10TH INTERNATIONAL RESEARCH CONFERENCE

3rd and 4th August 2017

Allied Health in the Global Environment; Challenges and Opportunities

ABSTRACTS

General Sir John Kotelawala Defence University Sri Lanka

Ratmalana 10390
Sri Lanka

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Message from the Chief Guest

I am pleased to send this message to the Abstract Book of the International Research Conference-2017 of General Sir John Kotelawala Defence University, Sri Lanka, especially on the occasion that it is held for the 10th consecutive time.

Research, experiment and invention have been in existence ever since the presence of man on this planet, and it has been brought into a whole new level and caliber in the 21st century, which can be witnessed in the pro-research environments and research conferences of this nature promoted and held by universities around the world. In this milieu, KDU-IRC, I believe, has become predominant in providing a collective platform for both civil and military specialists to engage in multidisciplinary discussions while showcasing new discoveries related to multiple disciplines.

I firmly believe that, this year's conference theme Changing Dynamics in the Global Environment, is both timely and appropriate for local as well as foreign scholars to display and gain recognition for their research achievements. Also worth mentioning is the importance of such collaborative multidisciplinary research which will ultimately pave path for inculcating professionalism, boosting international relations and nation-building, which, I presume, is undoubtedly one of the aims of KDU-IRC as well.

Finally, while congratulating and appreciating the work done thus far by Kotelawala Defence University in general and the conference organizers in particular, I wish all the success for the 10th International Research Conference of KDU.

HON SUSIL PREMAJAYANTHA
Minister
Ministry of Science, Technology and Research

Message from the Secretary
Ministry of Defence
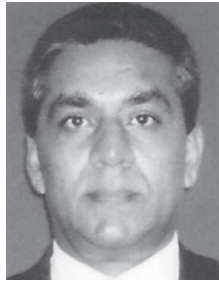
It is a pleasure for me to send this message to the International Research Conference 2017 of General Sir John Kotelawala Defence University (KDU) in my capacity as the Secretary to the Ministry of Defence and the Chairman of the Board of Management of KDU.

It is well-known that Kotelawala Defence University has been rendering a yeoman service in the field of defence education catering to the requirement of producing graduate officers for the tri-services in Sri Lanka, and today it has grown in strength to extend its high quality, tertiary level, English medium education for Sri Lankan youth as well as for foreign students. In this context, it is heartening to see that it is also playing a leading role in the field of multi disciplinary research, and I am

sure that the tenth anniversary research conference on the theme, "Changing Dynamics in the Global Environment: Challenges and Opportunities", would provide a sound platform to discuss with highest intellectual and philosophical depth on diverse issues in the dynamic world we are living today, particularly with a view to opening new avenues for solving our problems.

I take this opportunity to congratulate the Vice Chancellor and KDU staff on organising this important event and also to commend the researchers who took it upon themselves to make a valuable contribution to the knowledge bases of their respective disciplines, particularly in Defence and Strategic Studies. I wish the participants of this International Research Conference an intellectually fulfilling experience.

KAPILA WAIDYARATNE PC
Secretary
Ministry of Defence

Message from the Vice Chancellor

It is with great pride and pleasure that I pen this message for the Abstract Book of the International Research Conference of General Sir John Kotelawala Defence University, Sri Lanka (KDU-IRC), especially at this symbolic moment when it is held for the 10th consecutive time. Over the past decade, KDU-IRC has made its distinct mark in the arena of multi-disciplinary research both nationally and internationally. This is certainly a matter that cannot be ignored; it gives me immense pride in reminiscence, especially as we celebrate KDU-IRC's 10th anniversary, and I am humbled to be at its helm.

Today, KDU-IRC has attracted specialists in diverse fields across the globe, enriching and encouraging its multi-disciplinary space in the field of research and in the practice of knowledge dissemination. This year's conference under the theme Changing Dynamics in the Global Environment gathers experts both local and foreign under various disciplines, including defence and strategic studies. In particular, we are proud to have internationally eminent, Sri Lankan born scientists such as Prof. Chandra Wickramasinghe and Dr.

Bandula Wijay with us this time as they have made our motherland proud in the international arena as renowned experts and intellectuals in their respective domains.

KDU-IRC stands strong today with the great withstanding support of KDU staff and its well-wishers. I am especially thankful to the Ministry of Science, Technology and Research and the National Science Foundation, not forgetting the Ministry of Defence for their unfailing support in co-organizing this conference.

It is my sincere wish that the plenary sessions, pre/post-conference workshops, and oral and poster presentations, which will unfold during the course of these significant days, will generate productive discussion and constructive criticism and will instigate thought for development in future. I hope that many would make KDU-IRC events an opportunity to study the changing dynamics in the socio-cultural environment in Sri Lanka, and help place our nation high, driving it towards success in the global matrix.

REAR ADMIRAL JAGATH RANASINGHE USP, psc
MSc(DS)Mgt, MMaritimePol(Aus), PG Dip in CPS, Dip in CR, AFNI(Lond)
Vice Chancellor

Message from the Conference Chair

It is with great pride that I write this message as the Chair of 10th International Research Conference of General Sir John Kotelawala Defence University (KDU IRC), in this exciting time in KDU history.

For a decade KDU IRC has been a platform for knowledge sharing among researchers of various backgrounds. In this special year on its 10th anniversary, KDU IRC has invited over 50 experts from world over to share their knowledge and to initiate collaborations with their local counterparts numbering well over 1000.

KDU IRC received 557 research papers this year. Out of which 365 has been selected through a double blind peer review process for presentation. I, therefore, have no doubt that the outcomes of the conference would not only bring pride to KDU, but also uplift the status-quo of research and development of the country as a whole.

My task as the Chair this year would have been laborious, if not for the guidance, assistance and most of all the freedom given to me by the Vice Chancellor, Rear Admiral JJ Ranasinghe to mould and shape this conference to present-day requirements.

The generous assistance received from the Ministry of Science Technology and Research and the National Science Foundation is also praise worthy.

I hope both local and international participants will actively contribute in discussions, make new connections and have a productive and memorable time during the two days of the conference at KDU. I wish you all the very best.

DR PRASANNA PREMADASA
PhD(UK) MSc(UK) BSc Hons. (Perad.)
Chairperson
10th International Research Conference - 2017

Message from the Session President

The Faculty of Allied Health Sciences Session of 10th Annual International Research Conference(IRC) of General Sir John Kotelawala Defence University, Sri Lanka has been organized to suite the main theme of "Changing Dynamics in the Global Environment: Challenges and Opportunities". This session comprises of four plenary speeches delivered by distinguished national and international scientists, oral presentations and poster presentations. It provides a forum for the discussion of advances in recent research in the field of Allied Health Sciences which will cover the areas such as Nursing and Midwifery, Medical Laboratory Sciences, Pharmacy, Physiotherapy, Radiography and Radiotherapy. During this session the students and young researchers will get the opportunity to meet the leading specialists in the above areas who will have the possibilities to impart their knowledge and experience to young generation of future specialists. Plenary session of Allied Health Sciences will feature speeches in four emerging scientific topics which will be; "Nursing in Global Environment: Challenges and Opportunities", "Challenges and way forward of sports and exercise medicine in Sri Lanka", "Does dose matter ?" & "Genomics to Molecular Diagnostics to

Personalized Medicine". The call for papers had an overwhelming response. Researchers from all over the country submitted more than hundred papers for this session and the specialists in the relevant fields reviewed them and selected the best into oral and poster presentations. The oral presentations are conducted in two parallel sessions and from five areas including Nursing & Midwifery, Medical Laboratory Sciences, Pharmacy, Physiotherapy, Radiography and Radiotherapy. It is expected that the Conference Proceedings will serve as a comprehensive compilation of the present knowledge and experience and will be used by researchers who are concerned with the subjects presented at the Faculty of Allied Health Session of 10th Annual IRC of General Sir John Kotelawala Defence University, Sri Lanka.

On behalf of the Committee of the Allied Health Sciences Session of IRC, I wish to thank all the authors, invited plenary speakers (both National and International), abstract reviewers, chairpersons of the session, judges of the session, session coordinators, members of the abstract reviewing committee, and numerous others who helped to shape the content of this session

Lt Col (Dr) MDAS Gunatilleke
President
Faculty of Allied Health Session

Plenary
Sessions

ALLIED HEALTH IN GLOBAL ENVIRONMENT: CHALLENGES AND OPPORTUNITIES

Dr Rasika Jayasekara

Senior Lecturer in Nursing and Midwifery,
School of Nursing and Midwifery, University of South Australia
E mail :

Healthcare is changing dramatically due to the advancement of medical sciences and technology, the abundance of clinical research and the higher demands of consumers. These changes represent a significant challenge to the healthcare professions and education in terms of maintaining the quality of services and preparing healthcare professionals for the future. Effective systems for regulation, education, research and management are key to strengthening the contribution of healthcare professions in order to achieve the required improvement in health outcomes (ICN 2017; WHO 2017; World Bank 2017). In response, healthcare professionals' education and services are increasingly being restructured in many countries to prepare them for contemporary and future demands of healthcare. It is estimated that there are 43 million global health workers in 2015, including 9.8 million physicians and 20.7 million nurses/midwives (WHO 2017). To maintain this enormous workforce requires approximately 3,000 educational institutions, which produce approximately 1 million new healthcare graduates each year (WHO 2016). It is essential to ensure that new healthcare graduates achieved the required standards and competencies to practise in order to provide safe and effective healthcare. However, many healthcare professionals in particular allied healthcare professionals face poor working environments, lower-level wages, unsupportive management and a lack of social recognition and career development (WHO 2016). It is therefore essential that governments and other institutions involved in human resources for health should establish effective strategies designed to ensure adequate policies in order to create safe and effective healthcare system that are able to deal with challenges presented today and the future.

GENOMICS TO MOLECULAR DIAGNOSTICS TO PERSONALIZED MEDICINE

Prof Ranil Dassanayake

Department of Chemistry, University of Colombo, Colombo 04

E mail :

Genomics is the study of genomes, the blue print of life, within the field of molecular biology, and this includes genes, regulatory sequences, and other information contained within the noncoding regions of an organism's DNA. The genomics is one of the fastest growing areas of Molecular Biology with constant introduction of new-advanced-robust technical platforms for genome sequencing that facilitates generation of the alphabet of life, in a rapid and economical manner to assist investigation of the formula of the life forms. Given the importance of genomics in molecular biology and its central role in determining the fundamental operation of cellular processes, expansion of knowledge in this area undoubtedly facilitates medical advances in different areas of clinical interest that may not have been possible otherwise. Molecular diagnostics, essentially the analysis of DNA and RNA at the molecular level, is a fast-growing business, made possible by the growing understanding of the human genome, which has driven growth in the diagnostics industry. Molecular biology has held out the promise of transforming medicine from a matter of serendipity to a rational pursuit grounded in a fundamental understanding of the human genome and the mechanisms of life. Molecular biology has begun to infiltrate the practice of medicine and genomics is hastening these advances. Within next few decades, comprehensive genomics-based health care should be the norm. Scientists will understand the molecular foundation of diseases, be able to prevent them in many cases and design accurate, individualized therapies for illnesses. Molecular diagnostics involves multiple technologies to identify genetic variations in individual patients. These technologies include PCR, FISH, hybrid capture, sequencing, microarrays etc., and has applications in testing for infectious diseases and genetic disorders, early diagnosis of leukemia and cancers, screening of blood and for blood disorders, DNA fingerprinting (e.g., paternity testing, forensic testing), and also in microbiology, tissue typing, and food pathogen detection testing. Further, it has applications in prognostic maker detections related to diseases and personalized therapy identification that leads to the selection of the most appropriate and effective drugs according to the individuals' genetic makeup. Finally, Genomics, Molecular Diagnostics and Personalized Medicine can be considered as one of the greatest intellectual enterprises of humankind that provides the impetus to fulfill the potential of understanding life processes and utilizing them to the advantage of humanity. Although, these are the fastest growing knowledge-based sectors even amongst our neighbouring countries such as China, Japan, India, Korea, Singapore, Malaysia, Taiwan, Thailand etc, Sri Lanka has yet to harness the full potential of these areas of Molecular life science.

DOES DOSE MATTER?

Assciate Prof Mark F McEntee

Faculty of Health Sciences, The University of Sydney, Australia

E mail :

On the discovery of x-rays their use in medical imaging was immediately obvious. After the initial excitement about the wondrous "invisible light", came a period of realisation where many martyrs to radiation fell. Technology for x-ray imaging developed rapidly and quickly became safer. Then there was a new expansion into new imaging technologies fluoroscopy, CT, and more advanced imaging techniques like angiography, and CT fluoroscopy. Although radiation increased with each of these examinations that was not considered to be significant as imaging examinations were few and far between. In the 1980s computed tomography became increasingly more common, and patients were more likely to be exposed to a higher dose of radiation on a more frequent basis. The fear of radiation from x-ray examinations began to creep into the public concern. Articles began to appear in were leading newspapers such as the New York Times hand-wringing about the dangers of high-dose radiation, particularly to children. Now we have the combinations of these powerful x-ray examinations of CT with positron emission tomography (PET). The patient has an injection of a radioisotope at the same time as being exposed to ionising electromagnetic radiation. One theory, that of hormesis, would indicate that the body is well-prepared for these low doses of radiation than the normal repair pathways will be successful in repairing radiation damage at this level. In fact, hormesis might indicate that an initial low dose of radiation, could signal cells to prepare for upcoming higher dose of radiation. Alternatively, and perhaps more worryingly, the linear no threshold model indicates that no dose, is a safe dose. Proponents of this model indicate that modern radiation exposure to young children is leading to significant increases in cancer development and mortality. As we move forward with the use of PET/ CT, how worried should we be about the use of radiation particularly in young children?

CHALLENGES AND WAY FORWARD OF SPORTS AND EXERCISE MEDICINE IN SRI LANKA

Dr Lakshman Edirisinghe

Director General, Institute of Sports Medicine, Ministry of Sports, Colombo 07

E mail:

In the background of a dramatic demographic transition in Sri Lanka, with the increase in life expectancy and the steady decline in fertility (2.13 in 2014), Sri Lanka is aging rapidly. It is projected that by 2020, 20% of Sri Lanka's population will have reached age 60 or over. Mortality rate, currently at 6.2 per 1,000 population (CDR in 2016), has been declining since independence according to published statistics. Sri Lanka is also in an epidemiological transition. Malaria, tuberculosis, Japanese encephalitis, diarrhoea, vaccine preventable diseases in childhood and acute respiratory infections are eradicated or controlled effectively except for dengue, but cardiovascular and cerebrovascular diseases, diabetes, and cancer are increasing in an alarming trend. Tobacco, substance and alcohol abuse have also increased in magnitude over the past two decades. Child hood obesity is becoming a huge concern while under nutrition is still a problem in certain sectors of the society. Under these circumstances chronic diseases and diseases related to mobility leading to poor quality of life is becoming a public health problem in Sri Lanka. Although there is a countrywide comprehensive network of health care centres, hospitals and other medical institutions, with about 57,000 hospital beds and a large workforce engaged in curative and public health activities, whether our health system is oriented enough to address the emerging epidemiological pattern should be revisited by the all relevant stakeholders at this important juncture. In this backdrop there is a strong argument that Sport and Exercise Medicine will have to adapt quickly to take advantage of the broader application of Exercise Medicine in our system without delay. We will need to demonstrate our effectiveness in this area and usher a solution to one of the largest problems facing our health service today: developing sustainable prevention, treatment and rehabilitation models for chronic disease and conditions related to physical inactivity. This has enormous potential for expansion of SEM services, but not without its challenges as you will see once it is going to be implemented. We should be ambitious in our thinking when engaging with public health, primary and secondary care and other organisations which may offer opportunities for the specialism to be developed in Sri Lanka. Let's join hands to develop a stronger and a healthier nation

Technical
Sessions

KNOWLEDGE, ATTITUDES AND PRACTICES TOWARDS CHILDHOOD IMMUNIZATION AMONG MOTHERS ATTENDING CHILD WELFARE CLINICS IN MEDICAL OFFICER OF HEALTH AREA, RATMALANA, SRI LANKA

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Childhood immunization program has a significant impact in the elimination of many vaccine-preventable diseases and it has led to a reduction of diseases, disability, death and inequity worldwide. The timely delivery of childhood vaccination helps to increase the protection from vaccine preventable diseases while minimizing the risks to the child and decreasing the chance of outbreaks of these diseases in Sri Lanka. The main objective of this study was to determine knowledge, attitudes and practices towards childhood immunization among mothers attending child welfare clinics in Medical Officer of Health area, Ratmalana. A community based, descriptive cross sectional study was conducted between April to July 2016. A convenience sample of 294 mothers who consented was selected. Pre-testing of the questionnaire was done by the investigators among ten mothers belonging to MOH area of Dehiwala, which is outside the study setting but shares most of the socio-demographic and geographic characteristics of Ratmalana MOH area. Knowledge and attitudes section questions were from adapted questionnaire used for Sri Lanka. Whilst practices section questionnaire was based on the observations made by the investigators and after focus group discussion and sharing experiences with public health nursing sister in Ratmalana MOH area. The findings of the study revealed that 41.2% mothers knew that polio vaccine is given intramuscularly and 20.4% mothers knew it is administered at completion of 4 months' of age. 75.2% had an overall fair knowledge while 21.4% and 3.4% had good and poor knowledge respectively. Further most of the mothers had overall good attitudes (74.8%) and practices (51%). Educational level of the mothers had a significant relationship to their knowledge (P=0.031). Age level (P=0.012), educational level (P=0.000), number of children in the family (P=0.031) and distance of the household to clinic centre (P=0.000) were significantly associated to their attitude. Religion (P=0.002), educational level (P=0.000) and age level (P=0.005) of mothers were significantly associated with their practices. It is suggested that proper health education and health promotion interventions should be used to improve mothers' knowledge, attitudes and practices regarding childhood immunization. It is deemed appropriate to conduct a prospective longitudinal study to determine whether mothers continue to maintain their good practices.

Keywords: Knowledge, Attitudes, Practices, Childhood Immunization

SCIENTOMETRIC MAPPING OF MENTAL HEALTH RESEARCH PUBLICATIONS IN INDIA AND SRI LANKA

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Mental health publications accounts for 3 - 4% of the health literature worldwide. There is a 10/90 disparity of internationally accessible mental health literature between high income countries and low and middle income countries. Scientometric research is a quantitative measure for the basic research activity in an identified area of research interest in a country during a specified period. The main aim of the current study is to analyse the research performance on mental health in India and Sri Lanka. Data analysis was conducted by using the HistCite software. Authors carried out a scientometric analysis on the mental health research conducted in India and Sri Lanka during the year 1989 to 2017 using ISI web of science database. Further, the growth rate of research publications, core authors, prolific journals, research areas in two countries were also analysed. Using the historiographs for both local citation scores (LCS) and global citation scores (GCS) have been constructed for both countries, and the key papers were identified. Huge differences in research output in terms of number of publications have been noted (2233 papers in India and 157 papers in Sri Lanka). India has published papers on mental health since 1989 but Sri Lankan papers available on WoS only from 1998. The mean relative growth rate of mental health research publications in India is 0.22 and 0.26 in Sri Lanka. In India the mental health research publication doubles every 4.62 years whereas in Sri Lanka in 6.55 years. Both India and Sri Lanka have collaborated in mental health research often with USA, UK and Australia. Among the most productive authors who contributed to mental health research were Patel V. with 183 papers (8.2% of total publications in India) and Sumathipala A. with 28 papers (17.8% of total publications in Sri Lanka) were in the top list.

Keywords: Scientometrics, Mental Health, India & Sri Lanka

KNOWLEDGE, ATTITUDES AND PRACTICES (KAP) ABOUT DENGUE PREVENTION AMONG RESIDENTS IN RATHMALANA MOH AREA

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Dengue is contributing to considerable morbidity and mortality rates in Sri Lanka and that is one of the leading causes of deaths in Western Province, where Colombo district has the highest number of this outbreak. This study planned to assess KAP about Dengue prevention among residents in Rathmalana MOH area. A descriptive cross sectional study was carried out during April to June 2016 among residents in Attidiya North in Rathmalana MOH area. An adult household from every third house of the area selected for the study. A pre-tested, structured, interviewer-administered questionnaire used as the data collection tool, which includes four sections for Socio demographic data, knowledge, attitudes and practices regarding Dengue prevention. Data was analysed using descriptive statistics and SPSS 23 was used as the statistical software. There were 312 participants for the study and 104 (33.3%) were males and 208 (66.7%) were females. All most all the participants, 306 (98.1%) has identified Dengue fever as a mosquito born disease where only 86 (27.6%) participants had correctly stated the features of the mosquito. Nearly 95% of participants have stated that, clear stagnant water as the breeding place of dengue mosquitoes. Further, 304 (97.4%) respondents had a positive attitude that dengue patients have a chance for a full recovery by immediate treatment. There were 188 (65%) subjects, who had participated in health promotion activities within 3 months before data collection. Further, nearly ¾ of them has clean inside the house as a mosquito control activity but only 19.1% were interested in cleaning outside the house and road to control mosquitoes. The study concluded that the study subjects has satisfactory knowledge and favourable attitudes regarding dengue prevention, but their practices and participation in efforts combating dengue of outside their own premises was poor.

Keywords: KAP, Dengue prevention, Residents, Rathmalana MOH area

A REVIEW OF SICKLE CELL DISEASE IN NIGERIA AND THE WAY FORWARD

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Sickle cell disease (SCD) is a group of disorders that affects haemoglobin, the molecule in red blood cells that delivers oxygen to cells throughout the body. It is a genetic disorder characterized by the simultaneous inheritance of two abnormal haemoglobin genes, one from each parent. It is mostly prevalent in the African region. WHO, estimates that about 300,000 babies are born with SCD annually. In Africa, sickle cell disease (SCD) is reported to be associated with very high rate of childhood mortality. The median survival of SCD patients in Africa is less than five years; about 50%–80% of infants born yearly with SCD in Africa die before the age of five years. Sickle cell disease is largely preventable and the way forward in halting the predicted rise of SCD is to return to the drawing board and develop a strategy that can been used to prevent this endemic disease and improve health outcomes of children with SCD in Nigeria and Africa at large. This paper aims to review what is known i.e. incidence, prevalence, morbidity, and mortality; assess current practices and challenges related to screening, diagnosis, and treatment; and recommendations for practice. This paper presents an integrated review of researches carried out in Nigeria so far on sickle cell disease and proposes measures to be taken to reduce the incidence of sickle cell disease in the country.

Keywords: Sickle cell disease, Sickle cell anaemia, Nigeria

POST-TRAUMATIC STRESS SYMPTOMS AMONG ADOLESCENTS, WHO WERE EXPOSED TO AMMUNITION DEPOT BLAST; SALAWA - SRI LANKA

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An explosion took place at the ammunition dump of Salawa army camp on 5th June 2016 which was the key military depot in Sri Lanka. The objective of this study was to describe the trauma experienced and the post–traumatic stress symptoms (PTSD) of the adolescents in the surrounding area during the immediate period of 08 months after the blast. A cross sectional study was conducted on all adolescents exposed to the blast at the Salawa ammunition dump. Data was collected by a self-administered screening instrument – UCLA-RI (Sinhala version).There were 108 adolescents (31.6% males) with mean age of 14.33 (SD = 2.12). PTSD prevalence in the sample was 84% and it was significantly associated with the severity of the trauma exposure (b = 3.467, p < 0.001) and the multiple trauma exposure (b = 7.740, p<0.001). The PTSD symptoms were not associated with age and gender. Even after eight months, there was relatively high prevalence of PTSD among the blast exposed adolescents in the area. Psychological support is thus recommended and further research is warrant for evidence based interventions in this post-trauma setting.

Keywords: Post-traumatic stress, Adolescents, Ammunition blast.

KNOWLEDGE AND DEPRESSION LITERACY AMONG G.C.E (ADVANCED LEVEL) STUDENTS IN KALUTARA EDUCATIONAL ZONE

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Depression is identified as a common mental illness among adolescents in developing countries. Advanced Level (A/L) students are vulnerable due to the overwhelming work load during a stage of mental and sociological development. The objective of our main study was to assess knowledge towards depression among A/L students in Kalutara Educational Zone. Target population of 299 students who aged 17 and 18 (52.5% females and 47.5% males) were recruited using randomized stratified samplings from three selected schools due to feasibility. Depression knowledge and literacy was assessed using the Adolescent Depression Knowledge Questionnaire which had been validated by the by the Johns Hopkins University, USA. This self-administered questionnaire was adapted and translated to Sinhala by the researchers with the support of experts in the field according to Sri Lankan context. A high proportion of students (57.5 %, n=172) had an average knowledge and interesting results were emerged. Both male and female students had the same level of knowledge and scored in between 51% - 75% from overall knowledge. Depression knowledge scores among Biology students were statistically significantly higher than commerce students. As a result of open ended questions, the highest responses (n=87) were for behavioral changes and abnormal behaviors in their answers towards symptoms of Depression. Suicidality and poor school performance were mentioned only by a few participants as signs of depression. Most importantly certain gaps in knowledge on depression could be identified and it may lead to stigma and embarrassment; thereby becoming a barrier to help seeking. The findings warrant interventions such as school awareness programs could be enhanced the depression knowledge.

Keywords: Depression, Awareness, G.C.E. Advanced Level students

KNOWLEDGE AND ATTITUDES OF ANTENATAL MOTHERS REGARDING NEONATAL CARE IN A SELECTED MEDICAL OFFICER OF HEALTH AREA

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There is a decreasing trend in neonatal and infant mortality rate in past few decades in Sri Lanka. Through the above rates decrease gradually, current neonatal mortality rate reflects two thirds of infant mortality. In Sri Lanka antenatal education done through antenatal clinics in Medical Officer of Health areas. Therefore, the objective of the study was to assess the level and factors associated with the knowledge and attitudes regarding essential newborn care among antenatal mothers in Piliyandala Medical Officer of Health area. To achieve the objective a descriptive cross sectional study was carried out in eight antenatal clinics of Medical Officer of Health area Piliyandala. A total of 403 antenatal mothers were recruited in this study. Self-administered questionnaire was used for data collection. Data entry and analysis was done by using Statistical Package for Social Science version 23. Among 403 participants, 37% of mothers belonged to the age group of 26-30 years. Regarding the educational status, 42.7% were educated up to A/L. Nearly half of the mothers were primi mothers (47.4%) while 50.9% of mothers had no living children. The results found that most of antenatal mothers had satisfactory knowledge (55.6%) and 61% of them had satisfactory attitudes. Higher knowledge found within the areas of breastfeeding (84.6%), cord care (72.2%) and danger signs (84.9%). Further, satisfactory knowledge was significantly associated with increasing parity, higher maternal age, increasing POA and maternal higher education ($P<0.05$) while mothers' attitudes also significantly associated with the higher parity and higher maternal education level ($p<0.05$). Knowledge was observed to be poor in the areas of immunization, eye care and thermoregulation. A strong need for the educational program regarding essential neonatal care should be established during antenatal period.

Keywords: Knowledge, Attitudes, Antenatal mothers, Neonatal care

DOMESTIC VIOLENCE EXPOSURE OF MARRIED WOMEN IN ISURUMUNIYA PHM AREA IN ANURADHAPURA, SRI LANKA

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Domestic violence is a form of behavior which causes violence against another individual in domestic setting in marriage or cohabitation. Domestic violence mainly includes psychological, physical and sexual violence. This type of violence is very common in the world but research in this field is lacking in Sri Lanka. Therefore, this study was designed to assess the domestic violence exposure of married women in Isurumuniya public health midwife (PHM) area in Anuradhapura. Cross sectional study was conducted on a conveniently selecting sample of married 400 women in the Isurumuniya PHM area. Self-reported questionnaire assessed life time experiences of physical, emotional and sexual violence of women. Domestic violence exposure was 49% (n=196) in this sample including 25.3 % (n= 101) physical violence, 35% (n=140) psychological violence and 21.3% (n=85) sexual violence. After the exposure, most of the women (22.3%) have told the problem with their mothers or family members. Domestic violence was common in the lower social class (51%). Domestic violence exposure did not differ with marital age of the women $\chi^2 (3, 400) = 0.568$, p = 0.904, income $\chi^2 (3, n = 400) = 2.098$, p = 0.552 or with the social class F $(3,380) = 2.572$, p = 0.078. Women with higher educational levels have exposed to less violence than the others $(X^2 = 9.391, df = 3, P < 0.05)$. Men using alcohol and smoking have more involved in violence than the men who do not use them $(X^2 = 22.362, df=1 P = 0.000 (< 0.001), X^2 = 16.395, df= 1 P = 0.000 (< 0.001)$ respectively). Women's partners involved in violence were mostly alcoholic non-manual workers. Domestic violence exposure was prevalent among married women in Isurumuniya PHM area in Anuradhapura. Further research is recommended to expose the gravity of these problems in the country and relevant authorities should take necessary measures to address this problem in the society.

Keywords: Domestic violence, Women, Substance use

PATTERNS OF HEALTHCARE SEEKING BEHAVIOUR DURING BOUTS OF UPPER RESPIRATORY TRACT ILLNESSES AMONG PRESCHOOL CHILDREN IN KURUNEGALA MUNICIPAL COUNCIL AREA, SRI LANKA

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Respiratory tract disorders cause significant mortality and morbidity in children worldwide. Besides morbidity and mortality, respiratory diseases have a major impact on the psychological aspects of the children and the family. This study was performed to determine the incidence of upper respiratory tract illnesses and to find out the healthcare seeking patterns during bouts of illnesses among preschool children in Kurunegala municipal council area. A descriptive, follow-up design was used. A total 450 children between 3 to 4 years were followed up two monthly for one year to assess the occurrences of upper respiratory illnesses. The mothers/caretakers of children were interviewed, at each visit and information regarding upper respiratory illnesses and socio-demographic factors were collected using a pre-tested interview schedule. The cumulative incidence of Upper Respiratory Tract Illnesses (URTI) was 1.65 among the preschool children. There were 110 hospital admissions due to the respiratory illnesses throughout the study period. At the beginning of the study few children received care outside the home, at the health care facility (8.2%); most of the children sought treatment from the family doctor at the family clinic (58.5%) and from the consultant at the consultant clinic (39.5%). Only 46.3% of the ill children received care at home. Many hospital admissions 21.8% (n = 29) were reported during the 3rd visit, around the month of July 2016. Community education programmes should focus on addressing specific issues for identification of respiratory illness, simple case management, proper immunization practices, and nutrition of child and reduction of domestic air pollution.

Keywords: Upper Respiratory Tract Illnesses, Preschool children, Healthcare seeking behavior

IMPACT OF SOCIO-DEMOGRAPHIC STATUS ON QUALITY OF LIFE OF SELECTED GROUP OF PRE AND POSTMENOPAUSAL WOMEN IN GALLE, SRI LANKA

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Menopause is associated with low quality of life (QOL) and it is a major health concern. This cross sectional study was conducted to evaluate the generic QOL and impact of socio-demographic status on QOL of selected group of 119 pre (PreMW) and 166 postmenopausal women (PMW) aged between 40-60years in Galle. Self-administered SF-36 survey was used to evaluate the generic QOL including 08 domains; physical-functioning (PF), role-limitations due to physical-health (RLPH), role-limitations due to emotional-problems (RLEP), social-functioning(SF), energy/fatigue(EF), emotional-wellbeing(EWB),pain(P), general-health(GH) and overall QOL. The age, ethnicity, level of education, civil status, monthly income, employment status and number of living children were the evaluated socio-demographic characteristics. Mean (SD) age of PreMW and PMW were 46.1(3.7) and 55.5(18.8) years, respectively. Mean (SD) overall QOL of PreMW and PMW were 66.54 (18.89) and 57.47(18.83), respectively. QOL on PF ($p<0.001$), RLPH ($p<0.001$), SF ($p<0.05$) and P ($p<0.001$) domains and overall QOL ($p<0.001$) were significantly lower among PMW when compared to the PreMW. RLEP ($p=0.05$), EF ($p>0.05$), EWB ($p>0.05$) and GH ($p>0.05$) were not significantly different between PreMW and PMW. QOL was significantly higher in women with children 0-3 compared to women with children ≥4 in both PreMW ($p<0.05$) and PMW ($p<0.05$). QOL was significantly higher in PMW with high income ($p=0.01$) compared to those with low income. Among PMW, the total income showed a significant correlation with overall QOL ($r=0.21$, $p<0.001$) and total income accounted for 4.4% of variance of QOL. Although a significant difference of QOL was not found in different income levels of PreMW, women with higher income levels had better QOL than lower income categories. No other socio-demographic factor showed a significant correlation/association with overall QOL of either PreMW or PMW. This study revealed that generic QOL and QOL domains; PF, RLPH, EWB and P were significantly lower among the PMW compared to PreMW. Low monthly income and having children ≥4 have significant impact on the impaired QOL of PMW.

Keywords: Menopause, QOL, Socio-demographic characteristics

DEPRESSIVE SYMPTOMS AMONG PATIENTS WITH CANCER UNDERGOING CHEMOTHERAPY IN A PUBLIC HOSPITAL, SRI LANKA

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Depression is a one of the major problems among patients with cancer (PWC) that negatively affects their quality of life. However, evidence relating to depression among PWC cancer undergoing chemotherapy in Sri Lanka is limited. The purpose of this study is to assess depressive symptoms among PWC undergoing chemotherapy at Teaching Hospital, Kandy, Sri Lanka. A cross sectional study was conducted. A convenience sample of 120 patients underwent chemotherapy in the Oncology Ward were interviewed using a structured interview questionnaire. The Centre for Epidemiologic Studies Depression Scale (CES-D) was used to assess the level of depression of the PWC. The data was analysed using the Statistical Package for Social Sciences version 22. The sample consisted of 120 cancer patients consisting of 55 males and 65 females. The mean age of the sample was 55.61 years (SD ±12. 29). The majority of the respondents experienced normal level of depression (42.5%), followed by mild depression (27.5%) moderate depression (21.7%) and severe depression (8.3%). There was a significant association between depression with marital status (X^2=5.338, P=0.021), the number of chemotherapy side effects (X^2=9.558, P=0.008) and the side effects of skin irritability (X^2=12.538, P=0.006), fatigue (X^2=10.696, P=0.013) and vomiting (X^2=9.673, P=0.022). Depressive symptoms are more prevalent among patients with cancer undergoing chemotherapy. The factors associated with depression are marital status, the number of chemotherapy side effects and the side effects of skin irritability, fatigue and vomiting. The findings raise the need of paying special attention on depressive symptoms in planning care for the above population.

Keywords: Depression, Chemotherapy, Cancer, Centre for Epidemiologic Studies, Depression Scale

ASSESSMENT OF FREQUENCY OF ERRORS IN DENTAL PANORAMIC RADIOGRAPHS AT DENTAL HOSPITAL, PERADENIYA, SRI LANKA

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The quality of the Dental Panoramic Tomograms (DPTs) is of paramount importance in providing an optimal patient care in dentistry. Although the use of conventional panoramic systems leads to degrade the image quality, it is still common in Sri Lanka. The objective of the study was to determine the frequency of errors that occurred during DPTs and to minimize the further occurrence. Two hundred and fifty DPTs were collected from Department of Radiology, Dental Hospital (Teaching) Peradeniya (DHTP), Sri Lanka. Quality of 250 DPTs was evaluated by a radiologist and a radiographer. All 250 DPTs were assessed for presence of errors in categories including patient preparation, patient positioning, patient motion, handling and processing and exposure. The frequency of each error was recorded. Further, number of repeated radiographs was also recorded. All data were analysed by using SPSS (Inc. version 16.0, 2007) statistical software (SPSS Inc., Chicago. IL., USA).There were only 22 (9%) error-free DPTs. Two hundred and twenty eight (91%) radiographs had errors. Six percent of the DPTs were unacceptable and had to be re-taken. Fifty-nine percent images had patient positioning errors being the most frequent error. Thirty one percent of errors were due to processing and handling followed by 7% of errors and 3% of errors due to patient preparation and exposure errors respectively. There was no patient motion error during exposure. In conclusion, the frequencies of errors in conventional DPTs were relatively high in this study with patient positioning errors being the most frequent error.

Keywords: Dental Panoramic Tomography, Image quality, Quality control

KNOWLEDGE ON BREAST CANCERS AMONGST FEMALES IN KATUWAWELA NORTH, BORALESGAMUWA, SRI LANKA

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Breast cancer is currently considered as the most common cancer among females in Sri Lanka and it remains a major cause of cancer death among females. Lifestyle factors are known contributors to increase the risk of breast cancer, and knowledge is necessary to its prevention. The aim of this cross-sectional, descriptive study was to determine the level of awareness of breast cancers among females by exploring their knowledge on risk factors, Breast Self-Examination (BSE) and screening modalities of breast cancers and to find out the correlation of selected socioeconomic characteristics with the knowledge on breast cancers. The study was conducted in Katuwawela North community, located in Boralesgamuwa, Sri Lanka which belongs to the Kesbewa divisional secretariat in Colombo district. Three hundred and sixty one respondents (20 – 74 years) were interviewed using a pre tested questionnaire. The knowledge of the respondents about breast cancer was assessed and scored. Mann Whitney test and Kruskal-Wallis test revealed a significant relationship between age, economic level and education level with the participants' level of awareness on breast cancers. An increase in the education level of the participants was significantly associated with the increase in the overall awareness level on breast cancers according to the result of Kruskal-Wallis test. Mann-Whitney test results depicted that increase in the economic status of the participants also has a significant relationship with the increase in the level of awareness on breast cancer. Furthermore, it was found that there is a negative relationship with the increase in age and the level of awareness on breast cancer. In conclusion, this study has depicted that majority of respondents are aware of breast cancer as a disease entity, but their knowledge and understanding of the disease is very low. Therefore, a breast cancer awareness campaign is essential to improve the knowledge on breast cancers.

Keywords: Breast cancer, Breast self-examination, Mammography, Breast cancer awareness

RADIATION DOSE RECEIVED TO THYROID GLANDS OF PATIENTS UNDERGOING MAMMOGRAPHY; A COMPARISON OF CRANIO CAUDAL (CC) AND MEDIO LATERAL OBLIQUE (MLO) VIEWS

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Mammogram plays a major role in diagnosing breast cancers in the medical imaging sector, though it can cause a radiation hazard on thyroid gland. The main objective of this study was to determine the association of Entrance Surface Dose (ESD) for thyroid between the Cranio Caudal (CC) and Medio Lateral Oblique (MLO) projections. A total of 75 female patients with the mean age of 53.1 ± 8.9 years were included in the study. Breast was placed under compression in both the CC and the MLO views. ESD of the skin overlying thyroid was measured by an electronic pocket dosimeter at the level of the palpable thyroid cartilage. ESD for each projection, thickness of the compressed breast and the angle of the MLO view were recorded. The compression of breast thickness and the angle of MLO projections were evaluated with ESD of CC and MLO views. ESD values of CC and MLO projections were obtained for both right and left sides and the average values of these projections were calculated for each patient. ESD values in MLO projections were significantly higher than CC projections ($P<0.05$). In addition, ESD values of CC and MLO projections are significantly increased with compression of breast thickness. ($P<0.05$). However, no significant associations were found between ESD and the angle of the MLO views ($P>0.05$). Results show that ESD for thyroid gland from the projections of MLO is higher than CC. In addition, the compression of breast thickness is significantly associated with ESD values of the thyroid gland.

Keywords: Mammography, Radiation dose received to thyroid glands, Medio Lateral Oblique, Cranio Caudal

PATIENTS' PERCEPTIONS AND KNOWLEDGE REGARDING TO THE NUCLEAR IMAGING EXAMINATIONS AT A SELECTED HOSPITAL IN WESTERN PROVINCE, SRI LANKA.

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Nuclear imaging (NI) is a diagnostic tool which introduce radioactive pharmaceuticals to patient's body and thereafter images will be acquired. NI depicts the physiological changes of particular body parts accurately but other imaging modalities often demonstrate anatomy. The aim of this study was to find out the patient's perceptions and knowledge about nuclear imaging procedures. Demographic information of the patients and their perception and knowledge regarding to the nuclear imaging procedures were considered. A self-administered multiple choice questionnaire was used as a date collection tool. Totally 200 patients in the age of 18 - 80 years were participated in this study at a selected hospital in western province of Sri Lanka. The data were collected from the respective patients after the nuclear imaging investigations. A total of 100 points were given to the completed questionnaire. The data were analyzed with $P < 0.05$ indicating level of significance. Results of the study indicated that the median score was lower (30) for total 100 marks and majority of the patients (77%) not aware about nuclear imaging procedures by the time of prescription. Chi-square test showed that there were significant differences in the perception and knowledge with patient's type of occupation ($P = 0.000$), residence ($P = 0.000$) and educational background ($P = 0.000$). Mann-Whitney test showed that health related occupied patients had higher knowledge (66.956 ± 15.056) compared with non-health related occupied patients (32.967 ± 14.774). There were differences of perception and knowledge regarding to the nuclear imaging examinations between the urban (38.642 ± 18.317) and rural (25.556 ± 15.056) patients and among different educational categories. Majority of patients had lack of perceptions and knowledge regarding to the nuclear imaging examinations and procedures.

Keywords: Nuclear imaging, Perception, Radiopharmaceutical.

A CASE REPORT OF RADIOTHERAPY FOR OESOPHAGEAL CARCINOMA PATIENT WITH IMPLANTED PERMANENT PACEMAKER

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The only available information is from the American Association of Physicists in Medicine (AAPM) published in 1994, recommended that maximum dose to the pacemaker should be limited below 2 Gy. But, published studies show that the radiation sensitivity of contemporary cardiac pacemakers varies, depending on the manufacturer and it may varies between 2-10 Gy. We present a case of radiotherapy for a 67-year-old patient with implanted pacemaker who was diagnosed with moderately differentiated squamous cell carcinoma on the oesophagus. The Gross Tumor Volume (GTV) was determined according to Computed Tomography. Theraplan Plus software (Version 3.8) was used to plan the treatment. The total dose of 50.4Gy was applied by conventional Co60Teletherapy in August 2016. It was delivered in two phases as 1.8Gy/fraction. In Phase I, 36Gy was delivered in 20 fractions. In Phase II, 14.4Gy was delivered in 8 fractions. At the end of the treatment, maximum dose of 6.42Gy was delivered to pacemaker. Patient tolerated the procedure very well and there was no malfunction of the pacemaker device during the treatment or afterwards. In conclusion, tumor shrinkage and temporary clinical improvement of the patient as well as no technical complications of implanted cardiac devices were achieved by the radiation treatment.

Keywords: Pacemaker, Oesophageal carcinoma, Co60teletherapy

ASSOCIATION BETWEEN CHANGES IN LIVER TRANSAMINASES AND FULL BLOOD COUNT AMONG PATIENTS WITH RT-PCR POSITIVE DENGUE AND RT-PCR NEGATIVE OTHER FEBRILE ILLNESSES ADMITTED TO TEACHING HOSPITAL-PERADENIYA, SRI LANKA

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Dengue is a fatal disease and identification of abnormal parameters in dengue patients is important for better management of the disease. The objective of this study was to identify the changes in liver transaminases and full blood count parameters during acute and convalescent phases of fever between RT-PCR positive dengue patients and dengue suspected RT-PCR negative patients with other febrile illnesses. Dengue suspected 288 patients, admitted to medical wards in Teaching hospital - Peradeniya during May-August, 2016 were selected after obtaining the ethical clearance from Ethical Review Committee of Kotelawala Defence University. Out of them, 162 (56%) were confirmed with RT-PCR (Real Time - Polymerase Chain Reaction) as dengue positive and 126 (44%) RT PCR negative. Mean number of days from onset of fever to admission to the hospital for dengue was 2.64 days which was significantly lower (p <0.001) than other febrile illnesses (3.38 days). Mean days of hospitalization period for dengue was 4.10 days which was significantly higher (p <0.001) than other febrile illnesses (3.19 days). Liver transaminases and full blood count were analyzed and compared on admission, during hospitalization and on discharge. On admission, high SGOT (114 U/L), significant lymphopenia (0.9199/mm3) and higher MCV (87 fl) were noticed (p < 0.001) in dengue patients compared with other febrile illnesses. Consequently, lower mean total WBC of $4.7 * 10^3/mm^3$ (p < 0.01), lower absolute lymphocyte count of $2.13 * 10^3/mm^3$ (p < 0.01) and thrombocytopenia of $87 * 10^3/mm^3$ (p < 0.001) were identified in dengue patients on discharge. Further, mean SGOT and SGPT values were increased in dengue (175.8771U/L, 132.1023U/L) than other febrile illnesses (141.3067U/L, 112.2756U/L) on discharge. In conclusion, significant lymphopenia, high liver transaminases and statistically significant higher MCV were reported in investigations of dengue patients compared to other clinically similar febrile illnesses. Further, in patients with other febrile illnesses, recovery of cytopenias in FBC and normalization of liver transaminases were faster than dengue patients.

Keywords: Dengue, Febrile illnesses, Liver Function Tests, Full Blood Count

EFFECT OF LABORATORY CULTURE MEDIA, CITRATE ENCAPSULATED AND CURCUMIN ENCAPSULATED LAYERED DOUBLE HYDROXIDES ON IN-VITRO PSEUDOMONAS AERUGINOSA BIOFILM GROWTH

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Objective of this study was to determine the efficacy of four routine laboratory culture media on biofilm formation of *Pseudomonas aeruginosa* and the antibiofilm effect of two layered double hydroxide (LDH) nano hybrids. Influence of culture medium on P. aeruginosa (ATCC®27853™) adhesion as the first step of biofilm formation in the presence of four culture media (Nutrient Broth (NB), Brain Heart Infusion (BHI) broth, Luria-Bertani (LB) broth and RPMI 1640) was quantified using MTT (3-[4, 5-dimethylthiazol-2-yl]-2, 5-diphenyltetrazolium bromide) assay after 90 minutes adhesion. *P. aeruginosa* biofilms were developed and the growth was quantified using MTT metabolic activity at 48 hour time intervals in the presence of four culture media. The effect of citrate encapsulated LDH (concentrations ranged from $1*10^{-5}$ g/mL to 1 g/mL) and curcumin encapsulated LDH (concentrations ranging from $1*10^{-3}$ g/mL to 2 g/mL) nano-hybrids on biofilms were determined using sterile 96-well microtiter plate biofilm model. The $MBIC_{50}$ and killing time for matured biofilms were determined by MTT (3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyltetrazolium bromide) assay. Scanning Electron Microscopy (SEM) was performed to assess the ultra-structural changes. P. aeruginosa exhibited their maximum adhesion in the presence of RPMI 1640. Biofilms exhibited the maximum growth in BHI broth during 96 hour experiment period. $MBIC_{50}$ for curcumin-LDH was 0.1 g/mL and Citrate-LDH was 0.01 g/mL. Killing time of curcumin-LDH and Citrate-LDH were 6-12 h and less than 3h, respectively. SEM images confirmed MTT readings. The maximum planktonic and biofilm growth was achieved with BHI broth. Bacterial adhesion was enhanced in the presence of RPMI 1640. The curcumin and Citrate intercalated LDHs have a potential antibiofilm activity against *P.aeruginosa.* Further, there is a maximum antibiofilm activity against their matured biofilms within a short period of time of the treatment (3-12hours).

Keywords: Biofilms, Antibiofilm, Encapsulated layered double hydroxides

PREDICTION OF THE PRESENCE OF MICROALBUMINURIA BY ANALYSING TOTAL URINE PROTEIN-TO-CREATININE RATIO IN DIABETIC NEPHROPATHY PATIENTS IN DISTRICT GENERAL HOSPITAL, AMPARA, SRI LANKA

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Chronic Kidney Disease (CKD) is one of the major complications of Diabetes Mellitus (DM). Microalbumin test is used to identify the first sign of deteriorating kidney function. Alternatively measurement of Urine Total Protein-to-Creatinine Ratio (TPCR) is a simple and inexpensive method. This study was aimed to find whether the urine TPCR can predict the presence of microalbuminuria in diabetic nephropathy patients. Cross sectional experimental study was performed on 216 of type 2 DM patients at General Hospital, Ampara over a period of 4 weeks. Urine microalbumin, urine creatinine, and urine total protein were analysed on first voided urine samples before urine albumin to creatinine (ACR) and protein to creatinine ratios (UPCR) were calculated. Regression analysis and spearman's rank correlation were used to study the linear relationship between two variables. In the present study, 216 type 2 diabetic patients were participated and among them 26.1% were males and 73.9% were females (n=199). The average age was 57.84 ± 10.23 years (n=196). The average duration after diagnosing a patient for DM was 7.572 ± 5.56 years (n= 181).The mean urine TPCR was 89.345 ± 231.582 mg/g. In this study 28% and 1% of patients were detected as microalbuminuria and macroalbuminuria respectively. There was a significant correlation ($p < 0.001$) between urine TPCR and urine albumin ($R2 = 0.892$, TPCR = 3.1983 x Urine albumin - 13.976). Further significant correlation ($p < 0.001$) noticed between urine TPCR and urine ACR ($R2 = 0.824$, TPCR = 2.5026 x ACR – 18.421). And also the TPCR showed a significant correlation ($p < 0.001$) between urine ACR ($R2 = 0.798$) in the range of microalbuminuria (30-300 mg/g creatinine). In conclusion, 29% patients were detected micro/macro albuminuria. The urine TPCR showed a positive significant correlation with microalbuminuria, which is clinically important to identify early stage of diabetic nephropathy.

Keywords: Chronic Kidney Disease, Urine microalbumin, Total Protein-to-Creatinine Ratio, Diabetes Mellitus

BACTERAEMIA AT APEKSHA HOSPITAL, MAHARAGAMA, SRI LANKA: IDENTIFYING ITS PREVALENCE AND RISK FACTORS TO IMPROVE HEALTH

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Cancer patients are immunocompromised due to their medical condition or treatment, resulting in neutropenia, increased exposure to intravascular devices (IVDs) and prolonged hospital stays. These conditions are established risk factors in causing bacteraemia. Bacteraemia is a contributing factor towards increased rates of morbidity and mortality in several countries including Sri Lanka. This study focuses on identifying the risk factors that would contribute to the development of bacteraemia among cancer patients at Apeksha Hospital Maharagama, Sri Lanka. The risk factors studied were demographic factors, neutrophil counts, presence of an IVD and length of hospitalization. The association between the above risk factors and bacteraemia were statistically analyzed using 210 incidences from Apeksha Hospital, Maharagama. Antibiotic sensitivity patterns were studied using disk diffusion method. The study identified a higher prevalence of bacteraemia compared to other countries (13.7%). Oncology wards reported the highest frequency of bacteraemia (24.8%). A greater percentage of bacteraemic patients were revealed to be above 60 years of age (78.1%), with carcinomas (68.3%). A length of hospital stay exceeding three days was a statistically significant factor in causing bacteremia ($P<0.05$) while neutropenia and the presence of an IVD have not been identified as significant factors ($P>0.05$). Gram-negative organisms accounted for majority of the infections (49.17%) while *Acinetobacter* species were more frequently isolated from IVDs (7.5%). Vancomycin was revealed to be the most effective antibiotic for Gram-positive organisms (100% sensitivity) while polymyxin-B was identified as sensitive to all Gram-negative organisms with the exception of *Acinetobacter* species (93.3% sensitivity). Since patients diagnosed with carcinomas and wards which housed them, reported highest prevalence of bacteremia, it could be suggested that additional care and sterility measures be taken when carrying out invasive procedures in such patients. Precautions could be taken in managing patients with a hospital stay exceeding 3 days as they have been identified as a risk group in acquiring nosocomial infections.

Keywords: Bacteraemia, Cancer, Neutropenia, Length of hospitalization

ASSOCIATION OF HYPERTENSION AND RENAL IMPAIRMENT WITH DIFFERENT DIETARY PATTERNS OF APPARENTLY HEALTHY INDIVIDUALS IN AREA OF THE MEDICAL OFFICER OF HEALTH, DOMPE, SRI LANKA

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Dietary patterns remain a major risk factor for rising non-communicable diseases (NCD). Present study was designed to identify the contribution of dietary patterns for developing hypertension and renal impairment. Descriptive cross sectional study was carried out using 204 apparently healthy individuals between 25-60 years of age (mean 41.30 ± 9.39). Socio demographic factors and food consumption details were collected using interviewer administered questionnaires. Blood pressure and anthropometric measurements were obtained. Lipid profile (serum total cholesterol, serum triglycerides, and serum LDL) and serum creatinine levels were measured in fasting blood samples. Results showed high prevalence of pre-hypertension (49%) and hypertension (14.2%) in the study population. Over 70% of the population was reported as overweight (44.1%) and obese (26.0%). Elevated serum lipid levels of participants were also noticed (Mean TC, LDL, HDL and TG of the participants were 208.29±43.22, 135.75±36.99, 50.5±7.41, 116.12±56.52 respectively). Major dietary patterns were vegetarian (34.8%), pesco-vegetarian (39.7%) and non-vegetarian (25.5%). Frequent consumption of fried rice/short eats (daily 26.5%, weekly 31.9%, rarely 41.7%) and bakery products/sweets (daily 38.2%, weekly 19.1%, rarely 42.6%) were identified as unhealthy dietary habits among study population. Significant associations ($p<0.05$) of dietary patterns with hypertension and lipid profile parameters were observed. Further, we identified significant associations ($p<0.05$) of blood pressure with lipid profile parameters and BMI. Non-vegetarian dietary pattern and unhealthy dietary habits were highly associated with high blood pressure and elevated serum lipid levels. Elevated serum lipid levels were noticed among hypertensive individuals. Hypertension was more prevalent among overweight and obese groups. However, no significant association of renal impairment with different dietary patterns was observed in the study population.

Keywords: Dietary pattern, Blood pressure, Renal impairment, Lipid profile

CORRELATION BETWEEN ANAEMIA AND RENAL FUNCTION AMONG TYPE 2 DIABETES MELLITUS PATIENTS IN GENERAL HOSPITAL, AMPARA, SRI LANKA

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Diabetic nephropathy is the most common complication among the type 2 diabetes mellitus (DM) patients and considered as a leading cause of end stage renal disease. Along with declining renal function, anaemia is said to be indicated due to reduced erythropoietin activity. Therefore identifying the indication of anaemia in a diabetic population is important in foresee of diabetic nephropathy. Therefore this study was aimed to determine the prevalence of anemia and, to determine the correlation between renal function and anemia of type 2 DM patients attending diabetic clinic in General hospital, Ampara. Cross sectional study was performed on 198 type 2 DM patients. Fasting Blood Sugar (FBS) values were collected. Full Blood Count (FBC) was performed. eGFR levels were calculated using MDRD formula. Urine microalbumin and creatinine, were analyzed on spot urine samples and urine albumin to creatinine ratios (ACR) was calculated. Among the study population 74.7% (148) was females and 25.3% (50) was males. The mean age of the total population was $55.7 + 10.1$ years, mean duration of DM $6.5+5.4$years and mean Hb level $12.1+1.6$ g/dL respectively. Risk for progressive CKD was categorized based on eGFR, microalbumin and both eGFR and microalbumin (Kidney Disease Improving Global Outcomes (KDIGO) guidelines). The prevalence of anaemia in the study population was 52%. Duration of DM between low ($5.5 +4.8$ years) and normal Hb ($7.5+ 5.6$ years) groups was statistically significant ($p<0.05$). According to eGFR, 43.3% reported as slightly decrease, 14.5% as mild- severs decrease of renal function. Among the total 25% and 6.5% of patients were detected as microalbuminuria and macroalbuminuria respectively based on ACR. According to the KDIGO guidelines for risk categorization, 38.9% population had a risk for progressive CKD including moderate (24.9%), high (11.2%) and 2.8% very high. Anameia was indicated in 60 % of the risk groups. In addition negative significant correlation was noticed between Hb level and ACR level ($r=-0.180$, $P<0.05$) in study population.In conclusion prevalence of anaemia was high among study population and there was a high tendency to develop with the duration. Significant correlation was evident with increasing ACR with anaemia condition.

Keywords: Diabetes mellitus, Anaemia, eGFR, Urine microalbumin to creatinine ratio

DETERMINANTS OF BALANCE CONFIDENCE (BC) AND STANDING BALANCE PERFORMANCE (SBP) IN STROKE SURVIVORS WITH HEMIPLEGIA

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Stroke is a neurological condition which causes many serious long-term disabilities in one's life. Balance dysfunction is common after stroke and interferes with functional independence. This study was aimed to describe BC and SBP in stroke survivors with residual hemiplegia and the factors that may influence them, including age, gender, affected side, post-stroke duration and body mass index (BMI). In this descriptive cross sectional study, 100 stroke survivors with residual hemiplegia for ≥ 6 months were studied at Rheumatology and Rehabilitation Hospital, Ragama, Sri Lanka. BC was assessed using modified Activities-specific Balance Confidence (ABC) scale while Functional Reach Test (FRT) was used to assess SBP. Data were entered in a SPSS data base (version 21.0) for analysis. Correlation between numeric variables was analyzed using Pearson correlation. Independent-sample T test was used to compare means within groups. Significance between proportions was estimated using Chi-square test. One way ANOVA was used for multiple comparisons. Fifty six (56) males and 44 females between ages 45 to 65 (mean 55.63±6.57) years participated. Forty seven (47) had right-sided hemiplegia while 53 had left-sided hemiplegia. Non-dominant side was affected in a majority (61%) of the participants. SBP was significantly higher in males than in females ($P<0.05$). Both BC and SBP were higher in stroke survivors with non-dominant side hemiplegia ($P<0.05$). BC had a significant negative correlation with age ($r=-0.21$, $P<0.05$) but not with post-stroke duration or BMI. SBP showed a significant positive correlation with BC ($r=0.80$, $P<0.05$). It was concluded that dominance of affected side influences both BC and SBP. Age and gender showed significant associations with BC and SBP respectively. BC and SBP should be included in assessment and rehabilitation of stroke survivors with residual hemiplegia due to their high correlation.

Keywords: Stroke, Hemiplegia, Standing balance performance, Balance confidence

COMPARISON OF BALANCE DEFICIENCY IN CHRONIC LOW BACK PAIN PATIENTS (CLBPPS) AND HEALTHY PERSONS (HPS)

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Chronic low back pain (CLBP) is a common condition causing pain and disability leading to impairment of balance in day to day activities. This study was aimed to describe and compare the level of balance in CLBPPs and HPs and assessed the association between the intensity of pain and balance impairment. A descriptive cross sectional study was conducted with 50 CLBPPs and age (30-50 years) and sex matched 50 HPs, at the Department of Rheumatology and Rehabilitation, National Hospital, Sri Lanka. An interviewer administered questionnaire, one leg stand test (OLST), modified star excursion balance test (SEBT) and the Berg balance scale (BBS) were used to measure balance. The pain intensity was measured using Numerical Pain Scale. Independent-sample T test, Chi-square and Pearson correlations were used for analysis. Twenty two (22) CLBPPs and 24 HPs were males. The mean (SD) ages of CLBPPs and HPs were 43.36 (5.58) and 42.74 (6.10) years respectively.

A higher percentage of CLBPPs (28% for the right leg and 42% for the left leg) were unable to perform one leg stance compared to HPs (10% for the right leg and 6% for the left leg).CLBPPs had a significantly low mean score ($P<0.05$) for the BBS than HPs. The mean distances to all five directions in the modified SEBT of CLBPPs were less than HPs, it wasn't significant ($P>0.05$).The correlation between OLST and intensity of pain was significant only for the left leg ($P<0.05$). The BBS score was significantly negatively correlated with intensity of pain ($r=-0.54$, $P<0.05$). It was concluded that CLBPPs had impairment in balance when compared with HPs. Intensity of pain was negatively correlated with balance. Inclusion of balance exercises to the treatment procedure of CLBPPs is important.

Keywords: Chronic low back pain, Balance, Balance deficiency

PREVALENCE AND RELATED RISK FACTORS OF RECURRENT FALLS AMONG AMBULATORY COMMUNITY DWELLING ELDERLY IN GALLE DISTRICT, SRI LANKA

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Recurrent falls among elderly may cause wide range of disabilities, social and economic burden to the country. Hence, it is an aspect that health facilitators should address in order to improve wellbeing of elderly population. Recurrent falls prevalence and the associated factors among elderly were evaluated with this cross sectional study conducted in Nagoda Divisional Secretariat area, Galle district with 300 participants (175 females, 125 males) aged 65 years and over. An interviewer administered questionnaire was applied to collect data and stepwise binary logistic regression was performed to detect the risk factors for recurrent falls. Mean (SD) age was 73.01 (6.70) years. At least two falls within previous 12 months period were experienced by 9.7% of (29) individuals, 34.5% (10) of them reported two falls and 65.5% (19) experienced three or more falls. Majority 62.1% (18) of individuals reported time gap between first and second fall as less than 6 months and 37.9% (11) reported it as 6 to 12 months. Univariate analysis showed significant association between recurrent falls with biological factors; age (p=0.000), presence of diabetes mellitus (p=0.000), hypertension (p=0.000), vision problems affecting day-to-day life (p=0.028), balance/gait problem/foot abnormality (p=0.000), sleeping problem (p=0.002) and behavioural factors; usage of more than two long term medications (p=0.001), antihypertensive drugs (p=0.002), physical activity level (p=0.001). But, presence of diabetes mellitus (OR: 2.965, 95% CI: 1.177- 7.472) and balance/gait problem/foot abnormality (OR: 9.037, 95% CI: 2.523- 32.367) were detected as risk factors for recurrent falls. Environmental and behavioural factors were not identified as risk factors for recurrent falls. In conclusion, in this study, presence of diabetes mellitus and balance/gait problem or foot abnormality were identified as risk factors for recurrent falls. This study emphasizes the importance of adhering to precautionary measurements in preventing recurrent falls among elderly to enhance quality of life and facilitate healthier aging with minimal complications.

Keywords: Elderly, Recurrent falls, Risk factors

FACTORS INFLUENCING ON QUALITY OF WORK-LIFE OF THE NURSES WORKING IN TEACHING HOSPITAL JAFFNA, SRI LANKA

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Quality of work life is an important fact in every occupation or organization. As nurses are the largest workforce in hospitals, quality of work life of nurses is more crucial for improving the quality of personal life of nurses and quality of patient care in hospital. Purpose of the study was to assess the quality of work life and to find the influence of socio-demographic and work related factors on quality of work life among the nurses working in Teaching Hospital, Jaffna. Hospital based descriptive cross sectional study was carried out among 222 nurses. Self-administered questionnaire was used to collect data and analyzed by using SPSS 22. Nearly half of them (54.5%) were not satisfied with quality of work life. Among them majority of married nurses (51.2%) and the nurses who working in high dependency units (58.6%) were also dissatisfied with their quality of work life. Gender (p=0.008) and average over time hours (p=0.002) show the significant relationship with quality of work life. Other factors such as age, ethnicity, type of the family, marital status, period of marriage life, presence of children, working place, current position, working experience, average working hours, night shifts did not show any significant relationship with quality of work life. Majority of the nurses (92.9%) suggested that the training programs for nurses should be conducted frequently to improve the quality of patient care. More than half of the nurses were not satisfied with their welfare facilities (55.5%) and transport facilities (58.3%). Nearly more than half of the population showing their dissatisfaction on their quality of work life, even though in this study only two factors were showing the relationship with the quality of the work life. Thus, there is need of conducting a qualitative in-depth interview research approach to identify the more factors, and this may help to take necessary action to improve the quality work of life of nurses in Teaching Hospital, Jaffna.

Keywords: Nurses, Quality, Work, Life

ASSESSMENT OF AWARENESS OF THREE WHEELER DRIVERS ON FIRST AID WHEN HANDLING AND TRANSPORTING TRAUMATIC VICTIMS FOLLOWING ROAD TRAFFIC ACCIDENTS IN THE COLOMBO DISTRICT, SRI LANKA

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In Sri Lanka, road traffic accidents (RTA) are one of the major causes of morbidity and mortality, which affects the country's economy. Three wheeler drivers, a group of lay people may be the first respondents in management of RTA victims. This study was aimed to assess the awareness and readiness of three wheeler drivers on first aid when handling and transporting traumatic victims following RTA in the Colombo district, Sri Lanka. It was also aimed to identify the problems faced by three wheeler drivers in giving first aid for traumatic victims. Descriptive cross sectional study was carried among 110 three wheeler drivers of Colombo district, Sri Lanka during May to July 2016. Stratified cluster sampling technique was used. The data was collected using a validated interviewer administered questionnaire. Data were entered and analyzed using the Statistical Software for Social Sciences (SPSS) version 23.0. Ethical clearance was obtained from the Ethical Review Committee of the Faculty of Medicine, General Sir John Kotelawala Defence University. The overall knowledge of the three wheeler drivers on first aid when handling and transporting traumatic victims following road traffic accidents was moderate (70.9%). It was observed that 15.5% had inadequate and only 13.6 % had adequate knowledge levels. However, 60% participants stated that proper training is not essential for giving first aid. Majority of participants (79.1%) did not know about the meaning and the correct method of performing cardio pulmonary resuscitation (CPR). In addition, 72.7% knew the correct methods of prevention of extreme bleeding and 57.3% knew a cervical collar and board to support the spine should be used to handle the traumatic victim of RTA. Many three wheeler drivers (93.6%) had the willingness to transport traumatic victims of RTA while 6.4% were unwilling to transport them. In conclusion, this study showed they have considerable knowledge on first aid. So, proper awareness programs, including first aid in school curriculum and making people aware on first aid through media will assist the three wheeler drivers and lay people to perform immediate lifesaving activities thoroughly and effectively.

Keywords: Three wheeler drivers, First aid, Traumatic victim, Road traffic accident.

RISK FACTOR DISTRIBUTION AMONG PEOPLE AFFECTED WITH THE CHRONIC KIDNEY DISEASE (CKD) IN PADAVIYA, SRI LANKA

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The chronic kidney disease (CKD) remains at epidemic proportions in north central province of Sri Lanka where majority of the patients are reported to be of unknown etiology (CKDu). A cross sectional study was undertaken and the risk factors among CKD/CKDu patients at the hospital-clinic and from general area of Padaviya were studied. The study followed the initiation and progression risk factors, e-GFR determination and confirmation of CKD/CKDu status as recommended by the practice guidelines of National Kidney Foundation, USA. Whole blood samples and answers to a questionnaire were obtained from volunteer subjects under consent (n=178). Inclusive criteria for initiation and progression risk factors were considered as the existence prior to diagnosis and present occurrence respectively. Results showed that about 94.9% of subjects had a history of one or more initiation risk factors. Predominant initiation risk factors (>20% of the affected) included the systemic infection namely, malaria (73.0%), urinary tract infections (44.3%), snake bites (32.5%), family history of kidney disease (30.3%) and/or high blood pressure (29.2%), In addition, dyslipidemia, diabetes mellitus and CVD occurred in 10.6%, 7.8%, and 6.1% of subjects respectively. About 58% of the CKD/ CKDu patients had diabetes mellitus, high blood pressure or the habit of smoking as progression risk factors. The results suggest that 1) the prevalence of the disease with a history of initiation risk factor could be substantial so that the risk factor distribution deserves attention, and 2) risk factor management should prove useful in improving health of the CKD/ CKDu patients. The study continues. Acknowledgement: research grant, MSTR/TRD/AGR/RD/01 from the national science and technology commission/ ministry of Science, Technology and Research, Sri Lanka

Keywords: Risk factors, Chronic kidney disease, Sri Lanka

COMPUTATIONAL STUDY OF ANGIOTENSIN CONVERTING ENZYME AND RENIN WITH PHOENICANTHUSINE

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The search for novel drug leads has improved from a method of trial and error into a sophisticated method including many computer-based approaches. In silico models provide high throughput and are used in the very early stages of the drug development process. This in silico approach allows for a faster and cheaper identification of promising drug candidates by the virtual screening of compound databases. The Renin-Angiotensin aldosterone system (RAS) plays a very important role in cardiovascular regulation and is a very useful target for this research study. Inhibitors of Angiotensin Converting Enzyme (ACE) and Renin are a primary line of therapy for myocardial infarction, heart failure, hypertension and diabetic nephropathy. Thus, a good hit through the molecular studies could result in a better drug. Angiotensinogen is the only known naturally occurring substrate for renin, inhibition of this particular reaction could have many advantages. Likewise, ACE plays a role in converting the biologically inactive angiotensin I to the active angiotensin II. In this study, Sri Lankan natural product database was virtually screened against ACE and Renin. Potent hit was put through refined docking using different algorithms and an advanced scoring function was used to filter the best results. Molecular Dynamics simulations were then performed for best candidates followed by calculation of free energy of binding. The study showed that, for both ACE and renin, Phoenicanthusine showed favourable results. Phoenicanthusine is an endemic natural product of Sri Lanka, and is isolated from the stem bark of *Phoenicanthus obliqua*. Phoenicanthusine represents the first example of an N-6-C$_4$' and C-7-C-5' linked dimericaporphine alkaloid. The studies clearly showed the formation of a stable ligand-protein interaction with both Renin and ACE, suggesting that Phoenicanthusine could be a successful drug in the treatment of myocardial infarction and hypertension.

Keywords: Angiotensin Converting enzyme, Renin, Phoenicanthusine, Computational modelling

FACTORS RELATED TO READMISSION OF PATIENTS WITH SCHIZOPHRENIA

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Schizophrenia is a severe psychiatric disorder which affects approximately 1% of the world's population. It is relapsed frequently even while on treatment. Relapse rate varies from 50% to 92% and are similar in developed and developing countries. The disease condition has been worsening in significant number of patients after being discharged. Readmission is most often occurred and it is caused by many factors. Therefore, aim of this study was to examine the factors related to readmission of patients with schizophrenia at National Institute of Mental Health (NIMH), Angoda, Sri Lanka. A quantitative descriptive research design was utilized in this study. Self-administered questionnaire was used to collect data from parents or guardians of the patients diagnosed as schizophrenia. Patients who had been readmitted two or more times during the period of January to April 2016 were recruited in this study. Written informed consent was obtained. Demographic, socio economic, disease related and cultural factors related to readmission were collected. Ethical clearance was obtained from the ethical review committee, NIMH. Two hundred patients with schizophrenia were studied during the study period. Out of these, 39.4% were readmitted due to disease related factors including 54.9% due to poor drug compliance, 21.1% due to lack of regular follow up and 11.8% due to increase severity of illness. Moreover, 45% of patients readmitted due to social and economic factors including 41.1% due to poor family support, 34.5% due to financial difficulties and 8.6% due to social stigma. Further, 15.5% of patients readmitted due to cultural related factors. The results of the study highlighted that, readmission of patients with schizophrenia were mainly caused by social and economic related factors in Sri Lanka. Therefore, health education should be carried out to improve knowledge and establish positive attitudes regarding psychiatric disorders while improving the health facilities.

Keywords: Schizophrenia, Readmission, Factors, Sri Lanka

TOXICITY STUDIES ON AQUEOUS EXTRACT OF FLOWER AND STALK OF *APONOGETON CRYSPUS* IN RATS

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Aponogeton cryspus belongs to genus Aponogeton. This plant has many folkloric medicinal uses and possesses many medicinal properties. Studies on the pharmacological activity have shown the presence of hypoglycaemic activity of flower and stalk of *A. cryspus* extract. The safety of the plant must be determined prior to human studies. However, no extensive safety studies have been conducted on extracts of *A. cryspus* to date. The aim of the study was to evaluate the short term and sub chronic toxicity of flower and stalk of optimum effective dose for hypoglycaemic activity of *A. cryspus* in Wistar rats. Rats in the test group (n=6) were orally treated with the 1ml of the previously determined optimum dose (90mg/ kg/ day) of aqueous crude extract of combination of flowers and stalk of *A. cryspus* and control group was given 1 ml distilled water for consecutive 14 days for evaluating the short term toxicity and further for 28 consecutive days for sub chronic toxicity. They had free access to food and water. At the end of 14 days, haemoglobin levels (Hb) and serum creatinine level were measured. At the end of 42 days, biochemical and haematological analysis were done. Histopathological studies on selected tissues were also were carried out. The concentrations of serum alanine transaminase (ALT), alkaline phosphatase (ALP) and creatinine as well as the levels of WBC, RBC, Hb, HCT and platelets showed no statistically significant differences between control and treated groups of animals. Histopathological examination of liver, heart and kidney revealed no significant pathological alterations. The present study shows that the aqueous extract of flowers and stalks of Aponogeton cryspus does not exert any toxic effects at a dose of 90 mg/kg.

Keywords: *Aponogeton cryspus,* Haematological analysis, Histopathological studies, Rats, Toxicity

CHRONIC ANTI-INFLAMMATORY EFFECT OF SUDARSHANA SUSPENSION ON ADJUVANT-INDUCED ARTHRITIS IN RATS

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Sudarshana powder (SP) is a very effective anti-pyreticAyurvedic preparation, extensively used in Sri Lanka as well as India. This contains 53 ingredients with Andrographis paniculata Burm. F. Nees as the main component (50%). The extreme bitterness of this powder reduces the patient compliance and administration to children is difficult. Therefore, this powder was developed into a user-friendly standard Ayurveda suspension. The aim of the present study was to evaluate the effect of Sudarshana suspension (SS) on the progression of adjuvant-induced arthritis in rats. Arthritis was induced by a single intra-dermal injection of 0.1ml of Freund's Complete Adjuvant (FCA) containing 0.05% w/v *Mycobacterium butyricum* suspension into the foot pad of the left hind paw of four groups of Wistar rats. Group I was used as the healthy control group. Group II composed of arthritic rats who received distilled water. Group III was arthritic animals treated with a standard non-steroidal anti-inflammatory drug Celecoxib (5 mg/kg) and Group IV was arthritic animals who received SS (4ml/kg). Flowing induction of arthritis, daily oral treatment was started on day 14 and continued up to day 28. Body weight (BW), hind paw ankle joint thickness (AJT) and foot pad thickness (FPT) were measured in all animals using dial calliper on Day 0 (before injection of FCA emulsion) and on Days 3, 7, 10, 14, 17, 21, 24 and 28 after the injection of the adjuvant. Full blood count was tested on day 28.Induction of arthritis significantly increased FPT, AJT and loss of BW. Treatment with SS and standard drug Celecoxib in the arthritic animals produced significant reductions ($p < 0.001$) in FPT, AJT, WBC count, reduction of erythema and oedema in the ankle joints and foot pad of the AIA rats. Further, the BW was normalized. It is concluded that SS possesses anti-inflammatory effects on arthritis.

Keywords: Arthritis, Ankle joint thickness, Foot pad thickness

RISK OF DIABETES MELLITUS IN AMPARA AREA USING A RISK PREDICTION MODEL: A CASE CONTROL STUDY

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Diabetes mellitus (DM) remains a significant cause of social, psychological and financial burden. Many studies have revealed that genetics and lifestyle related risk factors show marked variations among populations in development of type 2 DM. Current study focused on identification of the family history and lifestyle related risk factors with their proportionate contribution to DM by an estimated predictive risk value through a case control- study. The study was conducted at the Ampara General Hospital in Sri Lanka by recruiting of one hundred recently diagnosed type 2 DM patients (physician confirmed), and one hundred sex-matched non-diabetic individuals as controls. Socio demographic, anthropomorphic and lifestyle related risk factors with medical history were collected from the DM patients and controls (FBS< 100 mg/dl within last month). Significant risk factors were identified and predictive risk value was calculated using logistic regression model. In results, 69 males and 31 females comprised case group as 65 males and 35 females were in control. Mean age of the case and control were 53.76 +12.07 and 49.40 + 13.41 years respectively. Over 53% of the cases had family history of DM among first order relatives whereas it was 24% in controls. Mean BMI of the case group was 24.39 + 3.61 and it was 23.29 + 4.02 in control group. In case group, 55% engaged in occupation as farming however, it was 70.1% in control. According to the logistic regression model, family history of DM (P<0.001), higher age category (P<0.05) and non-occupation (P<0.001) were identified as significant risk factors for DM. The predictive risk value showed that age group of 31-50 years, non-occupied and with family history rendered maximum risk (0.6813) while age less than 30 years, occupied and without family history involved minimum risk (0.070). In conclusion, family history of DM and non -occupation could play a main role in development of DM in relation to Ampara area.

Keywords: Diabetes Mellitus, Predictive value, Family history, Occupation

KNOWLEDGE AND ATTITUDES REGARDING THE EMERGENCY CONTRACEPTIVE PILLS AMONG THE DEFENCE UNIVERSITY STUDENTS IN SRI LANKA

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The emergency contraceptive pill (ECP) is a method of hormonal contraception, which is indicated after unprotected sexual intercourse when regular contraceptive methods are not used. There is very scanty amount of information available in Sri Lanka regarding knowledge on the ECP. Hence, it is an important area to study as there are higher rates of maternal deaths due to unsafe abortions in Sri Lanka. ECP can be a strategy to reduce them. The objective of this study is to investigate the knowledge and attitudes regarding Emergency Contraceptive Pills among Defence University students. This is a descriptive cross sectional study conducted among 395 undergraduates of Kotelawala Defence University (KDU) using self-administered questionnaires during the period of July to October, 2016. Study participants were selected by stratified random sampling. Data was entered and analyzed using Minitab version 14. Among the total participants (n = 395), only 69.1% had heard of ECP. The main source of information was reported as formal education 47.1%. From the total participants, less than half, 45.5% students knew that ECP was important in post rape and 20.2% knew that it was important as a preferred contraceptive method. Among the study participants, 42.8% agreed to the idea that if ECP was readily available it might promote promiscuity among student. Most of the students, 42.5% thought that it was more effective to take ECP soon after unprotected sexual intercourse. Only 13.7% students knew the correct time gap between the doses which was 12 hours. Majority of the students, 39.5% stated that ECP should be taken soon after an unprotected sex. Higher number of students, 57.5% has not received information regarding side effects or problems that might get from ECP. Meanwhile, 13.4% stated that ECP might prevent STI's and HIV. Among the total participants, only 25 (6.5%) had used ECP. From the participants who had used ECP, 52% of them had experienced side effects. Only 23% knew about side effects of ECP. Main influencing factor on knowledge and attitudes on ECP was the religion. Apart from that, there was a significant association between the awareness and the department of study as well. Although the general awareness on ECP was reasonably good, majority did not have a sufficient knowledge on ECP for an effective usage. Most of the attitudes on ECP were towards positive.

Keywords: Emergency contraceptive pills, Knowledge, Attitude, Defence University, Sri Lanka

ASSOCIATION OF MEAN ARTERIAL PRESSURE, IMPAIRED GLUCOSE TOLERANCE AND BODY MASS INDEX WITH ESTIMATED GLOMERULAR FILTRATION RATE AMONG INDIVIDUALS IN DOMPE MEDICAL OFFICER OF HEALTH AREA, SRI LANKA

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As indicators for non-communicable diseases (NCDs), the association of Mean Arterial Pressure (MAP), Impaired Fasting Plasma Glucose (IFPG) and Body Mass Index (BMI) with estimated glomerular filtration rate (eGFR) was studied among individuals in Medical Officer of Health (MOH) area, Dompe, Sri Lanka in a cross sectional study conducted from July to October, 2016. Total of 194 individuals (age 25-55 years) attended NCD clinics were selected. Demographic information was collected. Blood pressure, Fasting Plasma Glucose (FPG) and Serum creatinine were measured. BMI and eGFR were estimated. The study consisted of 139 (71.6%) females and 55 (28.4%) males and their mean ages were 40.79±8.99 and 43.35±10.28 years respectively. Among them hypertension, IFPG, obesity and low eGFR were found in 20.6%, 9.3%, 31.4% and 29.9% respectively. Mean values of MAP, BMI, FPG and eGFR of males and females were 95.21±10.45 and 94.41±10.56 hgmm, 23.83±3.50 and 25.77±4.32 kg/m2, 87.24±11.45 and 84.99±9.58 mg/dL, 99.79±21.46 and 103.78±22.85 mL/min. 1.73m2 respectively. Significant associations were noticed between BMI and Gender ($p<0.05$), systolic blood pressure and BMI ($p< 0.05$), IFPG and BMI ($p<0.05$) and IFPG and MAP ($p<0.05$) in the study group. However, no associations ($P>0.05$) were noticed among e-GFR with BMI, IFPG or MAP. In addition, significant correlations of age were identified with FPG ($r=0.222$, $p<0.01$), MAP ($r=0.307$, $p<0.01$) and serum creatinine ($r=0.133$, $p<0.05$) as well as of FPG with weight ($r=0.182$, $p<0.05$), BMI ($r=0.212$, $p<0.01$) and MAP ($r=0.106$ and $p<0.05$). In addition BMI correlated with MAP($r=0.289$ and $p<0.01$). In conclusion, hypertension (20%), IFPG (9.3%), and obesity (31.4%) were identified as indicators for NCDs.

Keywords: Mean Arterial Pressure (MAP), Impaired Glucose Tolerance (IGT), Estimated Glomerular Filtration Rate (eGFR), Body Mass Index (BMI)

FOOD EXCHANGE LIST FOR SRI LANKAN DIABETIC PATIENTS

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Food Exchange Lists (FEL) are used in Medical Nutrition Therapy as a tool for meal planning, calorie calculation and macro nutrient quantification. FELs for local foods are almost nonexistent. Thus, Sri Lankan dietetic professionals often depend on FEL of American Diabetic Association (ADA). The aim of this study was to develop a Food Exchange List for commonly consumed food groups by Sri Lankan diabetic patients. Information on food choices and their preparation methods were obtained from 55 type 2 diabetic patients through an interviewer-administered pre tested questionnaire along with two days of 24 hour dietary recalls. Identified food items were divided into seven categories as per FEL of ADA. Food composition details were obtained from Indian, ASEAN and USDA food composition tables and nutrition fact panels in food labels to develop FEL. Energy and macronutrient content of 24 hour recalls were quantified using developed FEL and FEL of ADA. These values were compared with the values obtained by food composition database developed for Sri Lankan foods – Food Base 2000, as the reference. Mean values of all macronutrients obtained by developed FEL were in agreement with mean values by reference. There was a significant difference in mean carbohydrate contents obtained by FEL of ADA and reference while protein and fat contents were in agreement (95% CI). Pearson correlation coefficient and Cohen's weighted Kappa values both indicated a stronger association between energy and all macronutrient values obtained by developed FEL and reference compared to that with values by FEL of ADA. Developed FEL is more suitable than FEL of ADA to plan and quantify meals of Sri Lankan Diabetic Patients.

Keywords: Food Exchange List, Meal planning tool, Sri Lanka, Diabetes

ASSOCIATION OF GENDER DIFFERENCE AND STUDY DISCIPLINE WITH ABSENTEEISM FROM ACADEMIC ACTIVITIES AND CLINICAL TRAINING AMONG UNDERGRADUATES OF FACULTY OF ALLIED HEALTH SCIENCES, GENERAL SIR JOHN KOTELAWALA DEFENCE UNIVERSITY, SRI LANKA

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Allied health undergraduates are supposed to obtain a better theoretical knowledge and clinical training during their study period in the university, since they are supposed to provide their service to the humans directly after their graduation. The aim of this study was to identify the level of absenteeism and association of gender and study discipline with the absenteeism among undergraduates of Faculty of Allied Health Sciences, Kotelawala Defence University. A descriptive cross-sectional study was conducted among all the undergraduates in the faculty to find out the incidence of absenteeism for lectures, tutorials, practical, examinations and clinical training, to find out the association in between the gender, study discipline with the absenteeism. A self-administered questionnaire was administered to 452 undergraduates and data was collected at the faculty premises by using non-probability convenience sampling method. The results indicated that 36 % of students were absent equal or less than 3 days and the same percentage (36 %) of students were absent from lectures more than 3 days. Majority (97 %, n= 437) of the undergraduates obtained 80 % of attendance for lectures, tutorials and practical sessions. Very less percentage of students were not being able to obtain 80 % attendance for lectures (2 %), tutorials (1.5 %) and practical (1 %). Only 4 % (n= 16) of students were absent from end semester examinations. Gender difference is significantly associate with the absenteeism from lectures ($p < 0.05$), tutorials ($p < 0.001$) and study discipline had statistical associations with the absenteeism from lectures ($p < 0.01$), tutorials ($p < 0.01$), practical ($p < 0.001$) and clinical training ($p < 0.001$). Absenteeism for more than 3 days for lectures was higher (42 %) within nursing discipline. The importance of studying about the reasons for absenteeism and taking necessary actions to minimize undergraduates' absenteeism is highlighted in this study.

Keywords: Absenteeism, Gender difference, Study discipline, Faculty of Allied Health Sciences, General Sir John Kotelawala Defence University

A STUDY ON THE NUTRITIONAL STATUS AND THE ACADEMIC PERFORMANCE AMONG CHILDREN AGED 10 YEARS IN TYPE THREE SCHOOLS IN MAWANELLA EDUCATIONAL DIVISION, SRI LANKA

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Education is a powerful and significant tool with which to make social change, as the positive associations between educational status and health status are well documented. According to the United Nations Human Development Report (2010), education, health, nutrition and sanitation complement each other with investments in any one contributing to better outcomes in the others. Therefore, academic performance leads to better life opportunities, including economic, psychological, health and social aspects. It is important to understand the nature of relationship between the academic performance and nutritional level. This study was performed to identify the relationship between academic performances with nutritional status among children aged 10 years in three selected (type three) schools in Mawanella educational division. A descriptive, cross sectional design was used. One hundred and eighty seven grade five students participated in the research. Validated Performance test was used to measure the performance level. Nutritional status was determined by body mass index and skin fold thickness. Descriptive statistical procedures were used for analysis. After applying categories of BMI values to the population of the research there were 50 boys and 26 girls in the category of underweight, but after applying skin fold thickness values there was only one girl in the category of under nutrition. Similarly the students categorized as underweight according to BMI performed well in their performance test. Hence, this analysis clearly described the validity of skin fold thickness rather than BMI. Further, 78.3% students in the category of normal weight and 73.3% students who were in the category of normal skin fold thickness achieved more than 51 marks from academic performance test. Hence, there was a significant relationship between academic performance and nutritional status and skin fold thickness was more reliable to measure nutritional status in children rather than BMI.

Keywords: Academic performance, Nutritional status

IN-VITRO EVALUATION OF ANTIRHEUMATOID ARTHRITIC AND ANTI INFLAMMATORY ACTIVITIES OF AQUEOUS BARK EXTRACT OF BRIDELIARETUSA

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In Sri Lankan traditional medicine barks of *Brideliaretusa* (Family: Euphorbiaceous) is used to treat the rheumatoid arthritis and inflammation. However, this claim has not been scientifically validated or refuted yet. The aim of this study was to evaluate the antirheumatoid arthritic and antiinflammatory activities of aqueous bark extract (ABE) of *Brideliaretusa* in in vitro using heat induced protein (egg albumin) denaturation test which is widely use to access in vitro antirheumatoid arthritic activity and anti-inflammatory activity. ABE was made as described in Sri Lankan traditional medicine: 60g of dried bark was cut into small pieces and was boiled slowly in 1920 mL of distilled water approximately for 6 hours until the volume was reduced to 240 mL. The solution was filtered using a muslin cloth. Different concentrations (31.25, 62.50,125,250 and 500 µg/mL) of the ABE and reference drug Diclofenac sodium (2500, 1250, 625, 312.50, 156.25, and 78.125µg/mL) were made and percentage inhibition of protein denaturation was accessed (N= 4). Further, phytochemical analysis was made using standard phytochemical techniques. The results revealed, for the first time, that ABE of *Brideliaretusa* has marked and dose dependent ($r2 = 0.9653$; $P < 0.05$) antirheumatoidarthritic and anti-inflammatory activities with an IC_{50} value of 197.8 µg/mL. Diclofenac sodium also showed marked and dose dependent ($r2 = 0.9678$; $P < 0.05$) antirheumatoid arthritic and anti-inflammatory activities with a value of IC_{50} 603 µg/mL. Phytochemical analysis of the ABE of *Brideliaretusa* showed the presence of flavonoids, phenols, tannins, alkaloids, saponins, phytosterols, glycosides and diterpenes. It is concluded that ABE of *Brideliaretusa* possess in vitro antirheumatoid arthritic and anti-inflammatory activities providing scientific justification for its claimed activities. These activities are likely to be mediated via synergistic action of flavonoids, phenols, tannins, alkaloids, saponins, phytosterols, glycosides and diterpenes.

Keywords: *Brideliaretusa*, Anti-inflammatory activity, Antirheumatoid arthritic activity, Heat induced protein denaturation

COMPARISON OF DIPSTICK AND MANUAL METHODS FOR URINE PH, SUGAR AND PROTEIN IN PATIENTS ATTENDING OUT-PATIENT DEPARTMENT LABORATORY, TEACHING HOSPITAL, JAFFNA, SRI LANKA

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Dipstick urinalysis, a rapid diagnostic method is routinely used in clinical laboratories needs preserved samples to provide accurate results when test is not performed by two hours. This study compared dipstick urinalysis with manual method and identified the effects of storage on urine pH, sugar and protein in an experimental and completely randomized study. Randomization was used to store urine samples in different storage times and temperatures. Ninety-six mid-stream urine samples in aliquots were stored at room temperature for 6 hours and $2\text{-}8°C$ for 6 and 24 hours to test urine pH, glucose and protein. The manual methods for urine pH, glucose and protein were pH meter, Benedict's test and turbidimetry respectively. Dipstick A, B and C showed statistically significant difference ($p<0.01$) when compared with manual method for urine pH. The sensitivity, specificity, positive and negative predictive values of dipstick A for the detection of glucose were 77.8%, 100%, 100%, and 95.12% and for protein were 81.81%, 100%, 100% and 91.30% respectively. No significant differences between three dipsticks were found on urine glucose and protein measurement. Statistically significant increases were observed when samples stored at room temperature for 6 hours ($p<0.01$) and at $2\text{-}8°C$ for 24 hours ($p<0.01$). The changes were not detected by dipstick (A) technique. Little effect on urine sugar was found after storage at room temperature for 6 hours and at $2\text{-}8oC$ for 24 hours in both methods ($p>0.01$). Urine protein was preserved up to 6 hours at $2\text{-}8°C$ ($p>0.01$). Significant increases were obtained on samples stored at room temperature ($p<0.01$). There was a risk of false positive results for protein tested using dipstick 'A' on stored samples. From this study, dipstick A, B and C have a good diagnostic value for urine sugar and protein and it is best to test on fresh urine sample. If there is an unavoidable delay it should be stored at refrigerator at $2\text{-}8°C$ for 6 hours.

Keywords: Urine dipstick, Storage, Urine sugar and protein

DEVELOPMENT OF BRIEF IMAGE QUALITY EVALUATION CRITERIA FOR DIGITAL ORTHOPANTOMOGRAPHY (OPG) IMAGES IN DENTAL RADIOGRAPHY

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The aim of this study was to develop a sophisticated and effective image quality assessment tool for digital orthopantomography (OPG) by radiographers. The study was designed as retrospective cross sectional study; the digital OPG images were taken from two major hospitals in Sri Lanka. OPG images were collected from database and hundred (100) digital OPG images were evaluated by three qualified radiographers who had experience in dental radiography and four student radiographers. Presence of errors in OPG images were recorded according to the newly developed checklist based tool. Possible errors of OPG were divided into four main categories (Identification, artefacts, Anatomical coverage and patient positioning). Each main category consists of sub categories. Check the differences of image quality assessment between the radiographers and student radiographers Paired t-test was used. Kuskal-Wallis Test was used to see difference between each evaluator. Overall quality check have no significant difference between the radiographers and student radiographers and between each evaluator (P>0.05). The most frequent error was absence of positioning the tongue against the palate while category of identification was least frequent error. The results showed that there are no significant differences between image quality assessment between radiographers and student. So that the developed brief image quality assessment tool can be used by radiographers effectively to check the basic image quality of OPG images.

Keywords: Orthopantomography, Radiographer, Dental radiography

KNOWLEDGE AND ATTITUDES OF CATH LAB NURSES ON RADIATION PROTECTION IN SELECTED HOSPITALS OF WESTERN PROVINCE, SRI LANKA

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The cardiac catheterization laboratory is a closed atmosphere where the working staff is at a potential risk of high radiation exposure almost on a daily basis. Nurses play a vital role in cath labs and are spontaneously expose to radiation. Therefore, it is essential to assess their knowledge and attitudes regarding radiation protection. To identify knowledge and attitudes of cath lab nurses on radiation protection in selected hospitals of Western Province. A specifically designed pre-tested questionnaire was circulated among cath lab nurses (n=68) who were working in cath labs in selected hospitals in western province in Sri Lanka. The questionnaire consisted of demographic details of the nurses, knowledge of radiation protection of cath lab nursing staff, knowledge of cath lab nurses about radiation protection of patients and attitudes of nursing staff regarding radiation protection. The collected responses of cath lab nurses were analyzed statistically. There was no significant difference between government sector and private sector cath lab nurses regarding the knowledge of radiation protection for cath lab nurses. Comparison of knowledge of radiation protection among cath lab nurses revealed that there was a significant difference among each hospital and the highest knowledge regarding radiation protection was evident in nurses who work in Lady Ridgway Hospital for children. Statistical analysis follows positive attitudes towards self-protection, staff protection and patient's protection was evident. According to the research study knowledge and attitudes of cath lab nurses on radiation protection lies at an average level among cath lab nurses in Sri Lanka.

Keywords: Cardiac catheterization laboratory, Cath lab nurse, Radiation hazards, Radiation protection

ASSESSMENT OF KNOWLEDGE AND PERCEPTIONS OF MOTHERS ON FEBRILE CONVULSION IN SELECTED AREAS OF BATTICALOA DISTRICT, SRI LANKA

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Febrile convulsions are a common pediatric problem in world wide. Although the incidence rate in Sri Lanka is not known, it is evident that febrile convulsions (FC) account for a significant proportion of morbidity and the hospital admissions. The main aim of this study was to assess the knowledge and perception regarding febrile convulsions and its management among mothers having children under the age of five years. A community based analytical descriptive cross-sectional study was conducted to gather data on mothers' knowledge and perceptions regarding febrile convulsions among mothers having children less than 5 years of age. The study was conducted in the selected rural and urban areas in Batticaloa district of Sri Lanka from March 2016 to February 2017. In total, 430 mothers were interviewed. Proportionate random sampling technique was used to select study areas and units. Data was collected by structured interviewer administered questionnaire. Informed consent was obtained before collection of data. Out of 430 mothers, 50.7% mothers had moderate knowledge regarding FC. And 42.8% had moderate knowledge about the causes of FC. Knowledge of the sign and symptoms of FC was poor among (31.2%) mothers and 79% had moderate knowledge regarding treatment. Only 35.6% were having good perception regarding FC. The participants who were having affected child with FC had good knowledge than mothers of non-affected child. Respondents resided in rural area had significant greater knowledge than urban participants. According to the participants' responses, health care workers are the main source for the knowledge regarding the FC. Knowledge regarding FC, its causes and management were found to be moderate among mothers while poor in identifying signs and symptoms. Perception was found to be satisfactory on 36.6%. This research suggests the necessity to improve the knowledge and awareness by appropriate health programs.

Keywords: Knowledge, Childhood febrile convulsion, Perception

PERCEPTION ABOUT THE NURSING PROFESSION, SOCIO-DEMOGRAPHIC FACTORS INFLUENCING ON THE PERCEPTION AND PREFERENCE TO CHOOSE NURSING AS A FUTURE CAREER AMONG ADVANCED LEVEL BIOSCIENCE STUDENTS IN THE JAFFNA EDUCATIONAL ZONE, SRI LANKA

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Image of nursing is a known factor in recruitment, retention of nurses in the health sector. The purpose of this study is to determine the perception about the nursing profession, identify the socio demographic factors influencing on the perception and the preference to choose nursing as a future career among Advanced level bioscience students in the Jaffna educational zone. The study was conducted using a structured self-administered questionnaire among 559 students on July 2016. Data were entered into computer software (SPSS version 21). Descriptive statistics and binary logistic regression were performed to describe the results. According to the data, positive and negative perception about the nursing was equally distributed. The perception about the nursing profession were positive in half (50.4%) of the students. There was no statistical significance found between any socio-demographic factors of the students and the perception. More than half (59%) of the students did not prefer nursing as their future career. The following findings were obtained from the students who preferred the nursing. Most of them (38.4%) gave third place for the nursing to choose as their future career. "Service mind" was the motivating factor of 41.9% of the students to choose the nursing. Nearly half of the students (48.7%) mentioned that they will select only the Bachelor of Science in Nursing course and most of the students' (34.5%) source of information about nursing was a personal experience from hospital admission. Therefore, it is recommended that to conduct any awareness programme regarding the importance of nursing profession.

Keywords: Nursing profession, Perception, Preference

FACTORS AFFECTING ANAEMIA STATUS AND NUTRITIONAL STATUS IN PREGNANT WOMEN IN SOME AREAS OF ESTATE SECTOR IN CENTRAL PROVINCE, SRI LANKA

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Anaemia in pregnancy is a major problem in developing countries including Sri Lanka. Dietary habits and nutritional deficiencies lead to develop the anemia, especially, among pregnant women in estate sector in Sri Lanka as a result of several socio economic problems. The objective of this study was to determine the factors affecting anemia, nutritional status in pregnant women in the estate sector. This cross sectional study was performed among 150 pregnant women in the estate sector in Central Province in Sri Lanka. Blood samples and anthropometric measurements were collected from the pregnant women. Full blood count was performed using automated haematology analyzer. Preparation of blood films was performed to further identification of iron deficiency anemia. Questionnaires were filled by the researcher using the demographic and dietary habits information given by pregnant women. Descriptive statistical method, chi-square test, Pearson correlation test were used to analyze the data. In this study, 52% of mothers had anaemia. There was no significant association between anemic group and non-anaemic group on dietary habits and demographic data of subjects ($p > 0.05$). According to the pre-pregnancy Body mass index (BMI) values, 23.3%, 43.3%, 24.0% and 9.3% were underweight, normal, overweight and obese respectively. Based on Mid Upper Arm Circumferences (MUAC), 12.7%, 38.0% and 49.3% were severe acute under nutrition, acute under nutrition and normal respectively. There was a significant correlation between MUAC values and Hb concentration values of pregnant mothers. Pre pregnancy BMI value of second trimester mothers was statistically significant based on Hb concentration values of subjects. According to this study, it can be concluded that nutritional status of pregnant women in estate sector shows significant impact on anemia of this selected population.

Keywords: Anaemia, Nutritional status, Pregnancy

FACTORS INFLUENCING LEVELS OF PHYSICAL ACTIVITY AMONG WALKING TRACT USERS IN COLOMBO DISTRICT

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Physical activity is one of the most important indicators, although still underrated of health morbidity and mortality. Lifestyle changes, particularly dietary habits, lack of exercises, increased stress associated with alcohol and drug abuse are believed to be the major causes of Non-communicable Diseases. During the recent past, walking tracts have been developed in urban areas for people to facilitate physical exercises and presently some people use these walking tracts, but there is no reported evidence regarding the factors influencing the levels of physical activity among walking tract users. Objectives of the study were to describe the levels of physical activity, and influencing factors physical activity among walking tract users in Colombo. A descriptive cross sectional study was carried out in a sample of 307 walking track users in Colombo district to ascertain the factors influence them to use walking tracts, perceived effects of physical activity and related behavior of walking tract use. Data collection was carried out in three selected walking tracks closer to the main city Colombo. Data were gathered using pretested interviewer administered questionnaire, which included a standard physical activity scale. Data were analyzed using SPSS version 20.0. Descriptive statistics and Chi-square test were used to analyze the data. According to the global physical activity level more than half (55%) of the sample had moderate physical activity level followed by low (34.2%) and high (10.2%) physical activity level. Marital status, type of the family, duration of physical activities involved during the past and distance of living to the walking tracts showed significant association with the low physical activity level ($p<0.05$). Majority of the study participants had moderate level of physical activity. Marital status, type of the family, duration of physical activities involved during the past and distance of living are the factors associated with low levels of physical activities.

Keywords: Physical activity, Walking tracts

EFFECT OF BLOODLETTING THERAPY (*RAKTHAMOKSHANA*) AND SRI LANKAN TRADITIONAL MEDICINE ON VARICOSE VEINS (*SHIRAJA GRANTHI*) - A CASE STUDY

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Varicose veins occur due to accumulation of blood caused by damaged or weakened valves. *Shiraja Granthi*, a disease described in Ayurveda, can be correlated with varicose veins. This condition is more common in veins of legs and feet but, can appear in any vein. Bloodletting therapy using leeches, paste of *Dahaspethiya* (*Tagetes erecta*) and *Maduruthala* (*Ocimum sanctum*) *Koththamalli* (*Coriandrum sativum*) *Wandu Thambuma* are used by Sri Lankan traditional physicians to treat varicose veins with positive results. Hence, the present study was undertaken to evaluate the effect of this treatment regimen. A 35 years old female patient with a history of 14 years' of varicose veins (*Shiraja Granthi*) was selected for this study. She had dilated tortuous veins and, heaviness and pain in the left leg. A patient was treated daily for 21 days. Bloodletting therapy (*Rakthamokshana*) was conducted using leeches on days 1, 8 and 15. Oral administration of *Madurutala Kottamalli Wandu Thembuma* (MKWT), along with external application of *Daspethiyalepa* was carried out from Day 1 to 21. But, *Daspethiyalepa* was not applied on days 1, 8 and 15; days where bloodletting therapy was conducted. Therapeutic effects were evaluated through symptomatic relief. By day 15, elevation of veins was completely relieved and other symptoms were partially relieved. By day 21, heaviness and pain in the leg were completely relieved. According to Ayurveda, varicose veins (*Shiraja Granthi*) are caused by vitiation of *Vata* and *Pitta Dosha*. *Rakthamokshana* is the best treatment method to eliminate vitiated of *Vata* and *Pitta Dosha*; especially, *Pitta Dosha*. Saliva of leeches contain hirudin and calin which inhibit blood coagulation. Leech saliva also contains acetylcholine, which promotes dilatation of blood vessels. Ingredients of MKWT pacify vitiated *Vata* and *Pitta Dosha*. Antioxidant, wound healing and immunologic properties of ingredients of MKWT are scientifically proven. Antioxidant, wound healing, analgesic, antibacterial properties of Daspethiya are also scientifically proven. Due to these properties, this treatment regimen is effective in treatment of varicose veins (*Shiraja Granthi*).

Keywords: Varicose veins, *Shiraja Granthi*, *Tagetes erecta*, *Dahaspethiya* (*Tagetes erecta*), *Maduruthala* (*Ocimum sanctum*), *Koththamalli* (*Coriandrum sativum*) *Wandu Thambuma*

EFFECT OF PURGATION (*VIRECHANA KARMA*) USING *EHALA* (*CASSIA FISTULA*) *PENI* AND APPLICATION OF *KALUWALA* (*ALPINIA MALACCENSIS*) *ALEPA* IN TREATMENT OF *PITYRIASIS VERSICOLOR* (*SIDHMA KUSHTA*) - A CASE STUDY

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Pityriasis versicolor is a wide spread fungal infection in the skin which also causes cosmetic problem. It can be correlated with *Sidhma Kushta*, a type of skin disease (*Kushta*) described in Ayurveda. In Ayurveda, *Virechana Karma* (purgation) is one of the therapeutic procedures prescribed in the treatment of skin diseases. Purgation using fruit pulp of *Ehala* (*Cassia fistula*) *peni* followed by external application of paste of *Kaluwala* (*Alpinia malaccensis*) is used by Sri Lankan traditional physicians to treat *Pityriasis versicolor* infections with successful results. This study was conducted to evaluate the effect of aforesaid treatments. On *Pityriasis versicolor* therapeutic effects were evaluated through symptomatic relief. Total duration of the treatment was 10 days. On day 1, *Virechana Karma* was performed and from days 2-10 the paste of *Kaluwala* was applied externally. Clinical features such as mild itching, whiteness, roughness and scaling of the skin were completely relieved after the treatment regimen. According to Ayurveda, *Pityriasis versicolor* (*Sidhma Kushta*) is caused by vitiation of *Vata Dosha* and *Kapha Dosha*. *Virechana Karma* helps to eliminate vitiated *Dosha* from the body. *Ehala* and *Kaluwala* possess properties to mitigate vitiated *Vata Dosha* and *Kapha Dosha*. Antifungal effect of *Cassia fistula* and *Alpinia malaccensis* are already scientifically proven. It is concluded that *Virechana Karma* using *Ehala* (*Cassia fistula*) *peni* along with external application of *Kaluwala* is beneficial in the treatment of *Pityriasis versicolor* (*Sidhma Kushta*).

Keywords: *Pityriasis versicolor*, *Alpinia malaccensis*, *Cassia fistula*, *Sidhma Kushta*, *Virechana Karma*

EFFECT OF BMI ON ENERGY EXPENDITURE OF ELITE FEMALE ATHLETES

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Energy is the currency that we pay off for doing activities of daily living. In athletes, energy is a key pillar that determines their performance. Basal metabolic rate (BMR) is a major component of energy expenditure (EE) which measures the energy requirement. Inappropriate energy requirements lead to energy imbalance and declining of sport performance. Therefore, energy requirement is a priority for athletes to achieve their optimal performance. Body Mass Index BMI (weight (kg)/ height2 (m 2) is a commonly use index to measure body fat composition. This study was conducted to examine whether BMI have an effect on EE of elite female hockey players. Sixteen (16) elite female players (aged 19-29 years) from the national hockey team were randomly selected for the study. Standing height and body weight (bare foot and in light clothing) were measured to the nearest 0.1cm and 0.1kg respectively using a butterfly tape and RTZ manual weight scale. BMR measurements were calculated by using Harris-Benedict revise equation. Metabolic equivalent of task (MET) was calculated for two hours practice session. According to the results, the mean BMR value was 1280kcal/day and mean energy expenditure was 44.1 MJ/MET's minutes per day. 31.3% of the players had low BMI (16.07-18.22 kg/m2) (<18.5), low EE value (30-34MJ/MET minutes/per day) and a low BMR (1220-1350kcal/day). 63% the players were healthy (18.5-24.99 kg/m2) and had 38.8-58MJ/MET minutes/per day of EE and 1227-1380kcal/day of BMR. 6.5% of players had high BMI (28.49 kg/m2) (≥25), 66MJ/MET minutes/ per day of EE and 1435kcal/day of BMR. Pearson's data analysis revealed a strong correlation (0.918), (p=0.000) between energy expenditure and the BMI.In conclusion, the present study shows that there is a significant relationship between BMI and energy expenditure of athletes. Thus, high BMI result in high energy expenditure and Low BMI demands low energy expenditure.

Keywords: BMI, Energy expenditure, Female athletes

ASSOCIATION OF KNOWLEDGE AND PRACTICES TOWARDS PREVENTION OF NOSOCOMIAL INFECTIONS AMONG NURSES AT NATIONAL HOSPITAL COLOMBO, SRI LANKA

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Nosocomial Infection (NI) is one of the common disease condition faced by hospital staff and patient during their hospitalization around the world. Since nurses are part of the health care team that plays a unique role in the control of nosocomial infection, this study conduct to find an association of knowledge and practice towards preventions of nosocomial infection among nurses in National Hospital Colombo. Descriptive cross sectional study was conducted on 160 nurses employed at medical, surgical and ICUs of National Hospital Colombo and pre tested self - administered questionnaire was used to assess knowledge and practices levels. Data were analyzed by SPSS software version 23 and significant level was kept as $p<0.05$. Majority of the nurses (87.5%) were female and 41.3%, 32.5% and 26.3% were employed in surgical, medical and ICUs respectively. Furthermore 88.8% of the participant had good knowledge and 52.5% had good practices towards the NIs. Moreover, there were no significant mean differences in the knowledge and practices level of medical, surgical and ICUs nurses ($p>0.05$) but positively associated significant correlation between knowledge and practices level towards the NIs ($r=0.275$ $p<0.05$). However, gender, education, workplace, service experiences and special training on NIs weren't statistically significant with knowledge and practices levels ($p>0.05$). Most of the nurse's had good knowledge and good practices towards the prevention of nosocomial infection.

Keywords: Knowledge, Practice, Nosocomial Infection, Nurses

CURRENT PHYSIOTHERAPY MANAGEMENT OF INFANTS WITH TORTICOLLIS AMONG PHYSIOTHERAPY PRACTITIONERS IN SRI LANKA

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Torticollis is the third most frequently occurring musculoskeletal condition caused by unilateral shortening of the sternoclidomastoid muscle. Infant will present with lateral flexion of the neck to the affected side and rotation to the opposite side. The aim of this study is to determination of current physiotherapy management for Congenital Muscular Torticollis (CMT), identify different physiotherapy assessment tools used in Sri Lanka for torticollis, identify barriers / issues for management and. The descriptive cross sectional study was conducted with 227 registered physiotherapy practitioners who are handling torticollis patients. The self-administered questionnaire was used to gain information of treatment techniques, assessment tools, and issues faced when managing patients with CMT. All the respondents reported that they were using combination of multiple treatment techniques when treating infants with torticollis as handling techniques (98.2%), neck passive range of motion exercises (97.8%), positioning (97.3%), sternoclidomastoid muscle massage (96.9%), manual stretching (95.6%), and environmental adaptation (93.4%) The most respondents used visual estimate as the assessment tool for the torticollis patients (98.2%).The Lack in proper cervical ROM assessment was identified and international protocols can be used to increase measurement accuracy. Poor home management was found as the major issue faced by the physiotherapist when treating CMT (81.9%) and may be corrected by the use of appropriate handouts for parents. Majority of physiotherapists have treated less than 3 torticollis patients per week (67.8%).

Keywords: Congenital muscular torticollis, Physiotherapy management & treatment, Assessment tools

INFLUENCE OF SOCIO-DEMOGRAPHIC FACTORS ON SELF- FOOT CARE PRACTICES AMONG THE PATIENTS WITH TYPE 2 DIABETIC MELLITUS ATTENDING MEDICAL CLINIC, TEACHING HOSPITAL, JAFFNA

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Diabetic foot ulcer is one of the serious complications of diabetes mellitus that causes lower extremity amputation in most of the patients. Most of these Diabetes related foot problems are avoidable with proper foot care. A cross sectional descriptive study was conducted at medical clinic, teaching hospital, Jaffna in July-August 2015. The aim of the study was to describe the practice on self-foot care and to identify the influence of socio demographic factors on it in patients with type 2 diabetes mellitus. Total of 264 diabetic patients were recruited by systematic random sampling technique and interviewer administered questionnaire was administered. Chi-squared test was used to assess the influence of socio demographic factors and p-value less than 0.05 was considered as statistically significant. The mean age of the participant was 61.5 years (SD±8.8). Only 16.7% participants had good practice, and among them 42.8% had satisfactory and 40.5% had poor practice of self-foot care. Educational status (p <0.001) and monthly income positively influenced practice of self-foot care (p<0.001).Statistical significance (p) of associations between practice of self-foot care and other socio demographic variables were: age -0.459, sex -0.150, marital status - 0.363, religion -0.880and occupation -0.215.Of the participants 22.7% inspected their feet every day and 6.4% never inspected their feet. Few participants have the habit of observing the foot for the presence of dryness (12.1%), sweating (12.1%) blisters (12.1%) redness (13.3%) and minor trauma or cut injury (13.3%) every day. Nearly 43.2% of the participants were always selecting soft and non-irritating footwear and 24.2% of them inspected interior of footwear for foreign objects before wearing. Of the participants 15.9% always walked around outside the home without footwear and 71.2% never used a mirror to inspect the foot. The study shows that patients with type 2 diabetes are not practicing proper self-foot care.

Keywords: Self-foot care, Type 2 diabetes mellitus, Jaffna

ATTITUDES TOWARDS DEPRESSION AMONG G.C.E. ADVANCED LEVEL STUDENTS IN KALUTARA EDUCATIONAL ZONE

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Depression is identified as a common mental illness among adolescents in developing countries. Advanced Level (A/L) students are vulnerable due to the overwhelming work load during a stage of mental and sociological development. The objective of our main study was to assess knowledge and attitudes towards depression among A/L students in Kalutara Educational Zone. Here we present the attitudes component. Participants were recruited from three schools using randomized stratified sampling. Attitudes of adolescents towards 'barriers to help-seeking' for depression in the original ADKQ were identified using an open ended questions. In this study three Lickert Scales were developed using the answers of the original study conducted by Johns Hopkins University to assess attitudes, perceived social support, and social relations, and help seeking related to depression. The 3 scales had good internal consistency (confirmed by Cronbach's alpha). In order to summarize and interpret each Likert scale we created a new variable by calculating the median value of the responses for each item in a scale using SPSS. Non parametric tests were used to compare differences in attitude for some independent variables such as gender, subject streams and parents' occupational status. Total sample consisted of 299 students (52.5% females and 47.5% males). Overall the students had negative attitudes towards stigma and embarrassment associated with depression. However, students had positive attitudes towards social support and depression treatment (SSDT). Females had a stronger positive attitude towards SSDT than males (p=.04). Arts students had a more positive attitude towards getting help for friends suffering from depression than commerce (p=.010) and mathematics students (p=.023). Biology students had a positive attitude towards SSDT than commerce students (p=.005). Students with at least one parent with a professional occupation had more positive attitude towards SSDT than students with neither parent having a professional occupation (p=.003).Negative attitudes towards stigma and embarrassment related to depression are alarming. However, their positive attitude towards perceived social support and treatment of depression is encouraging. We recommend that awareness programmes to be conducted as interventions to increase knowledge on depression and reduce stigma.

Keywords: Depression, Attitudes, Stigma, Advanced Level students

HOUSEHOLD MEDICINE UTILIZATION AND DISPOSAL PRACTICES; A SURVEY CONDUCTED IN 'WERAHERA SOUTH' GRAMA NILADARI DIVISION, SRI LANKA

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Left over household medicines poses a grave danger of unintentional poisoning and environmental pollution. No guidelines on disposal of household medicines are available in Sri Lanka. This research was designed to describe knowledge, attitudes and practices on disposal of household medicines with a view to recommend a disposal policy. A representative sample of 423 houses was systematically selected from 'Werahera South' area. Data was obtained using an investigator-administered questionnaire and analyzed using SPSS version 21. Medicines were available in 272 (64.3%) houses on the day of survey of which left-over medicines were found in 210 (49.6%). Metformin 500mg (29.8%), paracetamol 500mg (22.8%), atorvastatin 10mg (21.3%), losartan 50mg (19.1%) were among the most abundant medicine tablets that were found in houses. Antibiotics which were found in 7 out of all 423 houses included doxycycline capsules, amoxicillin capsules, co-amoxiclav tablets, ciprofloxacin tablets, cloxacillin capsules, azithromycin tablets, cephalexin capsules. The commonest storage place for medicines was cupboard (41.2%).

Insulin was correctly stored in the fridge (1.8%). No household had expired medicines but some had medicines without the original packing and expiry dates (23.5%). Majority (62.4%) kept left-over medicines for future use. In 81.1% and 77.1% houses tablets/capsules and ointments/creams were disposed to the dustbin respectively. Liquid medicines were disposed through the sink in 41.4% houses. Majority (95.7%) were aware that improper medicine disposal cause harmful effects on the environment. People were aware that improper medicine disposal causes harmful effects on the environment, but were not aware about the correct disposal of left-over medicines. "Medicine take-back programme" and guidelines on flushing of medicines are in-use in developed countries. It is highly recommended that the National Medicines Regulatory Authority formulate methods and public educational programs for proper disposal of left-over household medicines.

Keywords: Medicine take-back programme, Left-over medicines, Disposal of medicines.

INFLUENCEOF PHYSICAL ACTIVITY PATTERN ON NON-COMMUNICABLE DISEASES AMONG ADULTS IN BERUWALA MOH AREA, SRI LANKA

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Non-Communicable Diseases (NCDs) are major public health problem that drastically rising in worldwide. Among several life style factors, physical inactivity and sedentary life style have been identified as important factors associated with NCDs. The objective was to determine the influence of physical activity (PA) patter non NCDs among adults living in Beruwala MOH area. Descriptive cross sectional study was conducted with the participation of 250 adults (150 females, 100 males) in the age group between 18-65 years in Beruwala MOH area. Out of 250 participants, 60% were females and 40% were males. Mean age (SD) of the study participants was 40.84 ($\pm$13.96) years. Majority of the adults (64.8%) were moderately active and 14.4% of them were physically inactive. The most prevalent NCD among study population was hypertension 11.2% (n=28) and 24% (n=60) were having any kind of NCDs. There was a significant association between sedentary activity level and the Diabetes mellitus, $X2(1) = 4.97$, $p<0.05$. Ischemic heart diseases were significantly associated with physical inactivity,$X2(1) = 4.18$, $p<0.05$. There was a significant association between most of sedentary leisure time activities such as watching TV, reading books and using social networks with history of NCDs ($p<0.05$). The adults living in Beruwala MOH area were moderately active. There was an association between PA pattern such as physical inactivity, sedentary leisure time activities and NCDs. Physical inactivity and sedentary life style have been observed as one of the important factor for NCDs in adults.

Keywords: Physical activity, Sedentary behavior, NCDs

FORENSIC NURSING ASPECTS OF MANAGING CHILD ABUSE CASES

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Forensic nursing can be described as applying nursing process to scientific investigations of medico legal issues. The forensic nursing aspects of child abuse mainly focused on managing abuse cases of people less than 18 years. This study was designed to assess the level of knowledge and attitudes related to forensic nursing aspects of child abuse in Teaching Hospital Karapitiya. Eighty nursing officers working in Teaching Hospital Karapitiya (38 from ETU, 27 from pediatric wards, 15 from PICU) were included in this study. Self-administered pretested questionnaire was applied to collect the data on knowledge and attitudes of forensic nursing aspects related to child abuse. Knowledge and attitudes were analyzed using Chi-square test. Knowledge was assessed according to three criteria as total knowledge, knowledge related to forensic nursing and knowledge on identification of child abuse cases (knowledge on signs and symptoms like non accidental injuries, cigarette bud mark etc.) There were 80 respondents and they had knowledge at a satisfactory level and demographic details as age, gender, their working unit, duration of service were not seem to be affecting their knowledge. A scoring system was used to analyze the data. The mean SD for total knowledge was 26.337 SD for forensic nursing knowledge 11.990 and SD for knowledge on identification of child abuse cases 7.426. The mean SD for attitude was 1.371. This study identified that the nursing officers have satisfactory practical knowledge but their theoretical knowledge related to management of child abuse cases was not adequate. In addition, there is a necessity to implement the forensic nursing education system in Sri Lanka with regard to child abuse cases and open ended questions is not a successful method to be used in studies.

Keywords: Forensic, Child Abuse, Knowledge, Attitudes

RISK FACTORS FOR HARBORING DRUG RESISTANT BACTERIAL ORGANISMS IN WARDED PATIENTS RESISTANT AT SRI JAYEWARDANEPURA GENERAL HOSPITAL (SJGH), SRI LANKA

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Antibiotic resistance is a highly concerned public health problem due to difficulties in treatments. Investigation of the risk factors associated with antibiotic resistant organisms is important to prevent and control the infections regarding antibiotic resistance. General objective of the study was to determine the risk factors that could make patient harbor bacteria with antibiotic resistance at Sri Jayewardenepura Hospital (SJGH) Sri Lanka. Identification of the susceptibility patterns of isolates present in clinical specimens was also focused in the current study. Retrospective observational study was conducted during the period from July to October 2016 at SJGH. The individuals reported with selected drug resistant isolates were selected as study population while those who had the same bacterial isolate which were susceptible to the selected drug was taken as the control group. One hundred and thirty two (132) individuals with antibiotic resistance and 66 individuals with antibiotic sensitive isolates were recruited. Data was gathered via a questionnaire and via laboratory test results. The study has identified the length of hospital stay of the individuals, age range, and administered antibiotics before the hospital admission as risk factors. There was a significant association between antibiotic resistance / sensitivity and age range (χ2 value = 9.673, p= 0.008). Highest percentage of individuals harboring drug resistant organisms was observed in the category of more than sixty years of age. When the length of hospital stay becomes more than 4 days, a significantly higher (χ2 value =4.277 and p = 0.039) probability (77%) of harboring antibiotic resistant organisms was observed. There was a significant association between administration of antibiotics and harboring drug resistant organisms (p=0.012 and χ2 value =8.872). This study elaborates that by reducing hospital stay (for example in preoperative period) and use of antibiotics, the number of patients harboring antibiotic resistance can be reduced.

Keywords: Antibiotic resistance, Warded patients, Sri Jayawardanepura

THE RELATIONSHIP BETWEEN VENTILATORY FUNCTIONS AND ROWING PERFORMANCE IN SRI LANKAN ROWERS: A PRELIMINARY STUDY

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Rowing is a highly challenging and physically demanding sport that requires extremely high levels of ventilatory functions. In addition to meeting the high ventilatory demands, the respiratory muscles aid in stabilizing and strengthening the trunk during the rowing stroke. The objective of this study was to investigate the relationship between ventilatory functions of competitive rowers and rowing performance. A cross sectional descriptive study was conducted to assess ventilatory functions and ergometer performance in 20 male national level rowers in the Sri Lanka Army in the age range 20-35 years (during) in the competition season. Lung volumes and capacities were measured using a portable spirometer (Spiro analyzer ST-75). Respiratory muscle strength was measured using a portable hand held mouth pressure meter ((Micro MPM, Micro Medical Ltd., Kent, United Kingdom; Precision Medical MPM, UK). Performance was assessed by the 2000m rowing ergometer machine. The mean rowing ergometer time was $6.91+0.33$ minutes. Rowing ergometer time significantly correlated with vital capacity ($p=0.01$) and expiratory muscle strength ($p=0.01$). Rowers with higher respiratory muscles strength showed better expiratory flow rates ($p=0.05$). This study shows that there is a significant association between the vital capacity and rowing ergometer performance of Sri Lankan rowers. Rowers with high ventilatory functions performed better at rowing ergometer.

Keywords: Rowing, Ergometer time, vital capacity, Ventilatory Functions

THE EFFECT OF SKILL-RELATED PHYSICAL FITNESS COMPONENTS ON PERFORMANCE OF SRI LANKAN SCHOOL JUNIOR NATIONAL MALE TABLE TENNIS PLAYERS

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It is evident that Sri Lanka Junior National table tennis (TT) players fail to perform at their best throughout competitions due to their poor fitness level. Hence, this study was aimed at identifying the effect of physical fitness components on performance of Junior National TT players. The objectives of this study were to determine whether there is a significant relationship between skill-related physical fitness components and performance of TT players. Thirty top-ranked Junior National players were randomly selected as the sample for this study. Skill-related physical fitness level of subjects was assessed using five physical fitness tests: 35 m sprint test (speed), stork balance test (balance), 5 m x 10 shuttle run test (agility), standing broad jump test (leg power) and Drop Ruler test (reaction time). Additionally, push-ups test was conducted to measure strength endurance of subjects. Performance of TT players was analyzed based on the Sri Lankan Table Tennis Ranking system. Spearman's rho product moment correlation test was used to study the correlation between the tested physical fitness components and performance at a 5% level of significance. Results revealed that there was a strong negative correlation between performance and sprint 35 m test (r = -0.797, p = .000). A strong positive correlation was observed between performance and stork balance test (r = 0.867, p = .000). Further, the performance moderately correlated with the reaction time (r = -0.547, p = .002) and shuttle run 5 m x 10 times (r = -0.553, p = .002). The performance did not correlate with leg power and strength endurance. According to results, it can be concluded that skill-related physical fitness components such as speed, balance, reaction time and agility have a significant effect on the performance of top-ranked Junior National TT players of Sri Lanka, whereas leg power and strength endurance had no impact on player performance.

Keywords: Table Tennis, Skill-related physical fitness, Performance

QUALITY OF LIFE AND ITS DETERMINANTS IN A HETEROGENOUS GROUP OF CANCER PATIENTS IN NATIONAL CANCER INSTITUTE OF SRI LANKA

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Quality of life (QOL) has emerged as a key measure of health outcome worldwide. It measures how disease affects the day today life and feelings. Improving QOL is a major goal in cancer care. This study assessed the QOL and identified the factors associated with QOL in a heterogeneous group of cancer patients at National Cancer Institute of Sri Lanka. The descriptive study estimated the overall QOL in patients diagnosed for more than six months (n=167). WHOQO- BREF, validated to the local setting is used to measure QOL. The nested case control study investigated the associated factors for QOL. It included 111 controls (QOL > 50) and 56 cases (QOL < 50). The case control comparisons were analysed with Chi- Square and Student T test where applicable. The sample of patients were predominantly aged > 55 years, female, married, and with post-compulsory education. Breast cancer is the most predominant (n=65, 38%). Metastatic disease and co-morbidity were seen in 25% and 36% respectively. In the cohort 16% reported loneliness always, 64% receive attention of the family and 62% receive family support. The mean overall QOL was 55 out of 100 with majority (66%) reporting high (>50) QOL. Only gender (P=0.013, chi²=0.37) and education level (p=0.043 and chi2 = 4.097) were found to have a significant impact. Age marital status, monthly income, site, spread and duration of cancer, comorbidity and treatment method does not seem to have impact. Loneliness of the patient (p = 0.026), attention of the family members (p=0.03) and help from family members (p= 0.007) shows significant association to QOL. The overall QOL found to be high in majority. Gender, educational level and family support were identified as significant determinants of QOL. It concludes family involvement is an intervention which can be implemented in Improving QOL.

Keywords: Cancer, Quality of life

AWARENESS OF COMPLEMENTARY FEEDING PRACTICES AMONG MOTHERS ATTENDING CHILD WELFARE CLINICS AT RATMALANA, MEDICAL OFFICER OF HEALTH (MOH) AREA

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Complementary feeding is the most important aspect of the child's nutrition at the age of six months. This helps to improve child's growth and development. Infants and young children need a caring adult or other responsible person who does not only select and offer appropriate foods but assists and provides a proper environment to consume these foods in sufficient quantity. Under the circumstances mother is the main character when feeding the children. The transition from exclusive breastfeeding to normal foods denoted to as complementary feeding which lasts the period of 6 – 24 months of age. The main objective of the study was to assess awareness of mothers regarding complementary feeding in Ratmalana MOH area and the specific objectives were to assess the current feeding practices among mothers and factors affecting complementary feeding practices. A Descriptive cross sectional study was conducted during the period of three months in 2016. The sample was 300 mothers having children in 4-18 months age at Ratmalana MOH area and who are attending Child Welfare Clinics. The researchers developed an interviewer-administered questionnaire with open and close ended ten questions to assess the current feeding practices. Quantitative data were analyzed by using Statistical Package for Social Sciences (SPSS) version 23. Significance was taken as $p<0.005$. The results revealed that 56.3% mothers have average awareness regarding complementary feeding, while 14.3% mothers have good awareness and 29% mothers had low awareness. According to the analyzed data most of the mothers are using a correct practicing method of complementary feeding. 83.3% of mothers stated that rice containing foods should be given as first food and more than 90% of mothers had the correct knowledge on starting complementary feeding with the completion of 6 months to the child. Most of mothers (71%) have satisfactory awareness regarding complementary feeding. There were statistical significances between age of the mothers and the initiation of complementary feeding (P=0.004), Ethnicity and Yoghurt practice (P= 0.002), Ethnicity and first food (P=0.005) and age of the mothers and the animal protein initiated age (P=0.000) and the employment status of the mothers and age which breastfeeding should be continue (p=0.002). Yoghurt and Thriposha practice has been a forthcoming trend in complementary feeding.

Keywords: Awareness, Complementary Feeding, Mothers

MOTHERS' KNOWLEDGE AND ATTITUDES REGARDING PREVENTION AND MANAGEMENT OF FEBRILE SEIZURES IN CHILDREN AT DEHIWALA MOH AREA, SRI LANKA

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Febrile seizures are the most common seizure type that occur in 2 -5% of children younger than age 5 years with a peak incidence in the second year of life. Psychosocial impacts, cognitive disabilities, hospital bed occupancy, prolongation of hospitalization and increased health costs are the complications of febrile seizures in children. This study endeavors to assess the knowledge and attitude of mothers' about febrile seizures, including its prevention and management to fulfill the gap between knowledge, attitudes and to improve awareness about febrile seizures in children. A descriptive cross sectional study was carried out from 12th January 2016 to 12th April 2016, in Child Welfare Clinics at Dehiwala MOH area, Sri Lanka. In the study, a random sample of 385 mothers was assessed using a self-administered questionnaire. Data were analyzed by using SPSS and significant level was kept as $p < 0.05$. Out of 385 participants, 26.2% had a family history of febrile seizures, only 9.9% mothers mentioned that their child got a history of febrile seizure during a fever episode and 66% of mothers were knowledgeable that fever can give rise to febrile seizures in children. Majority, (54.5%) stated febrile seizure is a curable condition, 44.7% stated febrile seizure is life threatening, 72.2% stated febrile seizure is not contiguous, 10.9% stated that febrile seizures do not cause serious side effects. According to the study results, 64.9% mentioned that they do not have a knowledge regarding pre hospital management of febrile seizures while 83.4% of mothers have mentioned that they were not aware of the medications used in febrile seizure management. According to the study results regarding mothers' attitudes towards febrile seizures, 41.6% believed that febrile seizure is not a mental disease, only 9.4% believed that the febrile seizure does not affect physical development of the child, 6.5% believed that febrile seizure does not affect school/preschool performance, 11.9% believed that a child with febrile seizures can lead a normal future life. It is concluded that mothers had a poor knowledge and unfavorable attitudes regarding febrile seizures in children, including the prevention and management. There is a need to bridge the gap in knowledge and attitudes regarding febrile seizures in children in Sri Lankan context.

Keywords: Knowledge, Attitude, Febrile seizures, Dehiwala MOH area

PARENTAL AWARENESS OF RISK FACTORS, RECOGNITION, PREVENTION AND FIRST AID MANAGEMENT OF ACCIDENTAL FOREIGN BODY ASPIRATION IN CHILDREN AGED 1-5 YEARS IN DEHIWALA - RATMALANA MOH AREAS, COLOMBO, SRI LANKA

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Foreign Body Aspiration (FBA) is a common cause of respiratory emergency in early childhood and is associated with a high rate of airway distress. FBA peaks at the age of 1-2 years. Many cases of FBA can be preventable yet one of the main risk factors for FBA is a lack of knowledge regarding FBA of caregivers of children. It has been emphasized that public awareness should be increased on FBA. Inadequate awareness of parents regarding risk items, risk factors, prevention methods, delay in identifying signs and symptoms of sudden FBA, and inadequate awareness of First Aid Management are the major factors placing children at higher risk for FBA. The primary aim of this study was evaluate knowledge among parents in Dehiwala- Ratmalana Medical Officer of Health (MOH) areas on FBA (i.e. the high risk items, risks factors), the other aims were to assess parental ability to recognize FBA, evaluate parental knowledge on implementing the first aid management and prevention of Foreign Body Aspiration, and to find out whether there is any correlation with parental knowledge on FBA and parental level of education. Simple random sampling method was used regardless of parity, attending routine Child Welfare Clinics (CWCs) during working day mornings and afternoons across the twelve CWCs in Dehiwala and Ratmalana MOH areas. An interviewer administered questionnaire was used to collect the data from 384 fathers, mothers and primary care givers (guardians) who had a child of age 1-5 years. Among 384 parents who participated in the study, 99 cases had a history of FBA with the highest incidence amongst the 1-2 year age group. The overall knowledge of the parents on FBA was average 226(58.9%), similarly parental knowledge on prevention was high 291(75.8%), while the majority had a good knowledge on first aid management 230 (59.9%). The majority of parents had shown a good awareness on risk factors related to FBA as well. According to the results the most parents in this sample had either a good or average knowledge on the risk factors, recognition, prevention and treatment of FBA. In this study population parental overall knowledge on FBA was average. Their knowledge was mainly acquired from community midwives. There was no association between education levels with awareness of risk of FBA, awareness of recognition, awareness of prevention, and awareness of first aid management. Similarly, a significant relationship was not found in between education and over all awareness on FBA.

Keywords: Foreign Body Aspiration, Accidents, Parental, Awareness, Education

EPIDEMIOLOGICAL CHARACTERISTICS AMONG RT-PCR POSITIVE DENGUE PATIENTS AND RT- PCR NEGATIVE PATIENTS WITH OTHER FEBRILE ILLNESSES ADMITTED TO TEACHING HOSPITAL, PERADENIYA, SRI LANKA

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Febrile illnesses have also been reported with dengue patients. RT PCR (Reverse transcriptase - polymerase chain reaction) is considered as the standard test in diagnosing dengue with higher sensitivity and specificity. Therefore current study was conducted to identify the association of epidemiological characteristics between RT PCR positive dengue patients and clinically suspected dengue patients with other febrile illnesses who were negative for PCR. Dengue suspected 288 patients admitted to medical wards in Teaching hospital, Peradeniya during May-August, 2016 were selected. Out of all, 162 (56%) were confirmed with RT-PCR as dengue and 126 (44%) as other febrile illnesses. Demographic information, onset of fever, and hospitalization details were obtained. Male predominance was observed in both dengue and other febrile illnesses. Male to female ratio was 3:2 for dengue and 2:1 ratio for other febrile illnesses. No significant difference was observed between mean ages of both groups, 31.2 years for dengue and 32.0 years for febrile illnesses. Students (university, other higher education and schools) have shown the highest tendency in both groups with 29.9% in dengue and 34.6% in other febrile illnesses. Percentage of housewives for dengue was 12.5% and, febrile illnesses were 19.1%. Mean number of days from the onset of fever to admission to the hospital for dengue was 2.64 (Standard Deviation, SD = 1.265) days which was significantly lower ($p < 0.001$) than other febrile illnesses (3.38 days, SD=1.579). Mean number of days of hospitalization for dengue was 4.10 (SD=1.368) days which was significantly higher ($p < 0.001$) than other febrile illnesses (3.19 days, SD=1.263). The study can be concluded that, 44% of dengue suspected admissions were due to other febrile illnesses. In both groups young patients with male predominance and the students' comprised of the highest number admissions. However, significant differences were noticed in the time taken for admissions from the onset of fever and the period of hospitalization among both groups. Therefore, further studies are needed to identify the differences of these two diseases and to find etiologies for other dengue like febrile illnesses.

Keywords: Dengue, Other febrile illnesses, RT-PCR

DENGUE OUTBREAKS IN SRI LANKA FROM 2009 TO 2016: AN EPIDEMIOLOGICAL REVIEW

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Dengue is a major mosquito born infectious disease in Sri Lanka. The current study outlines the distribution of the dengue patients in 25 districts with outbreaks over last 8 years. Weekly epidemiology reports were collected from epidemiology department of the government of Sri Lanka, and dengue patient numbers from 2009 to 2016 were obtained and monthly, quarterly and annual summaries were prepared. Population information was collected from census and statistics department of the government of Sri Lanka. Patient density was calculated per 10,000 and distribution maps were illustrated using Geographical Information System (GIS). Risk factors, raining patterns and related information were gathered using published literature. In 2011 and from 2013 to 2016, highest number of dengue patients (>30%) were reported from Colombo district. From 2011 to 2016, about half of the cases were in Western Province. During 2009 through 2016 excluding 2010, Colombo district had the highest patient density in the country. Notable outbreaks occurred in three districts of Northern Province in 2010 as Jaffna (51.2/10,000), Mannar (57.1/10,000) and Vauniya (31.2/10,000). Further, in 2012, Kegalle and Rathnapura districts of Sabaragamuwa province showed patient densities of 35.8/10,000, and 32.02/10,000 respectively. In 2014, Jaffna and Mannar reported patient densities over 32/10,000 and in 2015 and 2016, the former had the second highest density of the country, 34.3/10,000 and 42.4/10,000 respectively. Time line of the outbreaks were analyzed and biannual peaks were noticed in June/ July and November/ January periods in high density provinces. In conclusion, high dengue prevalence occurred in Western, Sabaragamuwa and Northern Provinces during 2009-2016 compared to other areas of Sri Lanka understandably two or three months after respective monsoon rainfall.

Keywords: Dengue, Epidemiology, Sri Lanka, Outbreaks

MENSTRUAL HYGIENE MANAGEMENT; AWARENESS, PRACTICES AND ITS IMPACT ON EDUCATION AMONG ADOLESCENT SCHOOL GIRLS IN GALLE

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Proper menstrual hygiene in school girls is important because poor menstrual hygiene practice can be lead to urinary tract infections, reproductive tract infections and serious illness in their future life. Indirectly it affects to school attendance and academic performances. Hence, it improves the quality of practice it is important to identify current practice and matters related to menstrual hygiene. The aim of this study was to study the menstrual hygiene practices and the impact of menstruation on education of school girls (12-14 years) in Galle municipality. This school based descriptive, cross sectional study was conducted among 400 school girls selected from schools in Galle municipality. Interviewer administered, semi structured questionnaire with both closed ended and open ended questions were used to collect data on menstrual hygiene practices, awareness and its impact on education. Ethical clearance was obtained from the Ethical Review Committee, Faculty of Medicine, University of Ruhuna. Mean age of girls was 13.00 years (SD;0.56). Mean age of menarche was 10.94 years (SD; 1.38). Of them, 344 (86.0%) were using disposable pads and 56 (14.0%) used reusable pads made of old cloths. Majority of participants changed about three or more sanitary pads per day (n=295, 75 %), used to clean external genitalia as per convenience and privacy (n=219, 54.8%), cleaned external genitals with soap & water (n=321, 80.3%), burned used pads (n= 247, 61.8%), do not change sanitary pads during school time (n= 297, 74.3%). Nearly half of the individuals (n=197, 49 %) do not take a shower during menstruation. Considerable number of girls frequently missed schools (18%) and tuition classes (66%) because of menstruation due to headache or abdominal pain. Majority of girls had a satisfactory usage of sanitary pads and cleaning. School environment in the selected schools didn't have adequate facilities for proper menstrual hygiene management. Of the girls 348 (87%) had a poor knowledge about menstrual hygiene and 250 (62.5 %) girls had been unaware about menstruation, prior to menarche. Out of 400 of participants 87.0% (n=348) were in the state of having poor knowledge about menstruation. Menstrual hygiene management was identified as a major issue among school girls in Sri Lanka. Though majority of our study population present school during menstrual periods, lack of disposable sanitary napkins and sanitary facilities at school were not satisfied. Majority of study samples had proper sanitary practice and used sanitary pads.

Keywords: Adolescent girls, Menstruation, Menstrual hygiene management, Education.

IN VITRO ANTIBACTERIAL ACTIVITY OF SOME AQUATIC PLANTS GROWING IN POLLUTED WATER OF SRI LANKA

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This study evaluated in vitro antibacterial activity and phytochemical profile of four aquatic plants (roots of *Ipomoea aquatica*, *Lasia spinosa, Pistia stratiotes* and leaves of *Monochoria vaginalis*) which grows in polluted water of Sri Lanka. These plants are used as a local application for treatment of various infectious conditions in the skin. Main objective of this study was to evaluated in vitro antibacterial activity of above mentioned plant parts using 0.9% sterile isotonic normal saline extract and cylinder plate method against two Gram positive [*Staphylococcus aureus* ATCC® 25923™ and *Bacillus subtilis* (ATCC® 6633™)] and two Gram negative [*Escherichia coli* (ATCC® 25922™); *Pseudomonas aeruginosa* (ATCC® 27853™)] bacteria. The concentrations used were 250, 500, 750 and 1000 µg/µl. The antibacterial activity was examined in duplicate using 0.9%sterile isotonic normal saline as the negative control and Gentamycin (50µg/ml) as the positive control. The results revealed that, all four plants exhibited marked antibacterial activity; *Escherichia coli* (inhibitory zone 12- 14 mm), *Staphylococcus aureus* (12-15 mm), *Pseudomonas aeruginosa* (13-15 mm), *Bacillus subtilis* (13-14 mm). Phytochemical analysis revealed that all four plants contain flavonoids, amino acids and proteins. In addition, carbohydrates and diterpines were present in *Monochoria vaginalis* and *Lasia spinosa*. Further, *Monochoria vaginalis* contained phenols and glycosides. It is concluded that these four plants which grow in waste water has marked in vitro antibacterial activity which may be mediated via flavonoids, carbohydrates, glycosides, phenols and diterpines. Further, this antibacterial activity may play vital role for survival in polluted water.

Keywords: *Ipomoea aquatica, Lasia spinosa, Pistia stratiotes, Monochoria vaginalis*, antibacterial activity

COMBINATIVE CRITERIA FOR IDENTIFYING STAGES OF CKD PATIENTS USING BOTH EGFR AND URINE ALBUMIN TO CREATININE RATIO

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The combinative criteria for CKD stage identification as suggested by KDIGO (Kidney Disease: Improving Global Outcomes) guidelines (2012) are progressive. The current study was conducted to assess the use of eGFR in combination with albumin to creatinine ratio in urine for patient stage-identification. Male CKD patients between 35 - 75 years of age volunteered for the study (n=173) at CKD Clinic, Base Hospital, Padaviya. A questionnaire based information, whole blood and spot urine samples were collected from each subject before serum creatinine and urine albumin to creatinine ratio (ACR mg/g) were determined by standard analytical procedures. The eGFR (mL/min/1.722m2) was calculated using MDRD formula and thereby the patients were categorized into six stages namely, G1 (eGFR>90), G2 (eGFR=60-90), G3a= (eGFR=45-59), 1G3b= (eGFR=30-44), G4= (eGFR=15-29), and G5= (eGFR= >15) in compliance with KDIGO. The ACR based stratification defines stages A1, A2, and A3 based on the values <30 (normal albuminuria), 30-300 (microalbuminuria), and >300 (macroalbuminuria) mg/g respectively. Accordingly, A1, A2 and A3 had 58 (mean= 11.26 mg/g), 91 (mean= 132.98 mg/g) and 20 (mean= 738.5 mg/g) subjects respectively. Superimposing both indices, 80% of G1 had normal albuminuria (G1A1) while the rest (20%) was microalbuminuria (G1A2). In G2, 76% had normal albuminuria (G2A1) with 23% in G2A2 and one patient in G2A3. In G3a, G3aA1, G3aA2 and G3aA3 had 45%, 37% and 18% patients respectively. In G3b group, G3bA1, G3bA2 and G3bA3 had 25%, 54% and 21% of patients respectively. Further G4A1, G4A2 and G4A3 groups had 21%, 71% and 8% respectively. Among G5, the end stage renal failure patients, 75% were identified as G5A2 while 25% represented G5A3. According to the results, approximately 50 % of the CKD patients at G3 showed normal albuminuria (A1). And at G4, it was 21%. Notably, over 75% of G5 patients had microalbuminuria which corresponds to the moderate risk group, A2. Therefore the study can conclude that the CKD in Padaviya area could largely be non proteinuric. Studies in this line deserve attention.

Keywords: eGFR, Urine creatinine, Urine albumin ratio