, the prevalence and association between adverse maternal outcomes following NAFLD are lacking in Sri Lanka.

Objective: To determine the association between NAFLD and weight gain during pregnancy.

Methods: We used secondary data obtained from a large population-based prospective cohort study (RapCo). This was conducted in the Anuradhapura district among a random sample of pregnant mothers registered in the national antenatal care program from mid-July to August 2019. The weight of the mother at the first visit was recorded. All mothers were offered an ultrasound scan to diagnose fatty liver, and mothers were categorized according to ultrasound scan (USS) criteria into fatty liver grade 0, I, II and, III (FLG 0–III). All mothers were followed-up until delivery, and weight at the delivery was taken from the antenatal record.

Results: For the final analysis, 482 mothers were included. The mean age was 29.0 years (SD 5.6). Among them, 180 (37.3%) were diagnosed with FLG I, 67 (13.9%) had FLG II, while non-of pregnant women had FLG III. The total proportion of fatty liver was 51.2%. FLG II showed statistically significant lower weight gain ($p < 0.05$) in comparison to FLG 0. After adjusting for the confounding factors, the significance of FLG II disappeared, and body mass index (BMI) ($t = -2.239$, $p = .026$) and period of gestation (POG) at delivery ($t = 2.189$, $p = .029$) remained the independent predictors of pregnancy weight gain.

Conclusion: Despite the significance of FLG II as a predictor of many other adverse outcomes, it is not independently associated with pregnancy weight gain.

Keywords: NAFLD, Pregnancy, Weight gain, Fatty liver grade II

PREVALENCE OF PATERNAL POSTPARTUM DEPRESSION IN ANURADHAPURA DISTRICT AND ITS ASSOCIATION WITH MATERNAL POSTPARTUM DEPRESSION AS A RISK FACTOR

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Background: Paternal Postpartum Depression (PPPD) is an often-underdiagnosed condition, particularly in low- and middle-income countries where male-oriented health services are scarce during the postnatal period. PPPD has adversely affected parenting behaviours, partner relationships and child development. But prevalence rates and its risk factors are not yet known in Sri Lanka.

Objective: This study aimed to determine the prevalence of PPPD in Anuradhapura district, its association with maternal PPD, and relevant risk factors.

Methods: Cross sectional study was conducted among fathers in Anuradhapura district having infants 1-5 months by giving questionnaire specifically developed for the study with Edinburgh postnatal depression scale (EPDS) and self-constructed questions. Out of 6324 fathers, 435 fathers and their partners were randomly selected and proportionately allocated to 5 Medical Officer of Health (MOH) areas. R Program and SPSS have used for the data analysis.

Results: Our results revealed that the PPPD prevalence is approximately 11% (95%CI: 8.08-14.67) based on cut off score of 7 points in the EPDS. PPPD was correlated with maternal PPD (OR 19.16, 95%CI 5.0473-85.1203), income decrement (OR 8.1571, 95%CI 2.4621-32.6289), increased time stayed at home in postpartum period (OR 3.7775, 95%CI 1.2365–13.8175).

But other parameters such as infant's age, work time and number of children were not significantly influenced risk factors for PPPD.

Conclusion: PPPD is prevalent in the Anuradhapura district and maternal postpartum depression has positively influenced. But currently, screening programmes for PPPD is lacking in Sri Lanka. Thus, these deficiencies urgently need to be addressed and should provide information and instructions to fathers regarding this new transition. However, these results need to assess in more expanded case-control study since the prevailing covid-19 pandemic at the time of data collection may have impacted the mental health of the fathers specially in countries like Sri Lanka, where mental health support is limited.

Keywords: Depression, Maternal Post-Partum Depression, Paternal Post-Partum Depression

KNOWLEDGE AND ATTITUDES REGARDING LEPROSY AMONG FIRST YEAR STUDENTS OF RAJARATA UNIVERSITY OF SRI LANKA

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Background: Although nearly 2000 annual cases of leprosy are reported, there is a misconception among some individuals including health-care professionals that Sri Lanka is leprosy-free. Negative societal attitudes and lack of knowledge, causes leprosy patients to put off seeking treatment until they've infected a large number of people.

Objective: To assess knowledge and attitudes regarding leprosy among first year students of Rajarata University of Sri Lanka.

Methods: A descriptive cross-sectional study was conducted using a pre-tested self-administered online questionnaire, among 396 first-year students selected by stratified random sampling from 6 faculties at Rajarata University. Data was analysed using SPSS software.

Results: About 87.6% have heard about leprosy while 82.9% knew leprosy is contagious. Around 176 (50.7%) didn't know its bacterial origin. Inhalation of infected saliva droplets as primary mode of transmission was identified by only 48.7%. About 60.2% believed leprosy is transmitted by touch. Of participants who have heard about leprosy, hypopigmented patches (39.7%), skin nodules (48.7%), loss of sensation (40.9%) and deformities (34.6%) were not identified as symptoms, and 57.3% selected that leprosy caused dropping of fingers. However, 249 (71.8%) mentioned that leprosy can be cured, while 267 (76.9%) didn't know whether patients are contagious after starting treatment. Only 47.3% knew the current situation and only 24.5% knew about Anti-Leprosy Campaign in Sri Lanka. Only 145 (41.8%) would not avoid a known leprosy patient. About 36.0% said leprosy causes embarrassment in community. A/L stream ($P=0.012$) and residing province ($P=0.014$) were significantly associated with knowledge while ethnicity was significantly associated with attitude ($P=0.051$). Neither knowledge ($P=0.201$) nor attitude ($P=0.334$) was associated with representing faculty. A positive correlation was observed between knowledge and attitude ($r=0.293$, $P=0$).

Conclusion: Enhancement of health education in school students is needed to improve knowledge which would contribute for better attitudes towards leprosy patients.

Keywords: Attitudes, Knowledge, Leprosy

**ASSESSMENT OF THE MAGNITUDE AND ASSOCIATIONS OF COVID-19 LOCKDOWN
PERIOD ON UNPLANNED PREGNANCIES IN 3 MOH AREAS IN ANURADHAPURA
DISTRICT, SRI LANKA**

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Background: Unplanned pregnancies result in negative maternal and neonatal outcomes as well as, it has been identified as a major public health problem in Sri Lanka and worldwide.

Objective: This study is to assess the magnitude of unplanned pregnancies (UPs) during COVID-19 lockdown period and its associated factors in Nuwaragam Palatha-Central (NPC), Nuwaragam Palatha-East (NPE) and Kekirawa (KK) MOH areas in Anuradhapura district.

Methods: A descriptive cross-sectional study was conducted among 49 consented mothers selected from simple random sampling technique, who got pregnant during lockdown period; March-May 2020 in NPC, NPE and KK MOH areas in Anuradhapura district, using interviewer administered questionnaire via telephone interviews. Data was analyzed by chi-square test using SPSS version 26.

Results: A total of 41 participants (NPE-n=14, NPC-n=16, KK-n=11) out of 49, fully responded to the study. Their mean age was 28.8 years (SD ± 5.3). 17.1% (n=7) of the participants, and 26.8% (n=11) of the partners of the participants had increased sexual desire. 24.4% (n=10) have increased intercourse frequency during lockdown period. 26.8% (n=11) had no access to contraceptives, 24.4% (n=10) did not have enough contraceptive supply, 39.0% (n=16) were unable to buy contraceptives when needed during lockdown period, and 34.1% (n=14) were afraid to go out and buy contraceptives due to the fear of getting COVID-19. The prevalence of UPs in this population was 22.0% (n=9). A significant association was noted with contraceptive failure and UPs during lockdown period (p=0.011). The observation of delayed registration in first trimester at antenatal clinics among UPs were statistically significant (p=0.004).

Conclusion: In this population, UPs during lockdown period were significantly associated with contraceptive failure. This alerts the public health sector to take measures effectively to improve contraceptive knowledge and prevent contraceptive failure in the community.

Keywords: COVID-19, Lockdown, Unplanned pregnancies

THE PROFESSIONAL QUALITY OF LIFE OF MEDICAL STUDENTS ENGAGING IN CLINICAL APPOINTMENTS DURING COVID-19 PANDEMIC

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Background: COVID 19 has led to stigmatization towards the patients and healthcare workers. Medical students engaged in clinical appointments, are more prone to get COVID – 19 viral infection compared to other university students and general population. Therefore, the impact of stigma may affect the medical students.

Objective: This study was conducted to assess the professional quality of life through the level of compassion satisfaction, burnout, and secondary traumatic stress of the medical students and the associated factors during COVID 19 pandemic.

Methods: A descriptive cross-sectional study was conducted among the students of Faculty of Medicine and Allied Sciences, engaged in clinical appointments during pandemic. A self-administered questionnaire comprising the ‘Professional Quality of Life Scale’, was used as study instrument. It was distributed through google forms. The data were analyzed using the SPSS software.

Results: The co relations were analyzed with Pearson correlation. The total number was 360. Response rate was 60.3% (n= 217). Out of the respondents, 27.2% had been exposed to COVID 19 confirmed patients. 43.8% of the students had high scores for compassion satisfaction. Only, 0.9% had a high (≥ 42) burnout scale. No significant association between burnout and clinical appointment (p value= 0.627). Secondary traumatic stress was highest in surgery appointments (55.6% - out of the students who did surgery appointment). Exposure to a confirmed COVID–19 patient had not shown a significant impact on having a higher burnout ($r=-0.094$, $P=0.168$) among students. There is no significant impact on level of compassion satisfaction, secondary traumatic stress by engaging clinical appointments during COVID 19 pandemic period.

Conclusion: Professional quality of life of medical students is not significantly affected by doing clinical appointments during COVID-19 pandemic period. Further studies are needed to ensure the impact of COVID-19 on professional quality of life of medical students.

Keywords: Compassion satisfaction, COVID-19, Burnout, Secondary traumatic stress

USE OF HERBAL REMEDIES BY THE FAMILY MEMBERS OF MEDICAL UNDERGRADUATES OF FACULTY OF MEDICINE AND ALLIED SCIENCES, RAJARATA UNIVERSITY OF SRI LANKA FOR TYPE 2 DIABETES MELLITUS

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Background: With the increase of the prevalence of Type 2 diabetes mellitus (T2DM) there is a rapidly increasing trend in the use of herbal remedies for blood glucose control.

Objective: The aim of this study was to assess the use of herbal remedies by the family members of medical undergraduates, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka for T2DM.

Methods: For this cross-sectional study, 287 medical undergraduates (65.3% were in second year or above) of the Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka participated through an online self-administered questionnaire. Convenient sampling technique was used.

Results: Out of all the participants 46.3% had a family member/s with T2DM of them 43.9% were using herbal remedies to control blood glucose. The most popular herbal remedy was *Momordica dioica* (*Karawila*) (79.3%) followed by *Costus speciosus* (*Thebu*) (74.1%). The most common preparatory methods were mullum (65.5%), sambol (50.9%) and juice (47.4%). Majority (66.9%) was using herbal remedies based on the beliefs and only 14% has gained the knowledge from a health care practitioner. Almost 70.4% were using remedies for more than one year and 12.3% were using even more than 10 years. However, 71.4% were using only when they feel hyperglycemia and 8.6% were using on the day before the blood sugar test. Almost 77.2% experienced blood glucose lowering with herbal remedies. Significant number of medical students (40.1%) perceives that use of herbal remedies is an effective method to control hyperglycemia and 41.1% family members agree with the use of herbal remedies by their family member with T2DM while 9.2% disagree.

Conclusion: A considerable proportion of family members with T2DM of medical students use herbal remedies. More than 40% of family members and medical students agree the use of herbal remedies for T2DM.

Keywords: Herbal Remedies, Perception, Type 2 Diabetes Mellitus

**PERCEPTIONS AND SATISFACTION ON AVAILABLE PRACTICES FOR ACCESSING
HEALTH-RELATED INFORMATION FROM PRIVATE MEDICAL PRACTITIONERS
AMONG THE FAMILIES OF MEDICAL UNDERGRADUATES OF FACULTY OF MEDICINE
AND ALLIED SCIENCES, RAJARATA UNIVERSITY OF SRI LANKA**

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Background: Information accessibility is one of the main components in health care access as described by WHO. Information access has a great ability to effect on protecting people's health. During pandemics, health practitioners have to focus their concern on alternative methods to approach their patients. It is assumed that the result of the proposed study would be beneficial in improving information accessibility at the private medical practice.

Objective: The main objective is to identify common methods available for health information access at private medical practices and to describe perceptions and satisfaction among the families of the medical undergraduate of Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka.

Methods: A descriptive cross-sectional study was conducted as an online survey. Every medical undergraduate was intended to be the representative of one household member of the family mainly the household head. A self-administered questionnaire was developed and circulated as a Google form. Data collected from google forms were analyzed using Microsoft excel 2016 and SPSS software.

Results: 369 participants were recruited. Among them, father (n=325,88.1%) and mother (n=39,10.6%) were the main household head of their families. They checked their preferred private medical practitioner's availability by direct visit (n=276,74.9%), phone call (n=152,41%), through online appointments (n=26,7.1%), and other methods (n=11,3%). They showed satisfaction on notifying the changes in time of consultations at private practice (n=164,44.4%), clearly explaining the illness conditions to the patient (n=276,74.8%), and concerning the patient's recovery post-consultation (n=245,66.4%). Only 30.9% (n=114) of them have heard the concept called telemedicine. Regarding overall information accessibility, 74.2% (n=274) of the survey participants showed good satisfaction

Conclusion: There is a need to educate both primary care providers and the community about modern methods of information access for patients to provide more effective delivery of care.

Keywords: Information access, Private medical practice, Satisfaction.

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