



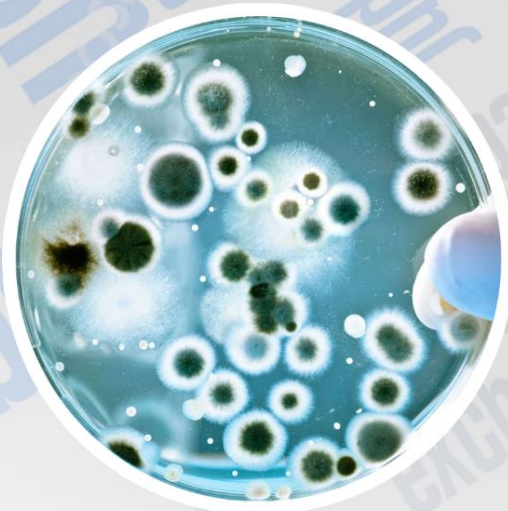
INTERNATIONAL CONFERENCE ON HEALTH SCIENCES - 2019



“Steering Horizons; Aspiring Excellence!”

Faculty of Medical Sciences, University of Sri Jayewardenepura

In collaboration with Colombo South Teaching Hospital,
Sri Jayewardenepura General Hospital and Base Hospital, Homagama



17th & 18th OCTOBER, 2019

UNIVERSITY OF SRI JAYEWARDENEPURA, SRI LANKA

“Steering Horizons: Aspiring Excellence”



Faculty of Medical Sciences University of Sri Jayewardenepura

in collaboration with

Colombo South Teaching Hospital
Sri Jayewardenepura General Hospital
Homagama Base Hospital

International Conference on Health Sciences 2019

“Steering Horizons; Aspiring Excellence”

17th to 18th October 2019



Compiled by

Dr. Manori Gamage

Dr. Chinthika Gunasekara

Dr. Chamarika Moonesinghe

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Front Cover by

Dr. Hasitha Dissanayake



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MESSAGE FROM THE VICE CHANCELLOR of the University of Sri Jayewardenepura



Scientific conferences are foundation stones to bring in culture of information exchange and debate on trends in research. University of Sri Jayewardenepura is committed to facilitate quality research and encourage dissemination of new discoveries that will always have a positive impact on mankind. I take this opportunity to appreciate the efforts made by the Faculty of Medical Sciences, in organizing the International Conference on Health Sciences 2019. Under the theme, “Steering Horizons; Aspiring Excellence”

this international conference will provide a platform for academicians – researchers, clinicians, teachers, and students to steer their knowledge in different fields of science in order to pursuit excellence.

Rapid and complex advances in relation to medical diseases, diagnoses, treatment modalities and medical technologies are inevitable. Conducting health research, discussion and debate are imperative in unearthing the root causes of diseases, preventive measures and best-recommended treatments to combat these recent advances. I believe with the participation of international speakers, international delegates, local experts, health-care providers and administrators, this conference is a perfect venture for benefits of research to reach today's society and for insinuations in future.

I would like to thank all the local and international speakers for their participation and sharing their expertise. I would also like to thank the collaborators of this conference, Colombo South Teaching Hospital, Sri Jayewardenepura General Hospital and Base Hospital, Homagama. My sincere thanks go to the Dean and staff of the Faculty of Medical Sciences for their generous contribution towards the success of this event. I unreservedly congratulate the Chairperson and Research Committee for their tireless efforts in organizing this conference and I hope all participants will make fruitful interactions on their workings.

I wish the International Conference on Health Sciences 2019 a great success.

Snr. Prof. Sampath Amaratunge

Vice Chancellor

University of Sri Jayewardenepura

MESSAGE FROM THE DEAN

Faculty of Medical Sciences

University of Sri Jayewardenepura



The International Conference on Health Sciences is an important academic event organized by the Research Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura. Every year the Faculty of Medical Sciences, USJ, hosts scientific sessions to share new research findings in the field of medical sciences in our country. However, in 2018 we made it an international event and this year too we are steering horizons to aspire excellence by organizing an international conference.

It is extremely encouraging to have the main three teaching hospitals of our faculty as collaborators namely, Colombo South Teaching Hospital, Sri Jayewardenepura General Hospital, and Base Hospital, Homagama, supporting us on this mission. The scientific sessions cater to a diverse audience including international delegates, and local participants consisting of academic staff of medical faculties in Sri Lanka, consultants, postgraduate trainees and undergraduate medical and paramedical students.

We are delighted to have with us, Dr. Pubudu Pathiraja from the Oxford University Hospital, United Kingdom, and Dr. Anita Jain from India to share their research experiences and steering horizons. We have also invited many of our local experts specializing in various fields of medical sciences to enrich the scientific program. I believe that the scientific program that has been carefully planned out by the scientific committee is well balanced with clinical and laboratory based research topics and will interest a wide audience.

I wish to thank our Vice-chancellor, Snr. Prof. Sampath Amaratunge who has been a great motivator to develop research activities in our university. I hope this conference will be a doorway of evidence on the many high quality research carried out by academics of the Faculty of Medical Sciences.

Finally, I take this opportunity to thank the Chairperson, Prof. Shamini Prathapan, her team in the Research Committee of the Faculty of Medical Sciences and all other contributors for organizing an event of this magnitude. I wish the deliberations of the research sessions will prove productive and intellectually stimulating.

Snr. Prof. Surangi G. Yasawardene
Dean
Faculty of Medical Sciences
University of Sri Jayewardenepura

MESSAGE FROM THE CONFERENCE CHAIR

Faculty of Medical Sciences

University of Sri Jayewardenepura



As the Chairperson of the research committee, I am delighted and honoured to bring this message to the International Conference on Health Sciences 2019. This year has been a significant year, as we the Faculty of Medical Sciences, have decided to hold this prestigious conference annually. With that growth, associated challenges tag along. The 2019 Conference has been structured to address those challenges head-on.

Our theme of “Steering Horizons; Aspiring Excellence” was created to leverage this amazing gathering of professionals to bridge the gaps in medicine and to connect the gaps in a new and fresh way. This conference will provide some valuable opportunities on top notch research and medicine, showcasing innovative research that are utilizing revolutionary technologies. With a record number of research abstracts, I hope that these annual conferences will becoming larger and more substantial every year. I hope that this conference will allow the participants a productive discourse not only in aspiring excellence in research, but also in managing healthcare. Some of the underlying issues in research and medicine will be covered in depth in our conference, by our key note and guest speakers. I extend my heartfelt appreciation to them.

As a conference chair, I know that the success of the conference depends ultimately on the many people who have worked with us, in planning and organizing the conference. I’m constantly amazed by the support given by the Vice Chancellor, Prof.Sampath Amaratunga and our Dean, Prof.Surangi Yasawardena, who have a very clear desire to upgrade research and medicine in the community in which we live in.

I thank the committee for their wise advice and brilliant suggestions on organizing the conference. All recognition should go to the committee members. A note of appreciation to the academia for their thorough and timely reviewing of the papers. I thank the presenters, for enriching the conferences by your presence. As is a tradition with the conferences, I hope you will renew old fellowships, make new fellowships, get new ideas, and above all, have a great deliberation.

Prof. Shamini Prathapan

Chairperson

Research Committee of the Faculty of Medical Sciences

University of Sri Jayewardenepura

MESSAGE FROM THE CONFERENCE SECRETARY

Faculty of Medical Sciences

University of Sri Jayewardenepura



It is a great pleasure to welcome each one of you to the International Conference on Health Sciences 2019 (ICH 2019)! This is an exciting time for researchers, scientists, clinicians and academicians as the conference programme reflects the farfetched breadth of interests within the discipline of health sciences. It is heartening to see the overwhelming response for abstract submission this year. I believe ICH 2019 will provide a forum for strong scientific debate and discussion for advancement of health sciences through quality research, ethics, equality and diversity.

I sincerely thank Dr. Anita Jain for conducting the pre-conference workshop on “From Research to Publication: navigating barriers and pitfalls” and congratulate Dr. Bawantha Gamage for delivering the Faculty of Medical Sciences Oration 2019.

I am thankful to all prolific international and national experts who have agreed to contribute to the Keynote lecture and Symposia lectures. I gratefully acknowledge the support and guidance given by Prof. Sampath Amaratunge, Vice Chancellor of University of Sri Jayewardenepura, Prof. Surangi Yasawardene, Dean, Faculty of Medical Sciences and collaborating health-care institutions.

I would like to thank each one of you for attending ICH 2019 and bringing your expertise to this remarkable gathering. Your engagement and feedback throughout this conference will help us bringing out flawless and better proceedings in future.

My sincere admiration and gratitude goes out to all of you. I wish ICH 2019 every success!

Dr. Varuni Tennakoon

Secretary

Research Committee of the Faculty of Medical Sciences

University of Sri Jayewardenepura

Inauguration Ceremony

17th October 2019

5.30 p.m.	Invitees take their seats
6.00 p.m.	Ceremonial procession
6.05 p.m.	University anthem
6.10 p.m.	Lighting of the ceremonial oil lamp
6.15 p.m.	Welcome address Professor Shamini Prathapan Chairperson, Research Committee
6.25 p.m.	Address by the Dean Senior Professor Surangi Yasawardene Dean of the Faculty of Medical Sciences, University of Sri Jayewardenepura
6.35 p.m.	Address by the Chief Guest Senior Professor Sampath Amaratunge Vice Chancellor of the University of Sri Jayewardenepura
6.45 p.m.	Faculty of Medical Sciences Oration “Modified Enhanced Recovery after Surgery (mERAS) in colorectal surgery: Outcome of novel experience in colorectal surgery in Sri Lanka” Dr. Bawantha Gamage Consultant Surgeon and Senior Lecturer Department of Surgery Faculty of Medical Sciences, University of Sri Jayewardenepura
7.30 p.m.	Vote of thanks Dr. Varuni Tennakoon Secretary, Research Committee
7.35 p.m.	Cultural performance
7.55 p.m.	National anthem
8.00 p.m.	Procession leaves the hall
8.05 p.m.	Fellowship

Detailed Programme

Thursday, 17th October, 2019

Pre-conference workshop

Resource personnel Dr. Anita Jain

Clinical Editor, British Medical Journal

08.30 am – 09.00 am Registration

09.00 am – 12.00 pm Workshop – “From Research to Publication: navigating barriers and pitfalls”

Inauguration ceremony 6.00 pm

Friday, 18th October, 2019

08.00 am – 08.15 am Registration

08.15 am – 09.30 am Oral communications
Parallel Sessions 1,2,3

Session 1
Infectious diseases (Main Hall)

Chairpersons Prof. Neelika Malavige
Dr. Ajantha Liyanage

Session 2
Preventive and public health (Hall A)

Chairpersons Dr. Chandana Hewage
Prof. Bimalka Seneviratne

Session 3
Pathology and surgical intervention (Hall B)

Chairpersons Dr. Madura Jayewardena
Dr. Indira Wijesirwardena

“Steering Horizons: Aspiring Excellence”

Keynote address	
Chairpersons	Senior Prof. Surangi Yasawardene Senior Prof. Kumudu Wijewardena
09.30 am – 10.20 am	Health a basic necessity and its future Dr. Pubudu Pathiraja Oxford University Hospital, United Kingdom
10.20 am – 10.40 am	Tea/Coffee break

Symposium 1	
Steering Horizons; Aspiring Excellence	
Chairpersons	Prof. J. Indrakumar Prof. D.M.S Fernando
10.40 am – 11.50 am	Blotching the lens of science: Plagiarism and scientific misconduct Dr. Anita Jain, British Medical Journal
	Does price regulation increase access to medicine? Prof. Asita de Silva University of Kelaniya, Sri Lanka
	Challenges to rational use of medicines: Sri Lankan perspective Prof. Chandanie Wanigatunge University of Sri Jayewardenepura, Sri Lanka

Symposium 2	
The broken pieces: picking up and mending	
Chairpersons	Senior Prof. S. Kathriarachchi Prof. D.P.S. Gunasekera
11.50 am – 13.00 pm	Whole of society approach to ensure road safety Dr. Razia Pendse World Health Organization Country Representative for Sri Lanka
	Role of Imaging in the management of trauma Dr. Harsha Dissanayake University of Sri Jayewardenepura, Sri Lanka
	Post-traumatic stress disorders Dr. Jayamal de Silva University of Sri Jayewardenepura, Sri Lanka
13.00 pm – 14.00 pm	Lunch break / Poster viewing

Symposium 3	
Patient care in the next decade	
Chairpersons	Dr. Chula Herath Dr. Anuruddha Abeygunasekera
14.00 pm – 15.10 pm	Taming the Liver – past, present and future: Surgeons’ perspectives Prof. Aloka Pathirana University of Sri Jayewardenepura, Sri Lanka
	Towards a better tomorrow for Silver generation Dr. Dilhar Samaraweera Colombo South Teaching Hospital, Sri Lanka
	Ready for future – Recent advances in cardio-thoracic surgery Dr. Rajitha De Silva Sri Jayewardenepura General Hospital, Sri Lanka
	Challenges in subfertility management and cutting edge fertility management options Dr. R. Prathapan Base Hospital, Homagama, Sri Lanka
15.10 pm – 16.10 pm	Oral communications Parallel Sessions
	Session 4 Clinical medicine and quality and patient safety (Main Hall)
Chairpersons	Dr. Chamil Marasinghe Dr. Hasini Banneheke
	Session 5 Non communicable diseases (Hall A)
Chairpersons	Ms. Sujatha Seneviratne Dr. Shyamalee Samaranayake
	Session 6 Pharmacology and toxicology (Hall B)
Chairpersons	Prof. Pradeepa Jayawardena Prof. Rasika Perera
16.15 pm	Awards, Closing remarks and Tea/Coffee

International Conference on Health Sciences 2019

Resource Panel

Keynote Address



Dr. Pubudu Pathiraja

Consultant Gynaecological Oncological Surgeon Oxford University fellow
Oxford University hospital cancer centre
United Kingdom

Symposium I: Steering Horizons; Aspiring Excellence



Dr. Anita Jain

Clinical Editor
British Medical Journal



Prof. Asita de Silva

Senior Professor of Pharmacology
Department of Pharmacology
Faculty of Medicine
University of Kelaniya
Sri Lanka



Prof. Chandanie Wanigatunge

Professor of Pharmacology
Department of Pharmacology
Faculty of Medical and Health Sciences
University of Sri Jayewardenepura
Sri Lanka



Dr. Razia Pendse

Country Representative
World Health Organization
Colombo
Sri Lanka



Dr. Harsha Dissanayake

Consultant Radiologist and Senior Lecturer
Department of Anatomy
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka



Dr. Jayamal De Silva

Consultant Psychiatrist and Senior Lecturer
Department of Psychiatry
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka

Symposium III – Patient care in the next decade



Prof. Aloka Pathirana

Professor in Surgery
Department of Surgery
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka



Dr. Dilhar Samaraweera

Consultant Physician
Colombo South Teaching Hospital
Sri Lanka



Dr. Rajitha De Silva

Consultant Cardiac Surgeon
Sri Jayewardenepura General Hospital
Sri Lanka



Dr. R. Prathapan

Consultant Obstetrician and Gynaecologist
Base Hospital
Homagama
Sri Lanka

Medical Faculty Oration



Dr. Bawantha Gamage

Consultant surgeon and Senior Lecturer
Department of Surgery
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka

FACULTY OF MEDICAL SCIENCES ORATION

17th October 2019



Modified Enhanced Recovery after Surgery (mERAS) in colorectal surgery: Outcome of novel experience in colorectal surgery in Sri Lanka

Dr. Bawantha Dilshan Gamage
Senior Lecturer and Consultant Surgeon
Department of Surgery
Faculty of Medical Sciences
University of Sri Jayewardenepura

Background

Enhanced Recovery after Surgery (ERAS) is a multimodal framework in which the peri-operative management pathways of patients undergoing surgery are designed to improve the overall care. Optimal pain management, early feeding and early patient mobilization coupled with laparoscopic resection have reduced the length of hospital stay (LOS) significantly, leading to a drastic shift of the paradigm from traditional open colorectal resection, delayed oral feeding with a longer hospital stay. Most of the data on ERAS in colorectal resections come from developed world with well-established facilities and higher health costs leading to higher expectations.

Having obtained the fellowship training at a regional laparoscopic colorectal center in United Kingdom I have introduced the concept of modified ERAS (mERAS) in colorectal surgery for the first time in Sri Lanka to Colombo South Teaching Hospital in 2011. This study reviews the initial outcome of mERAS in colorectal resections in Sri Lanka.

Methodology

All consecutive cases of histologically proven colorectal malignancies electively operated under mERAS protocol from 2011 to February 2019 by the author were included in the study. Patient demographics, pre-operative assessment details including functional status, operative and post-operative details and 30 day outcome details were prospectively entered into a database. Cases of colonic resections with anastomoses performed through the abdomen and cases of rectal or recto-sigmoid lesion resections where anastomosis performed through the anal canal were separately studied. Conversion of laparoscopic surgery was defined as any laparotomy prior to complete colonic mobilization and division of concerned vascular pedicle/s for colectomies; any laparotomy prior to division of inferior mesenteric pedicle, complete mesorectal

mobilization and division of the rectal stump for proctectomies. Negative outcome or complication severity was categorized according to Clavien-Dindo classification.

Results

One hundred and sixty five patients were included for the present evaluation, out of which 60 % (n = 99) were colonic resections. Colonic surgery group included, 21% Right hemicolectomies and 79% Left (Sigmoid) hemicolectomies. Rectal surgery group included 71% anterior resections, 21% abdominoperineal resections and 8% Proctocolectomies. All rectal surgeries were subjected to total or partial mesorectal excision depending on the tumour position. Seventy-one percentage of surgeries were laparoscopic resections. Nineteen percentage and 10 % resections were open and laparoscopy converted to open resections respectively. 81% of patients with rectal cancer completed neoadjuvant chemoradiation prior to surgery.

Median duration of hospital stay was 4 days in colectomy (range 3-12 days) and 5 (range 3- 21 days) in rectal surgery group. In colectomy group 2 patients (2.7%) of anastomotic leak needed re-laparotomy. All superficial wound infections, deep infections and chest/ urinary tract infections responded to antibiotic treatment. Patient with secondary bleed required laparotomy. In rectal surgery group 3 patients (5.4%) of anastomotic leak needed re-laparotomy. All superficial wound infections, deep infections and chest/ urinary tract infections responded to antibiotic treatment. Thirty day mortality was zero in both group.

Conclusion

Thus, the current study proves that mERAS protocols in colorectal surgery can be performed in newly established, less experienced settings with limited facilities with worthy outcomes. Modifications may be made to basal guidelines without dampening the principles to overcome local limitations.

KEY NOTE ADDRESS

18th October 2019



Health a basic necessity and its future

Dr. Pubudu Pathiraja
Consultant Gynaecological Oncological Surgeon Oxford
University fellow
Oxford University hospital cancer centre
United Kingdom

Should you need to be rich to enjoy good health?

Access to Health is a basic human right, which every individual, society and government should respect it. Three main elements of health are – Physical/Psychological and social. At present, the focus is mainly for maintaining Physical health. WHO triangle of health needs radical change to a circle of Health.

“Human rights” are insurrectional, judicial, and inspirational and they can be operational. I am keen to share my thoughts on health related to management of gynaecological cancers and what I learn from patients and families and my colleagues.

Two patients who went through management of their disease may give some insight to our quest. How we can change our perception of health. These two patients care when breakdown to principles of clinical management we use as much evidence available to inform and recommend treatment. What is “Evidence base” medicine - Available best evidence and patients’ beliefs/preference. Our aim is to achieve cure whenever it is possible but it not always possible and we need to decide what sacrifice we make for future.

We could look at many ways to achieve holistic health care for many by merely use of good medical practice, multi-speciality involvement, evidence base medicine and changing the culture by good clinical governance.

There is very little that we can not achieve so – we must start where we are with what we have and we have lot more than we think.

SYMPOSIUM 1

18th October 2019

STEERING HORIZONS; ASPIRING EXCELLENCE



Blotching the lens of science: Plagiarism and scientific misconduct

Dr. Anita Jain
Clinical Editor
British Medical Journal

Public trust in the credibility of research depends on scientific rigor, transparency, and ethics in conducting research. As the pressure to publish increases, researchers must watch out for practices that can corrupt the scientific enterprise.

The speaker will share examples of plagiarism and scientific misconduct and reflect on how they marred the interpretation of science and adversely influenced healthcare decisions for populations at large. We will review the existing mechanisms and guidelines to prevent scientific misconduct and discuss ways in which individual researchers can ensure high quality, ethical research practices in their own setup.



Does price regulation increase access to Medicine?

Prof. Asita de Silva
Senior Professor of Pharmacology
Department of Pharmacology
Faculty of Medicine
University of Kelaniya
Sri Lanka

The aim of Universal Health Coverage (UHC) is to ensure that all people and communities receive the health care they need, without experiencing financial hardship. In Sri Lanka, government spending on health is less than 2% of the national GDP, lower than what has been accepted as necessary for better performance. As a result, our health financing model relies heavily on out-of-pocket expenditure (OOPE) by households, comprising an estimated 45% of current health expenditure (CHE). Such a high level of OOPE implies a heavy financial burden on households. In the South-Asian region at least 65 million people are impoverished because of OOP payments, much of which is spent on medicines, while others may be foregoing optimum care because of the cost.

Despite universal state-funded healthcare being provided free at the point of delivery, private expenditure on health as a proportion of CHE has exceeded that of the government from 2007 onwards. Spending on medicines is the dominant component of OOPE on healthcare accounting for 34% of total out-of-pocket health expenditure in Sri Lanka.

Sri Lanka’s annual medicines budget is estimated to be Rs. 80 billion; more than 50% of this is spent by private households as OOPE. Medicines account for more than 30% of total health expenditure in Sri Lanka, compared with 18% in countries of the Organization for Economic Co-operation & Development (OECD). A large percentage of the population purchase medicines through out-of-pocket payments, making medicines the biggest family expenditure item after food. As a result, medicines, particularly those with higher costs, may be unaffordable for a large section of our population and are a major burden on government budgets. With a rapidly ageing population suffering a high prevalence of non-communicable diseases (e.g. one in four Sri Lankans suffers from high blood pressure) that require lifelong treatment, the pressure both on households and government to access medicine can be expected to increase further.

The primary objective of the National Medicines Regulatory Authority (NMRA), established through an Act of Parliament in 2015, is to increase patient access to quality-assured medicines. Price is a key determinant of access. The presentation will discuss results of price regulation initiatives taken by the national regulator during the three-year period from 2016 to 2019.



Challenges to rational use of medicines: Sri Lankan perspective

Prof. Chandanie Wanigatunge
Professor of Pharmacology
Department of Pharmacology
Faculty of Medical and Health Sciences
University of Sri Jayewardenepura
Sri Lanka

Rational use of medicines requires that "patients receive medicines appropriate to their clinical needs, in doses that meet their own individual requirements, for an adequate period of time, and at the lowest cost to them and their community". This is a valuable concept but is in danger of oversimplification. While medical considerations play an important role in rational use of medicines, social factors may also contribute to the success or failure of this concept. Irrational drug use due to inappropriate prescribing and unused drug waste are issues that contribute to the problem.

Sri Lanka is a lower middle-income country with a state health system that provides free health care to its people. A considerable proportion of the health budget is spent on medicines. When the use of medicines is suboptimal and at times irrational, it overburdens the health budget.

While rational use of medicines is widely promoted and well accepted by the medical community, there many barriers for its optimal implementation. While some of these are seen globally, there many that are unique to Sri Lanka. The presentation will critically look at the challenges Sri Lanka face in optimizing rational use of medicines.

SYMPOSIUM 2

18th October 2019

THE BROKEN PIECES: PICKING UP AND MENDING



Whole of society approach to ensure road safety

Dr. Razia Pendse
Country Representative
World Health Organization
Colombo
Sri Lanka

Globally, road traffic injuries are the leading cause of death for children and young adults aged 5-29 years. More than 1.3 million people die each year as a result of road traffic crashes alone and the vast majority of those fatalities occur in low- and middle-income countries.

Having realized the need of a coordinated effort to ensure road safety, the UN General Assembly proclaimed 2011-2020 as the Decade of Action for road safety with a goal to stabilize and then reduce the forecast level of road traffic fatalities around the world. It provided a framework and an action plan for coordinated efforts of multiple sectors to align their activities towards achieving the goal. The global plan encourages countries to implement activities along the five pillars of the framework including road safety management; safer roads and mobility; safer vehicles; safer road users; and post-crash response.

Road safety and need to address road traffic injuries has also been highlighted in the Sustainable Development Agenda 2020 with the SDG 3 and 11 specifically calling upon member states to prioritize road safety.

To achieve the ambitious targets on road safety, multisectoral approaches with involvement of whole-of-society would be needed.



Role of Imaging in the management of trauma

Dr. Harsha Dissanayake
Consultant Radiologist and Senior Lecturer
Department of Anatomy
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka

Trauma is one of the leading causes of morbidity and mortality under the age of 45 years throughout the world. Conventional radiography (plain film), ultrasonography, and computed tomography (CT) are important imaging modalities for the evaluation of patients with trauma. The recent advances in imaging techniques that occurred during the past 25 to 30 years have made a paradigm shift in the management of trauma.

Before the advent of computed tomography (CT) and sonography, surgical intervention was used for both diagnostic and therapeutic purposes. Sometimes this resulted in negative laparotomies increasing the morbidity. The progressive use of contrast-enhanced CT allowed a better selection of patients for surgery and reduced the amount of life-threatening injuries that could remain overlooked at the initial assessment. Furthermore, imaging modalities were greatly helpful in monitoring of patients.

The growing role of imaging in the management of trauma patients, along with the development of more sophisticated technologies, increases the workload and the responsibility of the emergency radiology team. Awareness of the fundamentals of trauma radiology is important to depict the life-threatening diagnoses, avoid the classical radiological pitfalls, and to allow the immediate application of the life-saving therapeutic procedures.

Modern emergency room management requires interdisciplinary teamwork and synchronous communication among the team of surgeons, anesthetists and radiologists. With the direct involvement of modern imaging techniques, trauma related injuries should be detected within a very short period of time to enable a priority-oriented treatment. However, it is a challenge to select the right study, for the right patient, at the right time depending on the clinical examination findings. I would like to highlight the current imaging procedures in trauma patients as well as limitations, problems, and challenges for the future.



Post-traumatic stress disorders

Dr. Jayamal De Silva
Consultant Psychiatrist and Senior Lecturer
Department of Psychiatry
Faculty of Medical Sciences
University of Sri Jayewardenepura
Sri Lanka

The war which lasted thirty years and the two memorable insurgencies which took place close to and within that period, as well as the Tsunami 2004 left many thousands of Sri Lankans devastated. The impact of trauma on the communities who were subjected to man-made and natural disasters still seem to reverberate in our society.

Naturally, the response to this form of extreme stress is bound to leave some of us emotionally damaged for a long period of time, sometimes for life.

The diagnostic category which we identify as Post Traumatic Stress Disorder (PTSD) is not limited to such major disasters which destroy lives of thousands of persons. Severe forms of interpersonal violence such as sexual assault and rape, and even preventable road crashes would leave some of us crippled mentally.

Diagnosis of such severe stress reactions are readily made every day in psychiatric practice. Many a number of patients are treated in very many settings. Whilst modern medicine has made it possible to help this group of troubled patients, there are some gaps to be filled and responses formulated. Helping individual patients and communities following trauma can be influenced by non-medical factors which influence us all when it comes to patient care.

SYMPOSIUM 3

18th October 2019

PATIENT CARE IN THE NEXT DECADE



“Taming of the liver – past, present and future” – surgeon’s perspective

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Liver, the largest organ, has unique features, which has fascinated mankind for many years. The anatomy of the liver, guided rulers of Mesopotamia Even 5000 years from now. It’s rapid regenerating ability, was well known to the Greeks.

The liver has a unique anatomy (segmental nature, dual blood supply) and a remarkable ability to regenerate, which were elucidated in the last century. This enabled surgeons to master resections of the liver, for malignant tumours of the liver, which was once thought to be untreatable.

The boundaries of resectability has expanded exponentially in the recent past with a significant proportion of patients now being offered surgery, which is the only potentially curable therapeutic option. New techniques (staged resection, ALLPS), combined with advances in chemotherapy and post-operative care, have been helpful in achieving this. Minimal access surgery and robotic surgery too have advanced and are being used in many centres worldwide, in liver resections, with satisfactory outcomes. Liver transplantation is now established as the “gold standard” treatment for end stage liver disease and acute liver failure. However, this option is limited by the lack of availability of donor organs, high costs etc.

Many advances are taking place which might help to overcome some of the issues faced by surgeons. These include – Navigated liver surgery (to minimize the risk of damaging major vascular structures while removing tumour completely). Another interesting development is “Hepatocyte Transplantation” – which might negate the need for liver transplantation. This unique organ – feared by many, has fascinating surgeon friendly features that none of the other organs of the human body has and continues to fascinate us from time immemorial.



Towards a Better tomorrow for the Silver Generation

Dr. Dilhar Samaraweera
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Sri Lanka has one of the most rapidly ageing populations in the world. Currently the population over 60 years of age is 12.5%. The population over 60 years is projected to increase to 25% in 2041. It took 115 years for France and 85 years for Sweden for the population over 65 years to increase from 7% to 14%. This increase is predicted to occur in just 23 years in Sri Lanka. The rapid increase in the elderly population is taking place without a major change in the infrastructure and per capita level of income. Thus it seems Sri Lanka will need a spectacular rate of economic growth to provide the health care services for this rapidly aging population.

Integrated Care of Older Persons (ICOPE) is a novel approach initiated by the World Health Organization focusing on optimizing intrinsic capacity and functional ability of older persons in the community by strengthening primary care. Health and social care workers in the community at the primary care level can identify older persons with loss of capacity and provide appropriate care to reverse or slow these losses by following the guidance by ICOPE. This approach is a simple and low cost approach which suits our country.

Conditions associated with loss of intrinsic capacity and functional decline are interrelated and need an integrated and person centered approach to assessment and management. A multidisciplinary team is an absolute necessity to manage the complex physical, social and psychological problems of the elderly. The delivery of care by an interdisciplinary team consisting essentially of a Geriatrician/physician, nurse, physiotherapist, occupational therapist and a social worker is needed to provide a comprehensive package to the elderly. Other members such as dieticians, speech and language therapists, podiatrist, tissue viability nurse would be useful to care for these elderly patients.

The older people (silver generation) have the right for best possible health. We should ensure a better tomorrow for the silver generation by implementing an integrated care plan to optimize the intrinsic capacity and functional ability of the older person.



Ready for future - Recent advances in cardio-thoracic surgery

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The history of cardiac surgeries is not that long and it is about 100 years ago. Earlier people thought that operating on heart is impossible. The first surgery on the heart itself was performed by Axel Cappelen on 4th of September 1895. He ligated bleeding coronary artery in a 24 year old man who has been stabbed in left axilla and was in deep shock upon arrival.

However it has been a long journey and now we do all kinds of cardiac surgeries which includes Coronary artery bypass grafting, valve surgeries, heart failure surgeries and arrhythmia surgeries.

Surgical revascularization for ischemic heart disease has been one of the most common surgeries performed all over the world.

Conventional median sternotomy has been the gold standard technique all over the world. But however new techniques are emerging such as key hole surgery, hybrid bypass as well as endoscopic and robotic cardiac surgeries. Key hole surgeries are performed not only for cardiac revascularization but also for valves, hole in the heart and arrhythmias. It has been performed as same success rate of open heart surgeries.

Heart team is a group of qualified health care professionals who collaborate to determine best treatment plan to each individual patient.

It includes cardiologist, interventional cardiologist, cardiac surgeon, valve clinic coordinator, imaging specialist, anesthesiologist and cardiac catheter lab and operating room staff.

Heart transplantation has been the gold standard for end stage heart failure patients. However the latest technique is artificial hearts which includes the assist devices and it is a successful surgery all though the cost is high.

Robotic heart surgery is performed by a team led by heart surgeons. Robotic instruments are just 8mm in diameter and they therefore cause the least amount of chest trauma. This make it the least amount of chest trauma. This make it the least painful and least traumatic form of minimal invasive surgery.

“Steering Horizons: Aspiring Excellence”

Hybrid coronary intervention combines the best of both worlds; minimally invasive bypass surgery with catheter based coronary intervention. This combined procedure provides with a minimally invasive, long standing and effective procedure to treat coronary artery disease. During a hybrid bypass procedure a cardiac surgeon performs a minimally invasive bypass procedure on blocked arteries and when the bypass portion is complete an interventional cardiologist takes over performing an angioplasty to restore blood flow in the arteries that were not blocked enough to require bypass.

There are new surgical procedures for valves such as TAVI. It is a minimally invasive surgical procedure which repairs the valves with out removing the old damaged valve. For the aneurysm surgeries the new emerging technique is endovascular aneurysm repair. It is a minimally invasive procedure to treat aortic aneurysm. Instead of an open aneurysm repair stent graft is inserted in to the aortic aneurysm through small incision in the groin.



Challenges in subfertility management and cutting edge fertility management options

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In developing countries around one in every four couples had been found to be affected by infertility. Although the past three decades have witnessed a transformation in reproductive medicine from science fiction to one of the most advanced medical disciplines, clinicians and patients are nevertheless facing many challenges before achieving their desired outcome.

Cost, techniques and their success rates, recurrent treatment failures, accessibility for appropriate treatment options, moral and psychological issues and research with lack of guidelines for advanced fertility management are some challenges in this field.

There are various cutting edge technologies, which are evolving in recent past to address the above challenges. Capsular baby (INVO cell), Intracytoplasmic Morphologically Selected Sperm Injection (IMSI), Physiological Intra-Cytoplasmic Sperm Injection (PICSI), Pre-implantation Genetic Screening (PGS), Pre-implantation Genetic Diagnosis (PGD), clinical exons study, Endometrial Receptor Assay, donor eggs, donor embryo, In Vitro Maturation (IVM), three parenting IVF, surrogacy and embryo genetic editing are some of them.

Oral Presentations

Non Communicable Disease (OP1 – OP5)

OP1

The difference of Quality of Life (QOL) between hospitalized male and female patients with Type 2 Diabetes Mellitus in a selected hospital in Sri Lanka

Rathnayake RMAK, Hu Cuihuan

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OP2

Body mass Index, Markers of airway inflammation, and carboxyhemoglobin levels of Chronic Obstructive Pulmonary Disease patients, attending to a chest clinic at Colombo South Teaching Hospital in Sri Lanka

Sudusingha HJ¹, Wimalasekera SW²

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OP3

Determinants of quality of life in people with dementia in a Sri Lankan setting

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OP4

Physical and mental well-being and job satisfaction among male construction workers in selected urban construction sites in Sri Lanka

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OP5

Preventive effect of *Shemamruthaa* - an indigenous herbal formulation against 7, 12-dimethylbenz (a)anthracene induced breast cancer in female Sprague Dawley rats

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Infectious Diseases (OP6 – OP12)

OP6

Clinico-demographic characterization of Cutaneous leishmaniasis in patients reporting to two hospitals in Matara and Hambantota districts, Sri Lanka

Jayasena Kaluarachchi TD¹, Weerasekera MM², Ranasinghe PHKIS¹, Yasawardene SG³, Yapa PDBL⁴, De Silva VH⁵, Menike C¹, Wickremasinghe R¹

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OP7

Evaluation of bactericidal activity of antiseptics and disinfectants commonly used in healthcare settings in Colombo District, Sri Lanka

Ekanayaka SK¹, Perera KC¹, Chandrasiri NS², Jayatilleke K³, Kottahachchi J¹

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OP8

Microbiological analysis of skin and soft tissue infections in cancer patients at Apeksha Hospital, Sri Lanka

Dissanayake DMBT¹, Kottahachchi J¹, Chathuranga BAG¹, Gunasekera S², Wickrama WDSA¹, Fernando SSN¹

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OP9

Analysis of viral pathogens in children with community acquired pneumonia (CAP) at two selected teaching hospitals in Colombo, Sri Lanka

Gonapaladeniya GDMC¹, Dissanayake DMBT¹, Kaviratna M², Liyanage GSH³

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OP10

Pathogenic microbial contamination status and antibiotic resistance of isolated Salmonella spp. in well water of Jaffna Peninsula

Padeniya SMUMK, Manage PM

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OP11

Synthesis, Characterization and Antimicrobial Activity of Garcinol Coated Titanium Dioxide Nanoparticles

Fernando HN¹, Kumarasinghe UR¹, Gunasekara TDCP^{2,3}, Fernando SSN², Jayaweera PM¹, Soysa P⁴, Rajapaksha S¹

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OP12

Spectrum of sputum culture isolates and their antibiotic susceptibility pattern in adult cancer patients receiving empirical antibiotics at Apeksha Hospital, Maharagama, Sri Lanka

Chathuranga G¹, Dissanayake T², Fernando N², Gunasekara SP³, Wanigatunge CA⁴

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Clinical Medicine and Quality and Patient Safety (OP13 – OP17)

OP13

Can we move forward to digital healthcare in Sri Lanka? Developing an electronic record keeping system to a local paediatric clinic

Wijsekara DS¹, Peiris PLS¹, Fernando DS¹, Palliyaguru TDN¹, Fonseka WADN¹, Piyaratna SA², Perera HSL², Chandraguptha BDMR²

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OP14

Staphylococcus aureus bacteraemia audit - UK experience

De Silva SHCK¹, Deshmukh A¹, Makasinga S¹, Munthali P¹

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OP15

Do we achieve LDL-cholesterol targets in routine clinical practice? Evidence from a tertiary care hospital in Sri Lanka

Wijekoon PWMCSB¹, Wijekoon CN², Bulugahapitiya U³, Pathirana N¹, Wickramasinghe MC¹, Paranavitane SA³, Wijayawardena S¹, Karunarathne M¹, Samarasinghe M¹, Sumanadasa S³

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OP16

Improving balance with wobble board exercises in stroke patients: single blind, randomized clinical trial

Madhuranga PVH¹, Mathangasinghe Y², Anthony DJ²

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OP17

Developing a theory of change model to re-orient malaria screening programme during the prevention of re-introduction phase in Sri Lanka

Alagiyawanna AMADK¹, Samaranayake DBDL², Wickramasinghe DR¹, Premaratne RG³

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Preventive Medicine and Public Health (OP18 – OP24)

OP18

Application of Failure Mode Effect Analysis (FMEA) to analyze the safety of medication dispensing in a tertiary care hospital

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OP19

Drug dependency and drug use behaviour among male illicit drug users in selected rehabilitation centres in Sri Lanka

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OP20

Health and psycho-social outcomes of playing video games among undergraduates at University of Sri Jayewardenepura, Sri Lanka

Patterson NM¹, Warnakulasuriya SSP²

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OP21

The knowledge and attitude of graphical warning signs on tobacco among males working in the Sri Lanka Railway Department

Fernandopulle JP, Gimhani WA, Gunasekara CS

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OP22

‘Family level dementia care assessment tool’: a tool to assess Quality of care received by dementia patients in Sri Lankan setting

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OP23

Physical activity level and it’s correlations among elders in residential care facilities in Colombo district

Dalpatadu KPC, Atapattu PM, Fernando ADA, Gunatilake M, Wasalathanthri S, Dissanayake WDN, Jayawardena R, Vithanage K, Jayaweera SK, Wanninayake WMLV

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OP24

Prevalence of Nomophobia and its effect on psychological well-being in smartphone using undergraduates of a selected medical faculty in Sri Lanka

Meegoda VJ¹, Mapa MMYNB¹, Matharage AS¹, Gunathilake N²

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Pathology / Surgical interventions (OP25 – OP31)

OP25

Can we rely on red cell distribution width to detect Iron deficiency anaemia

Gamage MN¹, Wijesekera DS¹, Kulathilake C², Peiris PLS¹, Fernando DS¹, Palliyaguru TDN¹, Fonseka WADN¹, Wanasinghe WAK¹, Senarathne ULNH¹

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OP26

An audit on hospital delivery room practices versus evidence - based intrapartum care: A preliminary study

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OP27

Volumetric changes of brain in Alzheimer’s disease through Voxel Based Morphometric (VBM) analysis

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OP28

Knowledge and practices regarding oral cancer, self-examination of the mouth and risk assessment for oral cancer in individuals above 30 years of age in divisional secretariat Kesbewa, Sri Lanka

Rathnayaka RMSST, Kawindi KGW, Karunathilaka CDMP, Fernando MSM, Kumara KPCSP, Senevirathna DMND

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OP29

Chronic diabetic wounds: inter individual variation amongst microbial profiles

Dilhari KAA¹, Gunasekara TDCP¹, Fernando SSN¹, Weerasekara DD², MacBain AJ³, Sissons CH⁴, Weerasekera MM¹

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OP30

Outcome of Trial of Labour after Caesarean (TOLAC) in a Sri Lankan tertiary care center and development of a risk prediction model

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OP31

Missed diagnosis of acute appendicitis in an elderly patient: an example of avoidable mortality

Ariyaratne HTDW, Hulathduwa SR

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Pharmacology and Toxicology (OP32 – OP36)

OP32

Types and prevalence of dispensing errors in selected hospitals in Sri Lanka – A multi-center study

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OP33

Bioassay-guided isolation of ursolic acid from *Holarrhena mitis* (Vahl) R.Br.

Wickramasingha WGD^{1,2}, Jayasinghe S³, Karunaratne DN³, Liyanapathirana V⁴, Ekanayake EWMA⁴ and Karunaratne V³

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OP34

Knowledge, attitude and usage of doping drugs among national level athletes in Sri Lanka

Nadishani KEMU, Nilaweera AI, Nipunya AG, Wijekoon NS

Faculty of Medicine, University of Colombo, Sri Lanka

OP35

In-vitro screening of anti-oxidant activities from freshwater Cyanobacteria; *Nostoc* sp.

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OP36

Extemporaneously compounded unit dose powder packets for paediatrics: risk assessment of commonly used medicines in Sri Lanka

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Poster Presentations

PP1

Knowledge and attitudes about Gestational Diabetes Mellitus (GDM) and its associated factors among pregnant women attending selected antenatal clinics conducted in Matugama MOH area, Sri Lanka

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PP2

Association of Diabetes Mellitus on the development of oral candidiasis

Wijesuriya RMRC¹, Dias KSD¹, Wijesinghe RGTE¹, Bulugahapitiya U², Chandrasiri NS³, Jayasekara JKMB¹

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PP3

Dengue fever knowledge and caring practices among mothers attending to the Lady Ridgeway Hospital for children, Sri Lanka

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PP4

A preliminary report on a newly emerging focus of cutaneous leishmaniasis in Gampaha district, Sri Lanka

Mallawarachchi CH¹, Gunathilaka PADHN², Wijerathna T², Lahiru NWBAL³, Mallawarachchi SMNSM⁴, Chandrasena TGAN²

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PP5

A Study on Detection of ESBL Production in Coliforms from Clinical Isolates

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PP6

Group B Streptococcus colonization among pregnant women: Comparison of culture and real time polymerase chain reaction

Dilrukshi GN^{1,2}, Kottahachchi J¹, Dissanayake DMBT¹, Karunasingha J³, Sampath MKA⁴, Pathiraja RP¹, Vidanage UA³, Fernando SSN¹

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PP7

Knowledge and practices regarding standard precautions and aseptic techniques among supportive staff in the National Hospital of Sri Lanka

Harshana AD, Hansini RGY, Hansini SGLS, Mathangasinghe Y

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PP8

Evaluation of leptospirosis seroprevalence among residents in Girandurukotte, Sri Lanka

Senarathne P¹, Gamage CD¹, Dayarathne MGKP¹, Sarathkumara YD¹, Muthusinghe BDS², Lokupathirage S³, Kumara A¹, Nanayakkara N⁴, Gunaratne L⁵, Yoshimatsu K^{2,3}, Koizumi N⁶

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PP9

Bacteria associated with acute and chronic pericoronitis in patients attending the Oro-Maxillo Facial (OMF) clinic at Colombo South Teaching Hospital, Sri Lanka

Nissanka NMC¹, Somarathna SPHP¹, Mahitharan M², Withanage S², Dilhari A¹, Gunasekara TDCP¹, Karunathilleke AHTS², Weerasekera MM¹.

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PP10

Kidney Injury Molecule-1 (KIM-1) in Leptospirosis Acute Kidney Injury

Nisansala GGT¹, Weerasekera MM¹, Ranasinghe KNP², Fernando K³, Gamage CD⁴, Marasinghe MGCP⁵, Fernando SSN¹, Gunasekara TDCP¹

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PP11

The impact of matrix metalloproteinases-2 (MMP-2) and metalloproteinase tissue inhibitor-1 (TIMP-1) for wound healing in patients with chronic diabetic wounds

Wijesinghe RDGS¹, Jayasuriya WPKD¹, Lenaduwe SLA¹, Gamage GGTN¹, Dilhari KAA¹, Bogahawatta LBAE¹, Gunasekara TDCP¹, Weerasekera DD², Fernando SSN¹, Weerasekera MM¹

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PP12

Incidence rate of hospital-acquired MRSA positivity in Colombo South Teaching Hospital, Sri Lanka from year 2010 to 2018

Ranasinghe RATK, Chandrasiri NS, Sutharson A, Kularathna GLT, Dissanayake Y, Alahakone PP

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PP13

Spectrum of the yeast identification, ABC genotyping and virulence factors of *Candida albicans* isolated from patients with oral leukoplakia

Sampath MKA¹, Weerasekera MM.¹, Gunasekara TDCP¹, Dilhari KAA¹, Madhumal T², Dilrukshi R¹, Willaddara R¹, Fernando SSN¹, Karunathilleke S³, Samaranayake LP⁴

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PP14

Importance of routine screening for diabetic peripheral neuropathy, glycemic control and foot care among type 2 diabetic patients

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PP15

Prevalence of non-communicable diseases and perceived behavioral risk factors among working women in Hanwella area, Sri Lanka

Edirisinghe EACS, Kumuduni WGA, Methmini TGP, Welikala WADIH, Ranaweera R, Munidasa KGP

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PP16

Characteristics of neonates who are undergoing early interventions for future neurodevelopmental deficits in a local multi-disciplinary team clinic

Wijesekara DS¹, Peiris PLS¹, Fernando DS¹, Palliyaguru TDN¹, Fonseka WADN¹, Yapa YMSP², Perera DLDD²

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PP17

Factors Affecting Adherence to Recommended Medication among Patients with Chronic Obstructive Pulmonary Disease (COPD) in a Selected Teaching Hospital, Sri Lanka; A Preliminary Study

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“Are we succeeding?” Assessing the effectiveness of early intervention for neonates at risk of future motor deficits, in a multi-disciplinary paediatric clinic

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Patients’ perceived responsiveness in a selected tertiary care hospital, Sri Lanka

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The validity of the Beep test against Astrand-Rhyming Cycle Ergometer test to estimate cardiorespiratory fitness of Volleyball players in Sri Lanka

Kariyawasam AP, Ariyasinghe AS, Abeygoonaratne LSP, Perera WMK

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Do socio demographic characteristics influence the correlation between vitamin D and parathyroid hormone? Study among pregnant mothers in the Colombo district, Sri Lanka

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Exploration of the impact of companion involvement in normal labor at the De Soysa Maternity Hospital for Women

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Sensory aspects of cancer pain and their association with quality of life of patients with cancer pain: A descriptive cross sectional study

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Health related quality of life among patients with chronic obstructive pulmonary disease on treatment in central chest clinic, Borella, Sri Lanka

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Prevalence and known risk factors associated with renal dysfunction in people residing in selected tea estates in Balangoda area, Sri Lanka

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Quality of life among patients with epilepsy attending the epilepsy clinic at National Hospital of Sri Lanka

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Mothers' knowledge on early detection of autism in Lady Ridgeway Hospital for children

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Outcome of Intra Uterine Insemination (IUI) in Colombo South Teaching Hospital, Sri Lanka

Jayawardana MAMM, Fernando TAN, Samaraweera WCM, Jeyarajasingam A, Dias GUN, Chandradeva UD

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Awareness, perception and practices on fever and febrile convulsion among mothers with children in the vulnerable age group in Polpithigama Medical Officer of Health area, Sri Lanka

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Knowledge and preventive practices regarding respiratory diseases due to air pollution among traffic police officers in Colombo, Sri Lanka: A preliminary study

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Availability of resources for provision of homecare and knowledge of care giving among family caregivers of dependent stroke survivors – Preliminary results

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Facilities available at Medical Officer of Health (MOH) offices and the training needs of MOH team in Sri Lanka

Hettiarachchi J, Gunathilake AWPI, Ranathunga MR, Thenuwara N, Silva R

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Oral hygienic practices, dietary habits and their association to dental caries among a selected population of preschool children with dental caries

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Perceived barriers to communicate with nurses and patients by nursing undergraduates from two state universities in Sri Lanka

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Gurusinghe CM, Gunawardhane HPMC, Gunawardhana LDSW, Rajapakse YN

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Comparison between 24-hour dietary recall and three-day diet diary in assessing energy and macro nutrient intakes among postpartum mothers

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Knowledge, attitudes and sources of information on reproductive health and sexuality in a group of adolescents in Sri Lanka

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Parenting competencies among mothers of infants at early infancy attending Maternal and Child Health (MCH) clinics in Galle District, Sri Lanka

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Public knowledge about medical genetics and hereditary diseases: a preliminary study from Family Practice Centre, University of Sri Jayewardenepura, Sri Lanka

Ratnayake WMKM, Jayeprasad YDM, Nakandala NDBU, Shiraf MAA, Edirisinghe EAST, Dissanayake MHP, Tennakoon V, Dissanayake S, Dissanayake PH, Yasawardane SG

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Knowledge, attitudes and practices regarding first aid among undergraduates of the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura

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A descriptive study on dental health awareness and practices among pregnant women attending antenatal clinics in Sri Jayewardenepura General Hospital, Sri Lanka

Samarathunga SMISK, Gamage KGCK, Welahetti SR, Lakmali HKK, Hemali IDT, Sewwandi KPA, Priyadarshani UGN

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Knowledge, attitude and practices on breastfeeding among mothers with children aged up to 2 years in Wattalla MOH area, Sri Lanka

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Prevalence of respiratory symptoms and illnesses of women exposed to biomass fuel smoke in Colombo district, Sri Lanka

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Diet, physical activity and recreation for the management of diabetes

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Knowledge, attitudes and practices regarding Pap smear test among women in Godigamuwa Grama Seva Division in Ratnapura District, Sri Lanka

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Does Cu IUCD decrease the risk of abnormal Pap Smear?

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Pap smear screening: a retrospective study

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Determination of positive direct antiglobulin test in immune thrombocytopenic purpura patients in a tertiary care hospital in Sri Lanka

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Cortical thickness and subcortical volumes in mesial temporal lobe epilepsy patients measured using automated segmentation of magnetic resonance imaging in a tertiary care centre in Sri Lanka

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Characterization of anaemia in patients with chronic kidney disease at the National Institute for Nephrology Dialysis and Transplantation

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Serum Vascular Endothelial Growth Factor A (VEGF-A) protein levels and VEGF A gene expression in Oral Squamous cell Carcinoma

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Hepatoblastomas in Sri Lanka: A retrospective analysis

Mahathanthila WDTA¹, Meegoda VJ¹, Wijayawardhana KWSM¹, Kumarasinghe N¹, Munasinghe TD¹, Bright BP², Perera U³, Wijekoon N², Gunaratne SA³

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Wilm’s tumour in Sri Lankan children: A single center experience

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Cyclo-oxygenase 2 inhibitory activity of *Psychotria sarmentosa* leaves used in traditional porridge in Sri Lanka

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Development of an optimized protocol for human DNA extraction and PCR amplification of the CtsK gene for downstream development of biopharmaceuticals, enzyme inhibitors and inducers for Cathepsin K

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Effects of *Azadirachta indica*, *Mimosa pudica* and *Thespesia populnea* against diabetic complications through glycation inhibition

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Knowledge and practices on modified release tablets among hospital pharmacists

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Cytotoxicity of bacterial synthesized silver nanoparticles and yeast mediated TiO₂ nanoparticles

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Evaluation of the acute anti-inflammatory effect of the novel herbal ointment, “Jivadah” using carrageenan induced oedema model in Wistar rats

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Paediatric neurology patients: parental awareness of adverse effects of long-term corticosteroid therapy

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Ketoprofen transdermal emulgel system formulated with Aloe vera gel base

Mihiran MT, Nayakarathna NMMK, Senadheera GPSG, Siriwardhene MA

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Screening of in vitro antimicrobial activity of seaweed, *Hypnea musciformis*

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Phytochemical screening, acute hypoglycaemic and toxicity assessment of a selected combined medicinal plant extract mixture

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Antimicrobial activity of acemannan-silver nanoparticle assembly

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The use of internet for medical purposes by non-medical Sri Lankan personnel between the ages 20-50 years

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Learning preferences among allied health undergraduates in a selected state university, Sri Lanka

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Analysis of laboratory errors in a tertiary care reference laboratory in Sri Lanka

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The perception on team based learning among physiotherapy and occupational therapy students in Colombo, Sri Lanka

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Assessing the effectiveness of the intervention in improving the accessibility of publications made by the department of nutrition in Medical Research Institute (MRI) among medical professionals in Sri Lanka

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Are women satisfied with the re-engineered OPD service through Hospital Information Management System (HIMS) and its effect on the doctor-patient relationship? A descriptive study done at a major women’s hospital in Sri Lanka

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Non-simulator-based techniques in teaching direct ophthalmoscopy for undergraduate medical students: a systematic review

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The study on the big five personality traits and self-esteem as predictors of life satisfaction of medical students from University of Colombo and University of Jayawardenepura in Sri Lanka

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Work absenteeism among health assistants in secondary care hospitals, Batticaloa district, Sri Lanka

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Attitudes, practices and acceptability towards indigenous medicine and allopathic medicine treatment methods for musculoskeletal limb injuries among residents in a selected MOH area in Colombo, Sri Lanka

Dewasirinarayana DYB, Deshapriya RDUS, Dewapura VP, Jeevatharan H

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Factors and barriers related to breaking bad news among nurses in Colombo North Teaching Hospital (CNTH), Ragama, Sri Lanka

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A study on waste segregation practices and bin condition in a Base Hospital in Sri Lanka

Premaratne KKMK, Rukshani KAA, Malimboda AC, Dhewapriya HBCD, Senarathne HD, De Alwis DMPS

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A study on rates of sample rejection at a reference laboratory

Piyalath KT, Kurukulasuriya AP

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Role of biopsy and radiological investigations in diagnosis of paediatric solid tumors: An institutional based retrospective study

Kumarasinghe N¹, Meegoda VJ¹, Wijayawardhana KWSM¹, Mahathanthila WDTA¹, Munasinghe TD¹, Paul Bright B², Wijekoon N², Gunaratne SA³, Perera U³

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Staphylococcus capitis aortic valve endocarditis: A case report

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Antenatally detected thoracic cystic lesion: Diaphragmatic hernia or cystic malformation of the lung?

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Case report: A neonate with hypophosphatasia

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A neonate with Omphalocele-Extrophy-Imperforate anus-Spinal defects complex (OEIS complex)

Gamhewage NC, Gamage MAMN, Gunasekera DP, Palliyaguru TDN

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PP84

“Like father, like son”: A case report of partial monosomy of 9p and partial trisomy of 10p born to a balanced translocation carrier father

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A pigmented new born: A case report of Phacomatosis Pigmento Vasularis

Perera TMR, Peiris PLS, Palliyaguru TDN, Fernando DS, Fonseka WADN

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A mere case of homicide or an intimate partner femicide with over killing and lust murder?

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Secrets behind mounting of best pathological museum specimens

Kaluarchchi SC, Vimukthi AGA, Ekanayaka EMMSM, Kaushalya JAN, Chandimal KDS, Rangika AI

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Variation in the branching pattern of superior mesenteric artery: A cadaveric case report

Kalaiyukan S, Niranjan R, Chenthuran T

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Bacteraemic Melioidosis - A case series at the National Hospital of Sri Lanka

Ranasinghe RATK, Vidanagama DS, Patabendige CGUA

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Death by Diethylene glycol poisoning - a case report

Kumarasinghe WGGB, Kodikara S, Vadysinghe AN, Rambukwella MWDTB, Dissanayaka MR, Dissanayaka UDG

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An adrenal myelolipoma; a case report

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A monstrous Arias-Stella reaction; a sheep in wolfs' clothing

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Rare case of abdominal obstruction: A case of Non-Meckel small bowel diverticular disease

Rambukwella MWDTB, Vadysinghe AN, Dissanayaka MR, Dissanayaka UDG, Kumarasinghe WGGB

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Clinical effects of papaya leaf extracts to the haematological parameters of a classical Dengue patient

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Chyle leak following total thyroidectomy: A case report

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Morphology of ejaculatory ducts: A Systematic Review

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ABSTRACTS OF ORAL PRESENTATIONS

OP1

The difference of Quality of Life (QOL) between hospitalized male and female patients with Type 2 Diabetes Mellitus in a selected hospital in Sri Lanka

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Background: The Assessment of Quality of Life (QOL), accounting gender is considered as an essential measure of outcome in Type 2 Diabetes Mellitus (T2DM). Reasons for such gender wise differences remain unclear, and guidelines for diabetes treatment is not differentiated between different gender.

Objective: To determine the difference of QOL considering the demographic variables between hospitalized male and female patients with T2DM in a selected hospital in Sri Lanka.

Methods: The descriptive cross-sectional study design was used among 122 patients with T2DM selected using convenient sampling technique in medical wards at Colombo South Teaching Hospital in Sri Lanka. The subjects were interviewed using the World Health Organization Quality of Life BREF Questionnaire (WHOQOL-BREF). The pretest was done with fourteen patients. The participants who were above 18 years old, having more than six months of duration of diabetes, were recruited and those with severe complications of diabetes, were excluded from the study. WHOQOL-BREF

scale was used to calculate QOL. Student t-test was used to analyze data.

Results: Among the study participants, 68 (55.73%) were male, and 54 (44.26%) were female. The mean age of females was 63.76 years ± 10.52 , and males were 59.59 years ± 8.84 . The mean score of QOL in physical, psychological, social, and environmental domains of females were 57.40 ± 15.00 , 52.08 ± 12.26 , 51.85 ± 16.56 , 58.91 ± 13.83 respectively. Among males, it was 51.41 ± 17.49 , 48.28 ± 14.86 , 43.25 ± 16.74 , 56.89 ± 17.35 . However, there was a statistically significant difference only in physical and social domains ($p < 0.05$). When considering demographic variables among the study participants, there was a significant difference between males and females in age, income and use of alcohol ($p < 0.05$).

Conclusion: Male patients with T2DM showed lower QOL score than female patients with T2DM. Health education interventions should target to improve QOL of male patients with T2DM.

OP2

Body mass Index, Markers of airway inflammation, and carboxy hemoglobin levels of Chronic Obstructive Pulmonary Disease patients, attending to a chest clinic at Colombo South Teaching Hospital in Sri Lanka

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Background: Chronic Obstructive Pulmonary disease (COPD) is a chronic progressive disease with airway inflammation and frequent exacerbations. The main etiological factor for COPD amongst Sri Lankan males is smoking. Smoking elevates breath CO levels and airway inflammation elevates fraction of exhale nitric oxide (FeNO). However, the level of inflammation of airways and breath carboxy hemoglobin (bCO) levels of Sri Lankan COPD patients are unknown.

Objectives: To determine the symptom severity, airway inflammation and levels of bCO among a sample of COPD patients attending a chest clinic in a selected teaching hospital.

Method: A descriptive cross sectional study was conducted on 145 patients diagnosed with COPD. Through consecutive sampling baseline data, and symptoms severity were obtained by MRC Dyspnea scale and an interviewer administered questionnaire. Airway inflammation was determined by

breath FeNO (Bedford Inc. UK) and exhaled breath CO (Bedford Inc. UK).

Results: 63.1% were males; low BMI was observed in 35.1% that which indicates poor nutritional status. Mean BMI of the subjects was 20.64 kg/m². 53.1% were ex-smokers. Airway inflammation as determined by FeNO level was associated with smoking status ($p < 0.05$). 51% had intermediate FeNO levels (25 – 50 ppb). Patients had high FeNO levels (more than 25 ppb) was taken as airway inflammation. Ninety three percent had low COHb levels (< 5 ppm), 6.1 % had intermediately high COHb levels (> 5 ppm). The mean exhaled CO level was significantly higher in smokers when compared to non-smokers (< 0.001). Majority (64.6%) had severe dyspnea level (MRC of grade 4-5) that indicates majority had breathlessness according to the MRC dyspnea scale.

Conclusion: The present study confirms that measurements of FeNO levels can detect airway inflammation and bCO levels can determine smoking status of COPD patients. Poor nutritional status of COPD patients to be addressed by proper dietary advice and supplementation

OP3

Determinants of quality of life in people with dementia in a Sri Lankan setting

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Background: Dementia has become a public health priority along with population ageing worldwide. Owing to its chronic progressive nature in the absence of a cure, maintaining the best possible quality of life (QOL) have become the desired outcome for people with dementia.

Objectives: To determine the factors associated with good QOL in people with dementia in Sri Lankan setting.

Methods: An unmatched case-control study was conducted to identify the factors associated with ‘good’ QOL. Cases were patients with ‘good’ QOL and controls were those with ‘poor/average’ QOL, accompanied by informal primary caregivers of last six months. They were identified using the validated DEMQOL tool, adhering to strict eligibility criteria, from state hospital tertiary care psychiatric clinics in the Colombo district. There were 64 cases and 208 controls. An interviewer-administered questionnaire was used to assess the associated factors. Bivariate analysis followed by logistic regression modelling determined the associated factors adjusted for confounders using odds ratio (OR) and 95% confidence interval (CI).

Results: After adjusting for confounders, the significant factors associated with ‘good QOL’ were; education up to GCE O/Level and above (OR=4.02; 95% CI=2.97, 12.0), ever employed

(OR=3.21; 95% CI=1.59, 11.06), good social functioning (OR=4.14; 95% CI=3.39, 16.46), mild functional impairment (OR=1.77; 95% CI=1.13, 9.67), little or no caregiver burden (OR=2.96; 95% CI=1.86, 10.94), absence of apathy (OR=2.22; 95% CI=1.27, 12.48) and absence of irritability (OR=2.17; 95% CI=1.72, 10.34).60% of the variance of ‘good’ QOL among patients with dementia was explained by the factors in the final model.

Conclusions: The identified associated factors indicate that QOL improvement programmes should primarily focus on patients’ activities of daily living, social functioning and caregiver burden.

OP4

Physical and mental well-being and job satisfaction among male construction workers in selected urban construction sites in Sri Lanka

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Background: Construction sites are mushrooming everywhere in the urbanized areas of Sri Lanka, keeping pace with the rapid economic development. As this industry is inseparably associated with numerous risks endangering the workers, it is important to assess and identify any potential overall health impairments.

Objectives: Our aim was aimed to assess the physical and mental wellbeing and job satisfaction among male construction workers in selected urban construction sites.

Methods: A cross sectional descriptive study was carried out in a sample of 120 male workers at three urban construction sites using an interviewer administered questionnaire that was specially designed. Socio-demographic factors, level of physical activity, nutrition and diet, alcohol and smoking, rest and sleep, energy and fatigue, pain and discomfort, level of mental wellbeing and level of job satisfaction of them were assessed. Rate of Perceived Exertion Scale (CR10), Fatigue Severity Scale, Warwick Edinburgh Mental Wellbeing Scale, Job Satisfaction Survey used in designing the tool for data collection and for the sections questionnaires which were validated through a content expert. Data was analysed using SPSS version 22.

Results: A majority (N=88, 73.3%) of the workers monthly earned more than thirty thousand rupees. Most (N=51, 42.5%) were engaged in vigorous physical activities. Most (N=68, 56.7%) had normal BMI while 21(20.8%) were underweight. Current prevalence of alcohol use and smoking were 55.0% (N=66) and 44.2% (N=54) respectively whereas 24(36.9%) were consuming alcohol for more than 10 years and 5(9.4%) were smoking more than 10 pack years. Majority (N=69, 57.5%) had adequate sleep but most (N=70, 58.3%) were not involved in leisure activities. Majority (N=100, 83.3%) was not fatigued whereas 80(66.6%) had musculoskeletal pains, most common being the back pain. Most had good mental wellbeing (N=119, 99.2%) and good job satisfaction (N=115, 94.8%).

Conclusions: In conclusion the monthly income of majority of the workers was high and the overall nutritional status was satisfactory whereas alcohol use and smoking were significantly prevalent in comparison to the general population. Many suffered from musculoskeletal pains but majority had good mental wellbeing and were satisfied about their job.

OP5

Preventive effect of *Shemamruthaa* - an indigenous herbal formulation against 7, 12-dimethylbenz (a) anthracene induced breast cancer in female Sprague Dawley rats

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Background: Cancer is the leading cause of morbidity and mortality worldwide, with approximately 18.1 million new cases and 9.6 million deaths in 2018. The major type of cancer among females is breast cancer, accounting for 24.2% of the total cancer cases. In the last decades, phytochemicals have attracted a growing attention as anti-cancer agents and the study of herbal formulations from traditional medicine represents a challenging research field.

Objectives: *Shemamruthaa* (SM), an indigenous herbal formulation constituting petals of *Hibiscus rosa-sinensis* and fruits of *Embllica officinalis* and honey was evaluated for anticancer property.

Methods: Adult female Sprague-Dawley rats (8-week-old) were used for the study and were divided into 4 groups. Group I, normal control animals received a single oral dose of olive oil (1 ml) at the age of eight weeks (Control); Group II animals induced for mammary carcinoma with a single oral dose of 25 mg of 7, 12- dimethylbenz (a) anthracene DMBA dissolved in one ml of olive oil after overnight fasting. Group III mammary carcinoma was induced as in Group II, in addition, after three months;

animals were treated with SM at the dose of 400 mg/ kg body weight/day by gastric intubation (DMBA+ SM treated). Group IV Animals received 400 mg/kg body weight of SM alone and served as SM control. The experimental design was performed in accordance with the current ethical norms approved by the Committee for the Purpose of Control and Supervision of Experiments on Animals (CPCSEA), and Institutional Animal Ethics Committee Guidelines (IAEC. No. 01/030/2011). The tumour markers and the mRNA expression of pro-apoptotic genes/anti-apoptotic genes were examined by RT-PCR analysis in mammary tissues of control and experimental animals.

Results: Results of the study revealed that SM treatment significantly ($p < 0.05$) abridged the levels of tumour markers *viz.* carcinoembryonic antigen (CEA) and breast cancer specific marker (CA-15-3) when compared to DMBA-induced rats. SM treatment significantly induced mRNA levels of p⁵³ and Bax. Meanwhile, the cell proliferative (PCNA) and anti-apoptotic gene, Bcl-2 were down-regulated by SM treatment.

Conclusion: The expression pattern of breast cancer markers and apoptotic signaling molecules analyzed in the present study signifies the therapeutic efficacy of SM against breast cancer.

Acknowledgments: Food Testing Laboratory, Indian Institute of Crop Processing Technology, Ministry of Food Processing Industries, Government of India, Tanjavur 613005, Tamil Nadu, India, for providing Gas Chromatography - Mass Spectrometry and HPLC facilities.

OP6

Clinico-demographic characterization of Cutaneous leishmaniasis in patients reporting to two hospitals in Matara and Hambantota districts, Sri Lanka

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Background: Cutaneous leishmaniasis (CL) is an established disease in Sri Lanka.

Objectives: This study aimed to characterize clinico-demographic pattern of CL, in patients reported to District General Hospital (DGH) Matara and Base Hospital (BH) Tangalle, which report about 100 new cases monthly.

Methods: Clinico-demographic findings of 47 CL confirmed patients (>18 years; Slit skin smears (SSS) and/or PCR positive) from preliminary data of a cross sectional study carried out at DGH Matara and BH Tangalle from August/2018 to January /2019 were analysed. Interviewer administered questionnaire was used to gather the demographic data.

Results: Median age was 43 years. Out of the 13 cases from DGH Matara, four reported from Urugamuwa and one each from other areas of the district. Of the 34 cases from BH

Tangalle, 12 were from Beliaththa. Eight SSS negatives became PCR positive and one PCR negative was SSS positive. Majority of the lesions were single (n=40, 85.1%), non-tender (n=38, 80.8%), non-itchy (n=34, 72.3%) and small (< 2cm, n=36, 76.6%) ulcerated nodules (n=14, 29.8%) in upper limbs (n=25, 53.1%) with parasitic grading of 1+ (n=20, 42.5%). Nine patients reported persistent itching without any evidence of secondary pathology. Clinical evidence of secondary bacterial infection presented in four patients and out of them, two had painful lesions. Thirty two lesions were <4 months duration. In addition to ulcerated nodules and plaques, three out of nine papules were ulcerated within 4 months' by history. Two patients had a family member with CL.

Conclusions: Ulceration of papules is a novel observation. Urugamuwa is a possible emerging focus of CL in Matara where Dickwella is the known hot spot. Beliaththa could be a main disease focus in Hambantota. This preliminary study based on a smaller sample size needs to be validated with a bigger sample size.

OP7

Evaluation of bactericidal activity of antiseptics and disinfectants commonly used in healthcare settings in Colombo District

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Background: Increasing risk of healthcare associated infections especially polymicrobial wound infections is a major problem in healthcare settings in Sri Lanka. Proper use of antiseptics and disinfectants may be useful in reducing the magnitude of such infections.

Objectives: To determine the efficacy of bactericidal activity in recommended concentrations and lower concentrations of selected antiseptics and disinfectants.

Methods: Bactericidal activity of 40%, 50% and 60% isopropyl alcohol, 1%, 5% and 10% povidone iodine, 1%, 2% and 4% chlorhexidine gluconate, 1.22%, 1.42% and 1.62% peracetic acid, 1.9% and 2.9% hypertonic saline and 1.5%, 2% and 2.5% of the mixture of 2-aminoethanol, didecyldimethylammonium chloride, potassium carbonate and bis (3-Aminopropyl) dodecylamine was evaluated with 9 standard strains of American Type Culture Collection (ATCC) and 13 clinical isolates of bacteria. Reduction of growth of methicillin sensitive *Staphylococcus aureus* (MSSA), methicillin resistant *Staphylococcus aureus* (MRSA), *Streptococcus pyogenes*, *Enterococcus faecalis*, *Acinetobacter baumannii*, *Escherichia coli*, *Klebsiella*

pneumoniae (ESBL and carbapenem resistant), *Pseudomonas aeruginosa* was assessed with contact times of 1 minute, 15 minutes and 24 hours by counting colonies comparing with test control which contains same volume of distilled water instead of antiseptic or disinfectant solution.

Results: All chemicals except hypertonic saline showed 100% bactericidal activity in all concentrations against all tested bacteria in stated contact times. Hypertonic saline in 1.9% and 2.9% showed significant reduction of Gram positive bacteria and *Acinetobacter baumannii* only after 24 hours. *Acinetobacter baumannii* was inhibited by 1.9% and 2.9% of hypertonic saline in 67.48% and 68.20% of respectively; however, other Gram negative bacteria were not inhibited.

Conclusion: Recommended concentrations of antiseptics and disinfectants have an accepted bactericidal activity against tested standard strains and clinical isolates. Hypertonic saline is only effective to inhibit Gram positive bacteria after 24 hours of contact time.

Acknowledgement: Staff of Department of Microbiology, the University of Sri Jayewardenepura, Sri Jayewardenepura General Hospital and Colombo South Teaching Hospital.

OP8

Microbiological analysis of skin and soft tissue infections in cancer patients at Apeksha Hospital, Sri Lanka

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Background: Skin and soft tissue infections (SSTIs) in patients with malignancies are common and frequently have serious consequences. These infections are caused by a wide range of microorganisms with variable anti-microbial susceptibilities.

Objectives: To analyse skin and soft tissue infections in cancer patients at Apeksha Hospital with regard to causative agents, antibiotic susceptibility and associated factors.

Methods: A descriptive cross sectional study was carried out for 18-month period. Specimens from adult cancer patients admitted to Apeksha Hospital, Maharagama with SSTIs were analysed. Aerobic and anaerobic bacterial culture, fungal culture, species identification and antibiotic susceptibility testing were performed. Clinical data were obtained from patient records.

Results: A total of 85 patients were included with a male: female ratio of 1:1.1. Majority (75%) were >50 years old. Out of the 80 aerobic bacterial isolates most (69%) were Gram negatives, majority being *Enterobacteriaceae* (42/80) followed by *Pseudomonas* (11/80). *Escherichia coli* was the commonest bacterial species. *Staphylococcus aureus* was the commonest

Gram positive organism (22/80). No strict anaerobic bacteria were yielded however, 3 fungi (two *Candida albicans*, one *Fusarium* species) were isolated. Enterobacteria showed lowest resistance to amikacin (7%) and meropenem (10%). *Pseudomonas* species had highest resistance to ticarcillin-clavulanate (64%). Methicillin resistant *Staphylococcus aureus* (MRSA) rate was 61%. None had resistance to anti-MRSA agents. Gram-negative bacteria caused 74% of wound infections while 54% of the abscesses were caused by Gram positives. Gram negatives were prevalent (73%) in patients with solid organ cancers and Gram positives in haematological malignancies (83%). Gram-negative infections (69%) predominate in patients on radiotherapy while chemotherapy had similar rates of infections by the two types of organisms.

Conclusion: SSTIs in the cancer patients at Apeksha Hospital, Maharagama are mainly caused by Gram negative bacteria however, Gram positives predominate in haematological malignancies. Multi-drug resistance is prevalent in all commonly isolated pathogens.

Acknowledgements: University of Sri Jayewardenepura research grant ASP/01/R/MED/2016/61 (Centre for Cancer Research)

OP9

Analysis of viral pathogens in children with community acquired pneumonia (CAP) at two selected teaching hospitals in Colombo, Sri Lanka

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Background: Community acquired pneumonia is an important cause of morbidity and mortality in children. Infection is caused by many different organisms and rational treatment depends on the identification of causative agents.

Objectives: To describe the viral pathogens in community acquired pneumonia in children at two selected teaching hospitals in Colombo.

Methods: A descriptive cross sectional study was carried out including 123 children, 3 months to 14 years of age admitted to two teaching hospitals with a clinical diagnosis of CAP. A nasopharyngeal sample was collected from each child and analyzed using multiplex real time PCR assay. FBC and CRP were done. Chest X-rays were blindly reported by a radiologist and categorized into 3 groups according to the WHO classification 1) Primary end-point consolidation/pleural effusion 2) Other consolidation/infiltrate 3) No consolidation/infiltrate/effusion.

Results: Female to male ratio of this group was 1.5:1 and mean age was 40 months. The mean values for CRP and WBC were 51.41mg/L and 14.97/ μ L respectively. Out of

123 samples one was negative for any organism. At least one virus was detected in 111 samples (90.2%). A single virus was present in the majority (60.4%) of cases and multiple viruses in the rest (39.6%). The commonest was Respiratory Syncytial virus (43.2%). Rhino, Parainfluenza and Adeno viruses were more abundant than Influenza A, Corona, Influenza B, Boca, Metapneumo, Entero and Parecho viruses. Both bacteria and viruses were detected in 77 samples. Ninety CXRs were reported in the group positive for viruses and category 2 was the commonest (55.6%).

Conclusions: Viruses are predominant in paediatric CAP and co-infections with multiple viruses are fairly common.

Acknowledgement: University Grant-ASP/01/RE/MED/2017/32

OP10

Pathogenic microbial contamination status and antibiotic resistance of isolated *Salmonella* spp. in well water of Jaffna Peninsula

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Background: The incidences of typhoid fever which is caused by *Salmonella* spp. has markedly increased in Sri Lanka in the recent past. Out of 12, 823 typhoid cases reported during 2005-2014, 2588 cases were reported from Jaffna Peninsula. Health ministry statistics also showed that, occurrence of significant intestinal diseases in Jaffna during 2005-2014. The only way of obtaining water for drinking and domestic consumption of people in Jaffna Peninsula is from dug wells therefore concern on quality of groundwater is important, as these diseases are water borne.

Objectives: To evaluate the microbial contamination status with a special emphasis on *Salmonella* spp. and *Shigella* spp. and their antibiotic resistance.

Methods: Forty sampling points were randomly selected covering the whole peninsula. Total coliform, and fecal coliform, *Salmonella* spp. and *Shigella* spp. were enumerated and identified according to the methods given by WHO. Antibiotic resistance of *Salmonella* sp. and *Shigella* sp. were carried out using antibiotic susceptibility tests according to CLSI guidelines. AST was carried out using Agar disk diffusion method using a commercially available susceptibility test disk.

Results: The results of the study revealed that the 100% of the samples were contaminated with total and fecal coliform and they were not within the range given by the WHO and SLS drinking water quality standards. Further, it was found that 8% of sampling locations were contaminated with *Salmonella* spp. and all the positive wells are being used to extract water for drinking. However, no *Shigella* spp. was recorded during the time of sampling. Serovar identification revealed that the isolated *Salmonella* strains belong to *Salmonella weltevreden*, a human pathogen which causes water borne intestinal diseases. Further, the isolated *Salmonella* spp. were tested for their antibiotic susceptibility. Six different commonly used antibiotics for typhoid and intestinal diseases were used. Out of them one strain of *Salmonella weltevreden* showed resistance to Gentamicin and intermediate resistance to Amoxicillin.

Conclusions: Thus, the results of the study is alarming, it relives that almost all the parts of Jaffna Peninsula are contaminated with coliforms. The contamination of ground water sources with *Salmonella* spp. is also posing a threat. The results also showed that there's a development of resistance to commonly used antibiotics. Therefore, the importance of proper strategic plan to monitor microbial contamination of ground water along with proper disposal practices of antibiotics in order to avoid development of antibiotic resistance in the environment are much needed.

OP11

Synthesis, Characterization and Antimicrobial Activity of Garcinol Coated Titanium Dioxide Nanoparticles

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Background: Garcinol is a secondary metabolite derived from the plants of Clusiaceae Family. It has shown a broad range of bioactivities such as antimicrobial, antioxidant, anticancer and anti-inflammatory. Titanium dioxide nanoparticles (TiO₂NPs) are known to have a significant photocatalytic activity and are widely used in medicine. In this study, garcinol was used to modify the surface of TiO₂NPs to enhance the antibacterial activity.

Objectives: To synthesize, characterize and determine antimicrobial activity of garcinol coated titanium dioxide nanoparticles G-TiO₂NPs.

Methods: Garcinol was isolated from the dried fruit rinds of *Garcinia quaesita*. TiO₂NPs were coated by garcinol and characterized by using Scanning Electron Microscopy (SEM), Powder X-Ray Diffraction (XRD), and Diffused Reflectance Spectroscopy. Minimum Inhibition Concentration (MIC) was tested against five microbial species including *Staphylococcus aureus* (ATCC 25623), *Pseudomonas aeruginosa* (ATCC 27853),

Escherichia coli (ATCC 25922), *Candida albicans* (ATCC 10231) and clinical isolates of Methicillin Resistant *Staphylococcus aureus* (MRSA), using broth micro-dilution assay. Time-kill kinetic study was performed to determine the inhibition percentage of *Staphylococcus aureus* over time.

Results: SEM images confirmed the spherical shape of G-TiO₂NPs, diameter ranging from 20 - 200 nm. XRD data revealed the anatase phase and rutile phase of TiO₂NPs. Formation of G-TiO₂NPs caused a red shift of the absorption wavelength. G-TiO₂NPs and TiO₂NPs showed a MIC range of 250-500 µg/ml and 500-1000 µg/ml against the tested microbial species, respectively. In the time-kill kinetic studies, inhibition percentage (IP) of microbial growth was determined at 60 minute time intervals. TiO₂NPs and G-TiO₂NPs demonstrated inhibition over 50% at 3 hours.

Conclusions: G-TiO₂NPs presented a significant enhancement in antimicrobial activity against *S. aureus* compared to TiO₂NPs. Surface modification of TiO₂NPs with garcinol has created a synergistic antimicrobial effect against *S. aureus*.

Acknowledgement: University Grant ASP/01/RE/SCI/2017/19

OP12

Spectrum of sputum culture isolates and their antibiotic susceptibility pattern in adult cancer patients receiving empirical antibiotics at Apeksha Hospital, Maharagama, Sri Lanka

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Background: Infections are the second commonest cause of non-cancer deaths among patients with malignancies. Both lower respiratory tract infections (LRTI) and blood stream infections have shown near equal prevalence in these populations.

Objective: To determine the spectrum and the antibiotic susceptibility pattern of the bacteria isolated from sputum of cancer patients receiving empirical antibiotics for LRTI at the time of the specimen collection.

Methods: Fifty five patients who were diagnosed clinically and/or radiologically to have LRTIs were included in the study from May, 2018 to January, 2019 at Apeksha Hospital, Maharagama. Sputum culture was done and ABST was performed for isolated pathogens.

Results: *Klebsiella pneumoniae* was the commonest pathogen (49.1%, 27/55) isolated followed by multi-drug resistant *Acinetobacter* spp. (16.4%, 9/55). Overall proportion of coliforms was found to be 63.6% (35/55). All the isolated *Staphylococcus aureus* (12.7%, 7/55) were

methicillin-resistant (MRSA) and inducible clindamycin resistant was detected among three of those. Coliforms showed the highest sensitivity to amikacin (71.4%, 25/35) and gentamicin (68.6%, 24/35). Colistin was the only antibiotic detected sensitive against eight *Acinetobacter baumannii* /*A. calcoaceticus* isolates. One *A. iwoffii* isolate was resistant to all the tested antibiotics including colistin. Extended spectrum beta lactamase (ESBL) production was detected in 22.8% (8/35) and carbapenem resistance in 54.3% (19/35). Meropenem was the empirical antibiotic of choice in this patient population which had been given to 34.5% (19/55). The isolated pathogen in 54.5% (30/55) of the patients was resistant to the selected empirical antibiotic.

Conclusion: Sputum culture isolates show a very high resistance to multiple antibiotics which results in limitations of appropriate empirical antibiotic selection.

Acknowledgement: University of Sri Jayewardenepura, research grant No. ASP/MED/2017/36.

OP13

Can we move forward to Digital Healthcare in Sri Lanka? Developing an Electronic record keeping system to a local Paediatric clinic

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Background: Paediatric multi-disciplinary team (MDT) clinic at Colombo-south teaching hospital is designed for patient-centered management of paediatric neurological disorders. This clinic lacks an electronic database management system (E-DBMS). Open source technology through Google and AppSheet® provides tools to create E-DBMS.

Objectives: To design a user-friendly, secured electronic DBMS for record keeping, audit, data analysis and research purposes.

Methods: New google account was created for the MDT clinic. Google spreadsheets® were used to design the data tables and linked to AppSheet® software to generate graphical user interface of the mobile app of the database. Appearance and features of the App were designed through options provided by the AppSheet® without writing codes using computer language. Once the app is ready, email address and password are shared among the authorized team members and *mobile* app was installed into their phones.

Results: This app enabled the team members to add, edit and view data of MDT patients. Telephone calls could be taken and patients' locations could be accessed through the app.

Since database is accessible through phones, patients' past records could be reviewed and new records can be entered while conducting the clinic. Success of the therapies given to patients can be quantified by motor skills score and AIMS centile analysis. These spreadsheets could be linked to SPSS software to analyze data for research purposes. Even though this provides adequate confidentiality and security to data, all the authorized team members who share the app have an unrestricted access to add, edit or remove data.

Conclusion: Electronic DBMS could be designed practically via AppSheet®, which is an effective tool to maintain and to retrieve patients' record sand for research purposes.

OP14

Staphylococcus aureus bacteraemia Audit - UK experience

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Background: *Staphylococcus aureus* bacteraemia (SAB) causes high morbidity, mortality and healthcare costs. There are national recommendations for minimal 14 days of IV antibiotics, repeat blood cultures and screen for endocarditis. Study was conducted in University Hospital Coventry (UHC). It is a most modern healthcare facility in Europe with 1,005 beds, 26 operating theatres and specialize in cardiology, neurosurgery, stroke, joint replacements, in vitro fertilization and maternal health, diabetes and kidney transplants. Management of SAB is continuously audited in UHC since 2007. The standard treatment pathway for the trust is underway.

Objectives: This is to assess the standard of care in management of SAB comparing the results of past 3-years and looking forward for further development.

Methods: Retrospective study conducted between June 2016 to December 2018. Electronic patient records were used.

Results: Total 153 patients were identified with SAB. Majority were >60 years. There were 25 intravenous drug users in the group and 6 presented with recurrence. There were only 2% MRSAs. In majority (28%), the source of infection was skin and soft tissue infections. Surveillance blood cultures were done in 76% patients. It is improved from 67% in last audit which was conducted between

June 2016 and May2018. Fifty one percent had undergone echocardiogram and 8% patients died before blood culture results are available. In 89% of patients appropriate treatment was started. More than 14 days of treatment was completed in 81% patients. Flucloxacillin, meropenem, ertapenem, daptomycin and other antibiotics were used for the completion of 14 days course. From total patients, 16% had complications and endocarditis was the commonest. The 60 days mortality rate was 21%.

Conclusions: The mortality rate and complications of SAB is high disregard of the effective antibiotics and further improvement of the clinical management is essential.

OP15

Do we achieve LDL-cholesterol targets in routine clinical practice? Evidence from a tertiary care hospital in Sri Lanka

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Background: Statins are widely used for primary and secondary prevention of cardiovascular disease (CVD). European Society of Cardiology / European Atherosclerosis Society (ESC/EAS) guidelines recommend LDL-cholesterol targets based on CVD risk.

Objectives: This study aimed to determine whether LDL-cholesterol targets recommended by 2016 ESC/EAS are achieved in routine clinical practice.

Methods: This paper is based on baseline data of patients recruited to a controlled clinical trial conducted at a tertiary care hospital. Participants have been on atorvastatin for >2 months. Demographic and clinical data were obtained using clinic records and interviewer administered questionnaires. LDL-cholesterol was assessed using Friedewald equation (when triglyceride was <400mg/dL) or by direct measurement (when triglyceride was ≥400mg/dL). Each participant's CVD risk level and appropriate LDL-cholesterol target (very-high CVD risk:<70mg/dL; high CVD risk:<100mg/dL; low to moderate CVD risk:<115mg/dL) was determined according to 2016 ESC/EAS Guideline.

Results: 101 patients were studied. (Women: 76.2%; mean-age: 61.2:±9.3years). Prevalence of coronary heart disease, ischaemic stroke, diabetes, hypertension and smoking was 30.7%, 4%, 77.2%, 80.2% and 4%, respectively. According to CVD risk level 80.2%, 15.8% and 4% were in very-high, high and moderate risk categories, respectively. Most were on atorvastatin 10mg (45.5%) followed by 20mg (43.6%), 40mg (8.9%), 30mg (1%) and 5mg (1%). Median duration of treatment was 41-months. Overall, only 12.9% had achieved target LDL-cholesterol (very-high risk: 7.4%; high risk: 37.5%, moderate risk: 25%; p=0.003). Men did better than women in achieving target LDL-cholesterol (men: 29.2%, women: 7.8%; p=0.006). There was no difference based on age, comorbidities or atorvastatin dose.

Conclusions: In the study population majority has failed to achieve LDL-cholesterol targets recommended by 2016 ESC/EAS. Failure to achieve targets was more common among women and those having very-high CVD risk. Reason for suboptimal target achievement has to be studied further.

Acknowledgement: Funded by University of Sri Jayewardenepura Research Grant (ASP/01/RE/MED/2015/54) and Ceylon College of Physicians Research Grant (2014).

OP16

Improving balance with wobble board exercises in stroke patients: single blind, randomized clinical trial

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Background: Postural balance is often affected by stroke. A primary objective in stroke rehabilitation is to restore functional balance, which is a combination of dynamic and static balance.

Objectives: To identify the efficacy and safety of wobble board exercises when combined with conventional physiotherapy, in improving balance in hemiplegic patients following ischemic strokes.

Methods: A block-randomized, controlled, observer blinded, superiority trial was conducted in Stroke Rehabilitation Unit of the National Hospital of Sri Lanka. Participants were ambulatory hemiplegic patients following ischemic strokes of middle cerebral artery territory. Subjects in the control group received a conventional physiotherapy regime. Subjects in the intervention group received training on a wobble board combined with conventional physiotherapy. Main outcome measures were improvement of dynamic balance [Four-Square Step Test score (FSST)] and functional balance [Berg Balance Scale (BBS)] at the end of six weeks. The study was approved by the institutional Ethics Review Committees (UCP/LE/13/187; AA/ETH/COM/2018).

Results: During recruitment, 30 patients were randomly assigned for intervention (n=15) and control (n=15) groups. One patient dropped out from the study, leaving 29 eligible for the analysis. Intervention and control groups were comparable in sociodemographic characteristics and pre-test scores of balance. A repeated-measures MANOVA showed a statistically significant difference in improvement of balance between the two study groups after six weeks [F (1,28)=32.6,p=.000; Wilk's lambda=.46]. The improvement of mean scores of balances in interventional group were greater than in the control group (BBS: 9.5>5.5; FSST: 3.9>1.7). There were no injuries or accidents in both groups.

Conclusions: Wobble board exercises, when combined with the conventional physiotherapy, are safe and effective in restoring dynamic and functional balance in patients with hemiplegia following ischemic strokes.

OP17

Developing a theory of change model to re-orient malaria screening programme during the prevention of re-introduction phase in Sri Lanka

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Background: Sri Lanka is the first major tropical country certified by WHO as malaria free during the past three decades. High malariogenic potential within the country makes this achievement extremely fragile. WHO recommends to re-orient the malaria programme following elimination. Theory of Change (ToC) is effective in developing, Implementing and evaluating complex public health interventions. This paper represents a part of a broad study to evaluate the effectiveness of an intervention package designed to achieve desired programme changes of re-orientation and describes framework developed based on ToC.

Methods: The impact and the long-term outcomes expected to see in a re-oriented malaria programme were identified in consultation with two experts in the field of malaria and ToC, and review of relevant literature. Two consultative meetings held with stakeholders to develop the ToC, including six regional malaria officers, five experts from the national malaria programme and technical support group of the programme. The desired long-term outcomes, interventions and the target groups and the content of the interventions were decided. Available resources and feasibility of implementation were discussed, and major assumptions

were recorded. The indicators to evaluate the processes and outcomes were decided.

Results: A ToC model was developed to achieve re-orientation of malaria screening. This was used to identify areas that need changes in order to achieve expected programme change, to develop specific interventions targeting relevant groups to bring about the desired programme change, and to identify indicators to evaluate the same.

Conclusions and recommendations: This model was successfully used as the basis of designing, implementing and evaluating an intervention package to achieve re-orientation of malaria screening.

Acknowledgement: National Science Foundation, National Health Research Council.

OP18

Application of Failure Mode Effect Analysis (FMEA) to analyze the safety of medication dispensing in a tertiary care hospital

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Background: Failure Mode Effect Analysis (FMEA) is a prospective, team based, structured process used to identify system failures of high risk processes before they occur. Medicines dispensing is a high risk process that should be analyzed for its inherent risks.

Objectives: To identify possible failures, their effects and causes of the dispensing process of the study setting using Failure Mode Effect Analysis.

Methods: This prospective, cross sectional study was carried out for two months in the Pharmacy Department of a selected teaching hospital, Colombo, Sri Lanka. Thirteen pharmacists had discussions in two independent groups (Group A, n=06; Group B, n=07) to conduct a FMEA. Each group had one in-charge pharmacist, at least one senior pharmacist (>ten years of working experience), and one graduate pharmacist. Each group had five meetings of two hours each, where the dispensing process and sub processes were mapped, and possible failure-modes, their effects, and causes, were identified. A score for potential severity (S), frequency (F) and detectability (D) was assigned for each failure-mode according to specified guidelines. Risk Priority Numbers (RPNs) were calculated ($RPN = S \times F \times D$) to prioritize identified failure-modes. Feedback

was obtained from participants about the usefulness of FMEA.

Results: Group A identified 48 failure-modes while Group B identified 43. Among all 91 failure modes, 69 failure-modes were common to both groups. The 22 that were not in-common scored low RPNs. Considering the RPN, Group A prioritized one failure-mode, while Group B prioritized three failure-modes (having identical RPNs). Both groups identified overcrowded dispensing counters as a cause for 57 identified failure-modes. All participants accepted FMEA as an effective method to analyze the safety of the dispensing process.

Conclusions: FMEA was successfully utilized to identify and prioritize possible failure-modes of the dispensing process through active involvement of pharmacists. This prospective approach is useful to prevent dispensing errors before they occur.

Acknowledgement: This study was funded by the University Research Grant ASP/01/RE/MED/2017/37, University of Sri Jayewardenepura.

OP19

Drug dependency and drug use behaviour among male illicit drug users in selected rehabilitation centres in Sri Lanka

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Background: Illicit drug use has become a growing public health phenomenon in Sri Lanka. Many illicit drug users end up with drug dependency, becoming a burden to the country.

Objectives: To describe drug dependency and drug use behaviour among male illicit drug users in selected rehabilitation centres in Sri Lanka.

Methods: A cross-sectional study was conducted among 431 male illicit drug users in five selected rehabilitation centres in Galle, Colombo, Gampaha and Kandy districts, Sri Lanka. An interviewer-administered questionnaire was used for data collection. Drug dependency was identified using ICD symptom checklist for substance use disorder.

Results: Majority of the sample were Sinhala (82.4%) and Buddhists (70.5%). Mean age (SD) was 32 (10.3) years. The highest percentage of the drug users were from Western province (75.6%). Of all illicit drug users, 97% were drug dependents according to ICD 10 symptom checklist. Heroin was most commonly addicted illicit drug (86.5%). Cannabis addiction was identified among 4.3% and all of them were from rural areas. Approximately 4% were addicted to multiple drugs. Injecting drug practices were reported among 23.4%. Mobile transfer of funds (eZ cash) was a popular method used to purchase drugs by drug users (21.8%) outside the

Western province. In a shortage of the regular drug, 32.9% of drug users used alternative illicit drug, 3.2% used alcohol and 16.9% had a period of abstinence. Interestingly, 46.9% never experienced a shortage of drugs. Drug overdose was experienced by 25.1% of drug users.

Conclusions: Drug dependency is a significant problem among illicit drug users. A proper system for early identification of drug dependents at community level is required to deliver better preventive care.

OP20

Health and psycho-social outcomes of playing video games among undergraduates at University of Sri Jayewardenepura, Sri Lanka

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Background: With the increase in the technological advances, the use of media devices has contributed to increase the screen time of users. Especially playing video games has a major contribution to excessive screen time and also that leads to make changes in daily routines, social behaviors, emancipative values, family relations and social interactions. Therefore, excessive time spending on video games holds the potential to be harmful to one’s health. Though there are no local evidence of screen time related to video games, higher levels of playing video games have shown associations with some health and psycho-social problems in previous studies in other countries.

Objectives: The objective of this study was to estimate the time spend on playing video games, associated health and psycho-social problems among undergraduates at University of Sri Jayewardenepura.

Methods: This descriptive cross-sectional study was conducted among 430 participants selected by convenient sampling in four faculties including Faculty of Medical Sciences, Humanities & Social Sciences, Management Studies and Commerce and Faculty of Applied Sciences of University of Sri Jayewardenepura. A pre-tested, self-administered questionnaire was used to ascertain data related to video game usage. Hyperactivity and conduct problems were

measured based on Strengths and Difficulties Questionnaire (SDQ). Data were analyzed using SPSS statistical software (Version 20). Associations were determined with chi-square test. Ethical approval for the study was obtained from ethics review committee of the Faculty of Medical Sciences.

Results: The mean time spent on playing video games in a week day was 27.76 minutes (SD=80.57) followed by 40.90 minutes (SD=103.17) weekend-day. Excessive video game playing in week days was significantly associated with frequent hand pain (OR=2.13, 95%CI=1.04-4.38) followed by obesity and overweight (OR=1.81, 95%CI=1.05-3.10). Playing video games excessively in week days was significantly associated ($p<0.05$) with delaying main meals very often (OR=1.86, 95%CI=1.20-2.87) followed by hyperactivity (OR= 1.88, 95%CI=1.00-3.57) and conduct problems (OR= 2.72, 95%CI=1.45-5.08) respectively. Playing video games excessively in weekends also associated with hyperactivity (OR= 1.88, 95%CI=1.00-3.53) and conduct problems (OR= 3.01, 95%CI=1.61-5.62).

Conclusions: Excessive video games playing has impacts on physical and psychological well-being as well as normal behavior of the university students. Students should be made aware regarding the harmful effects of involving in video games excessively in order to minimize the harmful effects.

OP21

The knowledge and attitude of graphical warning signs on tobacco among males working in the Sri Lanka Railway Department.

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Background: Cigarette smoking has now become a major health burden in Sri Lanka. Government introduced graphical warning signs displaying eight pictures in 2012. Regardless of global studies done on this issue, none have been conducted in the local context. Hence, this study was done with the intention of furnishing this discontinuity.

Objectives: To determine the knowledge and attitude of graphical warning signs on tobacco among males working in the Sri Lanka Railway Department.

Methods: A descriptive cross-sectional study with a cluster sampling method was carried out among 110 male workers aged between 20-60 years. A self-administered questionnaire was used. The significance was tested using the Chi-Square test at a 5% significance level. Results were analyzed using SPSS software.

Results: The overall response rate was 100%. Participants were aware of the diseases depicted in the graphical warning signs (67.9%, n=72) than the ones that were not (29.2%, n=31), and there was a significance difference in this observation ($p < 0.0001$). Out of the displayed diseases, lung cancer was the most widely known disease (89.6%, n=95) and conversely diseases in children were the least known (26.4%, n=28). The people who hadn't appreciated the warning signs (n=16)

stated the pictures being unpleasant to look at (68.8%, n=11) and letters being too small (31%, n=9) as the reasons. From the smokers, 84% (n=42) believed cigarette packets should carry graphical warnings and it should cover 50-100% of the package. The pictures with oral cancer had the best response when the effectiveness and health message was considered while the pictures containing children were rated low in conveying the relevant message.

Conclusions: Graphical warnings have captured the attention of the majority and, both smokers and non-smokers had positive attitudes regarding them. From the eight pictures that are currently been used, five had conveyed the health message to the public more effectively than the other three.

OP22

‘Family level dementia care assessment tool’: a tool to assess Quality of care received by dementia patients in Sri Lankan setting

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Background: Dementia has become a public health priority along with population ageing worldwide. In the absence of a cure, maintaining the best possible quality of care (QOC) has become the desired outcome for people with dementia.

Objectives: To develop a multi-source tool to describe QOC received by patients at family level

Methods: The tool development process was consisted of five steps; item generation, item reduction, formulating the draft tool, translation and finalization. A qualitative study was conducted. Interpretative phenomenological approach was applied to identify items for the tool based on current quality care recommendations, using triangulation of techniques [in-depth and key informant interviews (KI) and focus group discussion (FGD)]. KI were consultant psychiatrists, neurologists, psychiatric social workers and consultant community physicians. In-depth interviews were conducted with patients and FGDs with the caregivers. Purposive sampling was done. Number of interviews was decided on data saturation. Item reduction was done through modified Delphi technique. The tool was translated to Sinhala language and finalized after assessing judgmental validity (face, content and consensual validity).

Results: The newly developed ‘Family level dementia care assessment tool’ comprised of 56 items under 7 themes to be used as a multisource tool (observations on home environment, interviews with patient and caregiver). The main themes in the tool are home environment, primary caregiver, availability of a care plan, types of activities in practice, interpersonal relationships, availability of social network and patient’s appearance and behaviour. The tool has demonstrated acceptable level of face, content and consensual validity.

Conclusions: ‘Family level dementia care assessment tool’ can be used as an observational checklist even by a grass root level health care worker, to assess the family level care received by dementia patients. This preliminary data on family level dementia care can be used to sensitize policy makers and also to plan interventions towards improving QOC among dementia patients.

OP23

Physical activity level and its correlations among elders in residential care facilities in Colombo district.

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Background: Gradual decrease in physical activity and functional level is multifactorial and is increasingly seen in elderly. It negatively affects their physical, psychological and social wellbeing.

Objectives: This study assessed the level of physical activity and its association with muscle strength, body mass index (BMI), Geriatric Depression Scale (GDS) and multi-morbidity among elders in residential care facilities in Colombo District.

Methods: This descriptive cross-sectional study assessed physical activity using physical activity score for elderly (PASE) questionnaire (leisure time, household and work-related activities). Total PASE score <73 considered poor physical activity level. Muscle strength was measured using Jamar hand dynamometer. Highest of 3 values in non-dominant hand was taken as muscle strength and analysed by age and gender. In age of 65-75 year males (M) >38.44kg, Females (F)>24.15kg, in 76-85years, M>32.24kg & F>20.65kg, in >85 year individuals, M>26.04kg, F>17.15kg considered normal muscle strength. BMI ≤18.5=underweight, 18.5-22.9=normal weight, 23≥overweight. >5 in geriatric depression scale-short form was considered positive. Having >2 chronic illnesses considered as multi-morbid.

Results: Sample size=388. Mean age=74.9 years. Males=27.6% (n=107). Mean Total PASE score=47.16. 74.5% (n=289) had low physical activity level. 14.7% (n=57) scored zero total PASE score. Percentage of elders scoring zero for PASE components; leisure activities-25.5% (n=99), household activities-33% (n=128), work related activities-90.7% (n=352). 92.0% (n=357) had poor muscle strength. Mean BMI =22.7kgm⁻². Underweight=17% (n=66), Normal BMI=38.7% (n=150), obese=44.3% (n=172). 48.5% (n=188) were multi-morbid. 21.9% (n=85) suggestive of depression (score 5-10) and 10.8% (n=42) almost indicative of depression (score>10) in GDS-short form. Statistically significant association between poor physical activity level and depression was found (p<0.05) but no significant association with BMI, muscle strength or multi-morbidity.

Conclusions: Majority of elders in residential elderly care facilities had poor physical activity and poor muscle strength. Obesity, depression and multi-morbidity had high prevalence. Since physical activity showed significant association with depression, activities to improve their psychological wellbeing through entertainment programs or religious activities may be beneficial. Participation in leisure activities and household activities should be encouraged.

OP24

Prevalence of Nomophobia and its effect on psychological well-being in smartphone using undergraduates of a selected medical faculty in Sri Lanka

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Background: Nomophobia is the fear or anxiety caused by being out of contact with a mobile phone or its services. Medical undergraduates are more prone to develop nomophobia because of the time constraining schedule and high dependency on smartphones.

Objectives: To assess the usage patterns of smartphones, prevalence of nomophobia and its effects on psychological well-being in smartphone using medical undergraduates.

Methods: A cross-sectional analytical study was carried out among 150 undergraduates of Faculty of Medicine, Colombo selected through convenient sampling. Approval was obtained from Ethics Review Committee of Faculty of Medicine, Colombo. A self-administered questionnaire including the validated nomophobia-questionnaire was used.

Results: Main reason for acquiring a smartphone was to use in case of emergency (26.1%) and main use was identified as voice calls (34.6%). Majority accessed internet for social media (38%) and checked internet during academics mainly to look up study material (13.4%). The prevalence of nomophobia in the study population was seen as 100.0% with 28.2% having mild,

62.0% moderate and remaining 9.9% having severe nomophobia. People with higher degree of nomophobia were more frequent internet users ($p=0.018$), checked smartphone during academics ($p=0.028$), kept their phones near the bed when sleeping ($p=0.045$), used it while charging ($p=0.013$), spent more time with the smartphone than with family and friends ($p=0.001$) and was depended on it to maintain their social identity ($p=0.020$). Higher degree of nomophobia was associated with decreased sleep quality ($p=0.035$), waking up due to phantom vibrations ($p=0.983$), difficulty in concentrating on studies ($p=0.801$) and difficulty in socializing directly with people ($p=0.373$). Majority of the students have identified smartphones as a hindrance to studies (80.3%) and have attempted to reduce usage (65.5%) but have failed in doing so (65.6%).

Conclusions: The study population had a high prevalence of nomophobia with many socio-demographic and smartphone usage related factors leading to its development. Nomophobia had affected the psychological well-being and academic prowess of students.

OP25

Can we rely on red cell distribution width to detect Iron deficiency anaemia

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Background: Iron deficiency anaemia (IDA) is the commonest cause of anaemia among children and it is associated with adverse psycho-developmental outcomes. Serum Ferritin (SFr) is a diagnostic tool for IDA but its use is limited due to cost and unreliability during an acute illness. Red cell Distribution Width (RDW) is an indicator of size variation of red cells which is identified as an emerging parameter to detect early IDA.

Objectives: To identify the reliability and the reliable range of RDW to confirm IDA in children with low Haemoglobin (Hb).

Methods: A descriptive cross sectional study was performed among 140 children with low Haemoglobin ($\leq 11\text{g/dl}$). Full blood count including red cell indices, RDW and SFr and CRP was performed two weeks after settling of any acute infection. SFr $\leq 15\text{ng/dl}$ (when CRP < 5) was considered as diagnostic of IDA while RDW $\geq 14.6\%$ was considered as increased. Descriptive statistics and cross-tabulations were done with SPSS 16.0.

Results: Mean age of participants was 1 year and 9 months and documented a Hb distribution of 6.5-10.9g/dl. When evaluating the RDW ($\geq 14.6\%$) to diagnose IDA, it demonstrated a sensitivity of 91.8% and a specificity of 54.9% (positive predictive value

- 52.3%, negative predictive value -92.5%, $P=0.000$). However, when RDW cutoff was increased to 21% its sensitivity decreased to 6.12% while specificity increased to 96.7%. When Hb $< 10\text{g/dl}$ and RDW $\geq 14.6\%$ combined it revealed a sensitivity of 69.4%, a specificity of 64.8% and a statistical significance ($P=0.000$) Out of the respondents 72.1% had adequate dietary intake of iron, 18.6% had food practices to reduce iron absorption while only 25% has taken anti worm therapy in preceding six months.

Conclusions: RDW $\geq 14.6\%$ can be taken as a screening tool while RDW $\geq 21\%$ can be used as a diagnostic tool for IDA.

OP26

An audit on hospital delivery room practices versus evidence - based intrapartum care: A preliminary study

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Background: Evidence-based practice is an effective approach to improve the quality of intrapartum care. Information pertaining to the successful implementation of evidence-based intrapartum care in developing countries is scant.

Objectives: To evaluate the current intrapartum practices of a tertiary care hospital in central Sri Lanka, during normal birth. WHO recommendations on intrapartum care for a positive childbirth experience were used as the benchmark for this evaluation.

Methods: An observational study was carried out in the delivery room of Teaching Hospital, Peradeniya. 55 women (19-40 years) in active labour were selected by systematic random sampling. The interaction between these women and healthcare providers, interventions throughout labour and childbirth and frequency of these interventions were observed. A non-participant observation checklist covering socio-demographics, maternity admission procedures, management of first, second and third stages of labour, immediate care of the

newborn and the mother was used for the data collection.

Results: Providing privacy (12.7%), encouraging non-supine positions (47.3%), offering oral fluids (49.1%), delayed cord clamping (12.7%) and initiating breast feeding within first 30 minutes (32.7%) were found to be infrequent. Non-recommended practices such as routine amniotomy (80%), oxytocin augmentation (58.2%), routine cardiotocography on admission (80%), routine episiotomy (primipara-94.4%, multipara-37.8%), fundal pressure (38.2%) and manual exploration of uterus (60%) were practiced. Companionship during labour, women’s choice of birth position, use of non-pharmacological methods for pain relief and measuring postpartum fundal height were not observed in hospital intrapartum care.

Conclusions: The adequate implementation of evidence-based recommendations was unsatisfactory. Hence, the adoption of evidence-based intrapartum care should be encouraged by conveying the standard evidence-based intrapartum care guidelines to the grassroot level healthcare workers to avoid intrapartum interventions.

OP27

Volumetric Changes of Brain in Alzheimer’s disease through Voxel Based Morphometric (VBM) Analysis

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Background: Alzheimer’s disease (AD) is a progressive age related disease and it is associated with the brain and its neurological structures.

Objectives: This study was to examine the volumetric changes of brain in Alzheimer’s disease in association with clinical and cognitive data in different time intervals at baseline, 6.5 months and 13 months.

Methods: Data of this longitudinal research study were collected from MIRIAD XNAT database. Cognitive data, clinical data of age and gender were collected from group of 40 AD patients and 20 healthy controls at different time intervals. All subjects were requested to attend three imaging visits at 0 (baseline), 6.5 and 13 months thereafter. 3D T1 MRI images were acquired and processed by Voxel Based Morphometry (VBM) tool through SPM 12, by Matlab. The global and normalized volume of gray matter (nGM), white matter (nWM), cerebrospinal fluid (nCSF) were evaluated.

Results: Average age of the patients were 69.7 (\pm 7.2) years and 68.3 (\pm 6.3) years in control and AD group respectively. The group comparison with time shows significant

changes of volumes in following ($p < 0.05$); nGM and nWM between the baseline time and 13 months; nGM between 6.5 months and 13 months and nWM between baseline and 13 months. No significant differences of volume changes ($p > 0.05$) in nGM between baselines and 6.5 months and between 6.5 months and 13 months in nWM were found. A strong positive significant ($r = 0.744$, $p < 0.05$) correlation between the MMSE value and nGM; moderate positive significant ($r = 0.496$, $p < 0.05$) correlation between the MMSE value and nWM were found.

Conclusions: The decline of cognitive and clinical abilities of patient depend on age, gender and time as well as it is correlated with GM and WM volumes of brain.

OP28

Knowledge and practices regarding oral cancer and self-examination of the mouth and risk assessment for oral cancer in individuals above 30 years of age in divisional secretariat Kesbewa, Sri Lanka

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Background: Oral cancer has emerged as a significant global public health concern. The incidence of oral cancers in Sri Lanka is high compared to other South Asian countries (WHO cancer country profile 2014). As stated in the National cancer control program 2010, out of all cancers registered, 10.3% were reported to be oral cancers. It has the highest rate of mortality among cancers (National cancer registry, 2010). According to cancer incident data 2014, oral cancers are the leading cancers among male in Sri Lanka (National cancer control programme, 2014).

Objectives: The main objective is to determine the knowledge and practices regarding examination of the mouth. Also to assess the risk habits and precancerous lesions in individuals above 30 years of age in divisional secretariat Kesbewa.

Methods: Community based, descriptive cross sectional study carried out at Kesbewa divisional secretariat area for 170 individuals with interview administered questionnaire after an informed consent and ethical clearance. Information retrieved includes socio demographic data, knowledge regarding practice of mouth self-examination, practices related to risk habits of oral cancer and risk assessment regarding

pre-cancerous lesions related to oral cancer. Responses were analyzed by SPSS 23.

Results: Response rate was 96.4% (164 participants). Among them, 99 (60.3%) were males and 65 (39.6%) were females. 110 (67.0%) participants were in 30-54 age category. 97.5% of the sample showed poor knowledge related to mouth self-examination practice and there was no significant association between socio demographic data and mouth self-examination practice. According to the risk assessment 34 (20.7%) males and 6 (3.6%) females were smoking, 35 (21.3%) males and 4 (2.4%) females were chewing beetles, 39 (23.7%) males and 2 (1.2%) females were consuming alcohol. There were 9 (5.4%) participants identified with pre-cancerous lesions identified through self-examination of mouth performed by the interviewers.

Conclusion: Majority of the participants had poor knowledge related to mouth self-examination practice and most of the participants were identified with risk practices related to oral cancer. It portraits the requirement of proper health education and health promotion interventions in community.

OP29

Chronic diabetic wounds: inter individual variation amongst microbial profiles

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Background: Chronic wounds are a significant complication of diabetes. Most of the wounds are infected and have a single or polymicrobial etiology.

Objectives: The study aimed to characterize bacteria and yeast in chronic diabetic wounds (CDWs) by polymerase chain reaction (PCR) and gel-based DNA profiling.

Methods: DNA was extracted from fifty wound tissue specimens and PCR amplicons generated targeting V2–V3 region of 16S rDNA for bacteria and the D2 region of 26S-28S rDNA for yeast. PCR products were subjected to denaturing gradient gel electrophoresis (DGGE). Cluster analysis of DNA amplicon profiles was done using band based method with dice coefficient.

Conclusions: Microbial community in CDWs exhibited significant inter individual variation. The lack of association between yeast and the bacterial fingerprints suggests

limited interplay between eukaryotic and prokaryotic microbiota of CDWs.

Acknowledgement: University of Sri Jayewardenepura (Grant no: ASP/01/RE/MED/2016/50) and Medical Research Institute (MRI - Grant no: 67/2015).

OP30

Outcome of Trial of Labour After Caesarean (TOLAC) in a Sri Lankan tertiary care center and development of a risk prediction model

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Background: The rate of Caesarean sections (CS) is rapidly rising, causing maternal morbidity and burdening the health care system of the country. Since previous CS is the commonest indication, TOLAC becomes an important alternative. A scoring system to identify women who can achieve Vaginal Birth After Caesarean (VBAC) following TOLAC can reduce the rates of unwarranted CS.

Objective: To determine the outcome of TOLAC in a tertiary maternity hospital and to develop a model to predict VBAC.

Methodology: A retrospective cohort study was conducted at De Soyza Maternity Hospital. Following approval from Ethics Review Committee of Faculty of Medicine Colombo, data was extracted from health records of 328 mothers with previous one CS and no contraindication for vaginal delivery (VD). Data was analyzed using SPSS version 22.

Results: Mean age of the total sample was 31.19 years and only 30 (9.1%) mothers had parity >3. While 57 (17.4%) had a history of VD, 32 (9.8%) had undergone VBAC previously. Majority of previous CS (N=207, 63.1%) were emergency CS, commonest (N=91, 43.9%) indication being fetal distress

(FD). Majority (N=300, 91.5%) had normal CTG but only 23 (7.01%) had Modified Bishops Score (MBS) >7 on admission. In the index pregnancy, 81 (24.7%) achieved VBAC, 44 (13.4%) failed TOLAC leading to emergency CS, 170 (51.8%) underwent elective CS and 33 (10.1%) underwent emergency CS for other reasons. Success rate of TOLAC was 64.8%. Mothers who had undergone TOLAC (N=125, 38.1%) were selected for model development. Chi square tests and subsequent binary logistic regression revealed following factors as significantly associated with success of TOLAC: history of VBAC (OR=11.4, p=0.05), FD not being an indication for previous CS (OR=5.5, p=0.003), MBS >7 on admission (OR=14.4, p=0.048) and maternal age <30 (OR=3.5, p=0.027). These factors were assigned 11, 5, 14 and 3 points respectively with respect to the strength of their statistical association with success of TOLAC and the final cumulative score was determined as 33.

Conclusion: This scoring system can be utilized to predict the success of TOLAC. This is recommended to be validated in a further study.

OP31

Missed diagnosis of acute appendicitis in an elderly patient: an example of avoidable mortality

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Background: This case elaborates an avoidable death of a 65 year old otherwise healthy schizophrenic male who succumbed to septic shock following perforated appendix.

Case report: The deceased had sought treatment for generalized ill health and malaise from a general practitioner in the neighbourhood three days prior to his death. The relatives claimed that he did not have a noticeable fever, vomiting or diarrhoea. He was moving around though complaining of nonspecific lower abdominal discomfort despite treatment. On the third day following treatment he was found dead in his garden. Medicolegal autopsy following the inquest revealed septicaemia following perforated pelvic appendicitis.

Discussion: Two aspects of this case are to be discussed here. Firstly, the difficulty encountered in arriving at an early diagnosis of acute appendicitis in the elderly, especially when the anatomical location is unusual. Appendicitis is a disease of the young with classical signs and symptoms. The pelvic position of the appendix in the elderly will mask the classical presentation which will warrant a high degree of clinical suspicion if a missed-diagnosis is to be avoided. Perforation leads to pelvic peritonitis, generalized septicaemia, shock and death if not treated vigorously. Such deaths are a rarity today. Secondly, the concept of “avoidable mortality” has to be introduced.

This death is an example to such category. Amenable and preventable deaths both comprise the “avoidable mortality”. Compiling statistical data on avoidable mortality is a way forward to achieving better health care delivery system in a country and is therefore a timely need for Sri Lanka.

OP32

Types and prevalence of dispensing errors in selected hospitals in Sri Lanka – A multi-center study

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Background: Dispensing errors (DEs) may result in patient harm. These errors are preventable if we knew its nature, but little information is available from resource-limited healthcare settings like Sri Lanka.

Objectives: To determine the types and prevalence of DEs in selected hospitals in Sri Lanka.

Methods: A prospective, cross sectional and multi-center study (one tertiary care hospital (H1) and two secondary care hospitals (H2 and H3)) was conducted in August 2017- July 2018, among 420 patients attending medical, surgical, diabetic and paediatric clinics at the selected hospitals proportioned according to the population and selected through systematic random sampling. An audit was conducted by matching prescriptions, with dispensing labels and dispensed medicines to identify DEs. DEs were categorized as content errors (discrepancies between medication dispensed and prescription), labelling errors (discrepancies between dispensing label and prescription), documentation errors (name of dispensing pharmacist unclear/missing), concomitant errors (prescribing errors missed by pharmacist) and other errors (dispensed to wrong patient or incorrectly packed) according to definitions developed

in-house. Total number of DEs was used as the denominator for calculating percentages.

Results: A total of 420 prescriptions including 1849 medicines were analyzed (H1:248 prescriptions, 1010 medicines; H2:84 prescriptions, 400 medicines; H3:88 prescriptions, 439 medicines). A total of 16688 DEs were detected with errors (09 DEs per medicine, 39 DEs per prescription). All prescriptions had at least one dispensing error (Min.15, Max. 29). Labelling errors (63.1%) were most prevalent followed by 21% concomitant errors, 10.6% documentation errors, 4.9% content errors, and 0.4% other errors. Dispensing the wrong number of medicine units was the most frequent content error (679/812). No medicine omissions were detected. Missing medicine information (1721/3506) and prescriber identification (1656/3506) in prescriptions were the common concomitant errors.

Conclusions: Most DEs were related to missing information in dispensing labels and overlooking incomplete prescriptions. Content errors were minimal. These faulty systems could translate to patient harm and should be urgently tackled through standardizing the dispensing process.

OP33

Bioassay-guided isolation of ursolic acid from *Holarrhena mitis* (Vahl) R.Br.

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Background: Development of new antibiotics for the drug resistant bacteria is one of the major challenges currently. Researchers are trying to overcome this issue by discovering the bioactive compounds from the natural products used in traditional medicines. *Holarrhena mitis* is an endemic plant which is used in Ayurvedic medicine for dysentery and biological investigations of this plant have proven that ethyl acetate extract of leaves (LE) has significant potential of antibacterial activity against *Staphylococcus aureus*.

Objectives: The aim of this study was to isolate the antibacterial active compound/s of LE of *Holarrhena mitis* and determine the minimum inhibition concentration/s of identified compound/s.

Methods: Bioassay guided isolation was carried out for LE to isolate pure compound/s responsible for the desired antibacterial activity using flash column chromatography. Antibacterial activity was determined using agar dilution method in triplicate. Structures of the pure compounds were elucidated using ¹H NMR, ¹³C NMR and IR data and melting point (MP) was determined. Minimum inhibitory concentration was determined using broth micro dilution method. Oxacillin was used as the positive

control and acetone (solvent) was used as negative control.

Results: Bioassay-guided isolation provided a white powder as a pure compound (yield 7.51%). Comprehensive ¹H NMR, ¹³C NMR, IR and MP analysis were carried out and compared with literature data to elucidate the structure of the isolated compound and it was identified as ursolic acid. Ursolic acid has been isolated from *H. curtisii* and *H. antidysenterica* from this genus. However, this is the first report on the isolation of ursolic acid from the *Holarrhena mitis* which is an endemic plant to Sri Lanka. MIC of the isolated ursolic acid was found to be 12.5 µg mL⁻¹.

Conclusion: Results revealed that the highest antibacterial activity shown by the ethyl acetate extract of leaves were due to ursolic acid.

Acknowledgements: Financial assistance given by the Medical Research Institute, Sri Lanka is acknowledged.

OP34

Knowledge, attitude and usage of doping drugs among national level athletes in Sri Lanka

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Background: Doping incidence has been increased in sports at all levels. As a result a need for alternative approaches to address the doping concerns has arisen as doping not only threatens the health of athlete but also the true spirit of sports.

Objectives: To assess knowledge, attitudes and usage regarding doping among national level Sri Lankan athletes and to identify reasons and doping and plan better doping prevention strategies.

Methods: This was a cross sectional descriptive study of 347 Sri Lankan athletes of 20 national teams/pools for the years 2018/2019 who were recruited through stratified and random sampling. A self-administered questionnaire was used to assess knowledge and usage of doping drugs. A modified version of Performance Enhance Attitude Scale was used to assess attitudes.

Results: Athletes of individual sports (66.6%) had a better knowledge than others. Majority of athletes (66.6%) couldn't define the term WADA (World Anti Doping Agency). Though attitudes regarding doping were positive in general, 8.3% of athletes admitted they would dope if they got a chance while athletes of individual sports had negative attitudes. According to Randomized Response Technique used, 8.4% of athletes had admitted usage of doping drugs. Doping was highest among athletes in individual

sports (18.2%). Lack of knowledge, lack of self-confidence and pressure to win were the main reasons for doping. Younger age, less experience, professionally being only an athlete, negative attitudes and knowing fellow athletes who used doping drugs were significantly associated ($p < 0.05$) with doping.

Conclusions: Younger inexperienced athletes and athletes of individual sports were more prone to doping. Actions should be taken to fill the knowledge gaps regarding doping. Special attention should be paid to improve positive attitudes regarding doping because negative attitudes were associated with doping than poor knowledge.

OP35

In-vitro screening of anti-oxidant activities from freshwater Cyanobacteria; Nostoc sp.

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Background: Oxidative stress is involved with a range of health conditions in the human body such as neurodegenerative disorders, inflammatory disorders like rheumatoid arthritis or cancer and their prevalence has been rising. The wide range of side effects caused by synthetic compounds used as anti-oxidant agents have resulted in a dire need to develop new antioxidant agents with fewer side effects. Cyanobacteriae are a highly diverse group of prokaryotes which are recognized as a potent source of biologically active compounds such as antiviral, antibacterial, antifungal, anticancer and antioxidant properties which are to be utilized as a potential therapeutic source.

Objective: To determine anti-oxidant properties of freshwater cyanobacterium Nostoc sp.

Methods: Anti-oxidant activity of two extracts; hexane and methanol were measured using DPPH radical scavenging activity assay and total anti-oxidant capacity assay. Identification of the active compound/compounds were carried out using thin layer chromatography and bio-auto-chromatography.

Results: The highest DPPH radical scavenging activity was recorded in methanol extracts (IC₅₀ 284.14±0.05 mgL⁻¹) whereas DPPH radical

scavenging activity of hexane extract was recorded as IC₅₀ 2266.8±0.16 mgL⁻¹. The anti-oxidant capacity of the gallic acid was found as IC₅₀ 4.15 mgL⁻¹. The highest total anti-oxidant activity was also recorded in methanol extract (21.5±0.1 AAE/mg) while hexane extract showed 18.5±0.1 AAE/mg and the BHT (positive control) showed an activity of 46.51±0.1 AAE/mg. Bio-auto-chromatography results showed several clear bands that indicated compounds possessing the anti-oxidant activity at R_f values 0.60 cm in methanol extract and 0.05cm and 0.13cm in hexane extract.

Conclusion: Both extracts possess anti-oxidant activity. Methanol extracts of Nostoc show more activity than hexane. The chromatographic method indicated the respective bands of the compounds responsible for the activity that can be further purified using analytical techniques such as FT-IR.

OP36

Extemporaneously compounded unit dose powder packets for paediatrics: risk assessment of commonly used medicines in Sri Lanka

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Background: Extemporaneous compounding of medicines is done by pharmacists when commercially available products do not provide the appropriate doses for a specific patient. Extemporaneous preparations such as unit dose powder packets are compounded by the pharmacists to prepare the required paediatric doses by crushing and diluting commercially available tablets or capsules. To our knowledge a proper risk assessment on these preparations are not routinely done in Sri Lanka.

Objectives: To determine the risks associated with extemporaneous compounding of commonly used paediatric unit dose powder packet medicines in Sri Lanka.

Methods: The list of unit dose powder packets that are currently dispensed was obtained from Lady Ridgeway Hospital for Children which is the main tertiary care paediatric hospital of Sri Lanka. The appropriateness, feasibility and risks associated with the individual unit dose powder packets of paediatric medicines were investigated using literature. Possible risk factors were identified from relevant literature on extemporaneous compounding practice which were formulation failures, medicine/excipient binding issues, degradation, microbial contamination, calculation errors, safety of starting materials, patient acceptability, safety risks to the compounding pharmacist, therapeutic

risks, clinical consequences and associated clinical risk factors. Each identified risk factor was given a score and the total score was summed. The list of medicines was categorized into low risk (score<2), moderate risk (score 3-5) and high risk (score>5).

Results: According to the literature survey acetazolamide, furosemide, hydrocortisone and propranolol are compounds which can undergo photodegradation which interfere with effectiveness of the medicine. Captopril, furosemide, hydrocortisone, hyoscine butylbromide and propranolol may cause risk to compounding pharmacists. Most compounds assessed (80%) were categorized to have high or moderate risk.

Conclusions: The risk assessment revealed the risks associated with extemporaneous paediatric unit dose powder packet medicines. A quality assurance programme for extemporaneously compounded medicines needs to be introduced to Sri Lanka.

ABSTRACTS OF POSTER PRESENTATIONS

PP1

Knowledge and attitudes about gestational diabetes mellitus (GDM) and its associated factors among pregnant women attending selected antenatal clinics conducted in Matugama MOH area, Sri Lanka

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Background: Prevalence of GDM is dramatically increasing in Sri Lanka over the last few years, and it is associated with critical maternal and fetal outcomes.

Objectives: To assess knowledge and attitudes about GDM and its associated factors among pregnant women attending selected antenatal clinics conducted in Matugama MOH area.

Methods: A descriptive cross-sectional study carried out in 2018 among eight antenatal clinics in Matugama MOH area. 150 pregnant women <20 weeks of gestation attending clinics were selected using convenience sampling. A modified validated interviewer-administered questionnaire, designed by Madras Diabetes Research Foundation for Women in India for GDM Strategy (WINGS) project was used as the data collection instrument. The scores obtained in the “knowledge” section were categorized into “poor” (<20%) or “good” (>50%) using the “visual binning” statistical tool in SPSS version 23.0. Mean, bivariate correlations and independent samples T test were used as statistical methods. Attitudes were taken as positive (“Yes”) and negative (“No”).

Results: Among the participants 4.7% (N=7) had developed GDM previously. Mean gestational age was 12±5 weeks. Overall, 44.7% had average, 35.3% poor and 20% had good knowledge about GDM. 62.7% of women reported that screening for GDM is carried out at first trimester and 53.3% were unaware when postpartum blood glucose testing is done following GDM. The majority showed positive attitudes towards antenatal screening for GDM (96%), blood glucose control during pregnancy (88.7%) and postpartum screening for T2DM following GDM (87.3%). Significant relationships were observed between mean knowledge score for GDM and women with, age >35 years, highest level of education, history of GDM in previous pregnancies and family history of diabetes (p<0.05). Positive correlations were found with mean knowledge score and gestational age, gravidity (p<0.05).

Conclusion: Only 20% had good knowledge about GDM, thus, it is necessary to improve the health education programmes.

PP2

Association of Diabetes Mellitus on the development of oral candidiasis

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Background: Diabetes mellitus (DM) is a rising global pandemic with a susceptibility for oral manifestations, oral candidiasis (OC) being a main presentation. The present study aims to estimate the proportion, isolation and identification, correlations with biochemical and microbiological parameters and other associative factors of OC in known diabetics.

Objectives: To determine the association of DM on the development of OC among known diabetic patients.

Methods: A cross sectional study was conducted using 100 DM subjects, 50 non diabetic endocrine subjects and 50 apparently healthy nursing staff at the Diabetic and Endocrinology Clinic, Colombo South Teaching Hospital, Kalubowila. Blood, saliva and an oral rinse were obtained from each subject for fasting blood glucose (FBG) & HbA1c, fasting salivary glucose (FSG) estimation and for the isolation and identification of Candida respectively. Socio demographic data, medical and clinical history were collected by using an interviewer administrated questionnaire.

Results: Among the DM group 66 subjects were positive for Candida while only 29 and 23 subjects were positive in the non-diabetic endocrine and the apparently healthy groups respectively. Values of the total colony forming units of Candida/ml (CFU/ml) were elevated in the DM group ($n > 10000$ CFU/ml) as opposed to the comparison group. Some participants had a single Candida species isolated while others had two. Overall; from the single species isolates, 70.37% were *C. albicans* whilst 29.63% were Non-albicans Candida (NAC). Significant correlations were observed between the logarithmic values of the total CFU/ml and FSG levels ($P < 0.05$). Furthermore significant associations were observed between Candida growth and wearing dentures ($P < 0.001$), their duration ($P < 0.01$) and FSG levels ($P < 0.05$).

Conclusions: The proportion of Candida growth was increased in the diabetic population. Wearing dentures and FSG levels promote the growth of Candida within the oral cavity. A regular dental checkup is advised to be included in the management and care of diabetic patients.

PP3

Dengue fever knowledge and caring practices among mothers attending to the Lady Ridgeway Hospital for children, Sri Lanka

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Background: Dengue fever (DF) is a life-threatening infectious disease. Mothers' knowledge and practices of DF is hugely affecting to improve compliance with medical care and preventing complications.

Objective: To determine DF knowledge and caring practices among mothers attending to the Lady Ridgeway Hospital for Children, Colombo.

Methods: This was a descriptive cross-sectional study carried out among mothers (n=412) of children with DF admitted to the Lady Ridgeway Hospital for Children. The sample was drawn through a convenience sampling technique. Ethical approval was obtained from the same hospital. Participation was voluntary and informed signed consent was obtained. Data were collected using content validated, pre-tested, self-administered questionnaire and analyzed using descriptive statistics.

Results: A total of 384 mothers completed questionnaires (response rate - 93.2%). The majority of mothers were educated up to the ordinary level (38%) or advanced level (46%) and 65% of mothers were unemployed.

Overall knowledge was 66.24+16.19%. Most mothers had good knowledge (>83%) about the presence of symptoms of DF such as high fever, muscle pain, and headache. Their knowledge regarding hemorrhagic manifestations of dengue fever was moderate (vomiting with blood=68%, stool with blood=63.3%) to low (bleeding from gum=46.4%, abdominal pain=35.7%). Approximately 51% of mothers were not aware of shock as a complication of DF. The majority of mothers had good practices regarding the managing of children with DF. More than 90% of mothers kept the child in rest. Similarly mothers' practices on checking platelet count if fever was for more than two days was high (88.3%). Approximately 73% of mothers gave plenty of water and colorless drinks to the child.

Conclusions: Mothers' knowledge regarding DF is moderate while caring practices were good. As their knowledge regarding identifying manifestations of complications is poor, appropriate educational programs are necessary to prevent unwanted morbidity and mortality caused by DF.

PP4

A preliminary report on a newly emerging focus of cutaneous leishmaniasis in Gampaha district, Sri Lanka

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Background: Cutaneous leishmaniasis (CL) has emerged as an important communicable disease in Sri Lanka showing a rising trend with expansion to non-endemic regions.

Objectives: To describe a newly emerging focus of CL in Gampaha district, in Western Sri Lanka.

Methods: Data in Epidemiological Reports of the Epidemiology Unit, Ministry of Health and Regional Epidemiology Unit, Gampaha from 2013 onwards were analysed retrospectively to identify affected areas. The Medical Officer of Health (MOH) area with the highest CL cases, was selected as the study area (SA). Laboratory confirmed cases from 2018 onwards in SA were traced and basic demography, clinical data and global positioning System (GPS) coordinates were recorded using validated questionnaires, clinic records and handheld GPS receiver (Etrex10 Garmin), respectively.

Results: Of 95 cases notified from Gampaha district, 65.26% (n=62) were from Mirigama MOH area (SA). Eleven more cases not

notified were included. Among the 73 cases, 58.9% (n=43) were males, mean age 43.6 years (SD 20.1). Four households had two cases each. The lesions included; nodules (52.0%; n=38) and ulcers (47.9%, n=35). Single lesions were seen in 69.8% (n=51) while 30.1% (n=22) had multiple. Except for one mucosal all others were on skin. Among occupations housewives (32.8%), unskilled workers (21.9%), students (17.8%), skilled workers (9.6%) farmers (8.2%), drivers (5.5%) and pensioner's (4.1%) were affected with 91.2% (n=67) of workplaces located within the district. Treatment varied from combined sodium stiboglucomate (SSG) + cryotherapy (46.5%), SSG (45.2%) and cryotherapy (8.2%). There was a significant association between multiple lesions and receiving combined SSG + cryotherapy (P< 0.05). Spatial distribution of cases indicated a clustering pattern.

Conclusions: Cutaneous leishmaniasis is emerging in Gampaha district. Minimal migration of cases, clustering within households and in the locality indicate local transmission. Further investigations on epidemiology of emerging CL in Gampaha and timely notification is recommended.

PP5

A study on detection of ESBL production in Coliforms from clinical isolates

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Background: Following its first isolation in 1983 the prevalence of Extended Spectrum Beta Lactamase (ESBL) producing organisms have gradually increased and become a global problem. Knowledge on current occurrence of ESBL would serve as a guide in empirical treatment.

Objectives: To screen and identify ESBL production in coliforms of various clinical specimens and to confirm the production of ESBL in these isolates.

Methods: Ninety coliforms isolated from various clinical specimens were selected from the culture collection of Laboratory of Microbiology, Faculty of Medical Sciences. These were screened for the presence of ESBL production using cefotaxime (30 µg) and ceftazidime (30 µg) disks. For the isolates that were positive for the screening test, probable production of ESBL was assessed using double disk synergy test having cefotaxime and Amoxicillin-clavulanate (20/10 µg) discs and ceftazidime and Amoxicillin-clavulanate discs placed 20mm apart. Production of ESBL was confirmed by using combined disks of clavulanic acid with cefotaxime and ceftazidime (30 /10 µg). The percentage of ESBL producing coliforms and proportion of each bacterial species producing ESBL were calculated and the results were correlated with the specimen type.

Results: Out of 90 isolates, 59 were detected as positive from screening tests, of which 34 were positive with double disk synergy test and 23 (25.5%) were confirmed as ESBL producing coliforms from the confirmatory test. Seventy three point nine one percent of ESBL positive organisms were *Escherichia coli* while 17.3% were *Klebsiella* spp. and 8.6% were *Proteus mirabilis*. Out of 54 urine samples 17 were positive for ESBL and it is 72.41% out of ESBL producers. Further, out of 7 pus swabs samples 2 (10.34%), out of 16 wound swabs 2 (6.9%), out of 12 Sputum samples 1 (6.9%) and only 1 bronchoscopy sample (3.4%) were positive for production ESBL.

Conclusion: ESBL production rate in coliforms isolated from different clinical specimens was 25.5%.

PP6

Group B Streptococcus colonization among pregnant women: Comparison of culture and real time polymerase chain reaction

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Background: Maternal colonization with Group B Streptococcus (GBS) is a known risk factor for infections in the new born. Knowing the current GBS colonization rate in Sri Lankan setting will be pertinent to recommend routine antenatal screening.

Objectives: To compare real time polymerase chain reaction (RT-PCR) and conventional culture for detection of GBS colonization rate among pregnant women.

Methods: A descriptive cross-sectional study was carried out from January to April 2019 in four teaching hospitals in Western Province, Sri Lanka. Two vaginal and rectal swabs were collected from 100 pregnant women >35 weeks of gestation. The swabs were subjected to GBS detection using RT-PCR assay by Taqman chemistry kit (*Streptococcus agalactiae*, Primer Design TM Ltd.UK) and standard culture method (using 5% sheep blood agar, MacConkey agar and bile aesculin agar).

Results: GBS vaginal colonization was 18% (18 vaginal and 0 rectal) by culture and 49% (37 vaginal and 27 rectal) by RT-PCR. A higher

positivity of GBS colonization was determined by RT-PCR than by culture when using both specimens. In the same individuals using both samples; 37 vaginal samples were positive by RT PCR for GBS while 22 were negative when tested using the rectal samples. When 27 rectal samples were positive for GBS, by RTPCR 12 vaginal samples were negative in the same individuals by RTPCR.

Conclusions: Real time PCR assay has a higher detection ability compared to culture. RT-PCR of both vaginal and rectal swabs simultaneously can be recommended as a more sensitive method to detect GBS colonization.

Acknowledgement: University Grant-ASP/1/RE/MED/2017/64

PP7

Knowledge and practices regarding standard precautions and aseptic techniques among supportive staff in the National Hospital of Sri Lanka

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Background: Adherence to standard and aseptic precautions significantly reduce transmission of hospital acquired infections. A good knowledge and practice of these techniques by supportive staff members may effectively prevent occupational health hazards.

Objectives: To assess the knowledge and practices regarding standard precautions and aseptic techniques among supportive staff members in the National Hospital of Sri Lanka (NHSL).

Methods: A descriptive cross-sectional study was conducted on supportive staff members at NHSL from February to May 2019 using stratified cluster sampling method. Knowledge, adherence and practice scores to standard precautions in general procedures involving in-ward patients were calculated on a 100-mark scale based on an interviewer-administrated questionnaire. The study was approved by the institutional Ethics Review Committees (CSR/19/018;ETH/COM/2018/13).

Results: Of 108 participants, 69(63.9%) were aged 20-40 years. One-hundred and five (97.2%) were educated up to Ordinary Level and 48(44.4%) had working experience of more than six years. Twenty-six had at least one needle-stick injury during their career. Six (5.6%) have not been vaccinated for

hepatitis B since their recruitment as supportive staff members. Mean knowledge and practice scores were $66.3 \pm 12.5\%$ and $70.0 \pm 7.7\%$ respectively. There were no significant differences in knowledge scores based on the level of education ($t=1.19, p=0.24$) and the total years of service ($t=-0.44, p=0.66$). Similarly, there were no difference of practicing proper precautions based on their educational level ($t=0.25, p=0.80$) or the duration of service ($t=0.87, p=0.39$). However, the knowledge score positively correlated with the good practice score ($r=0.197, p=0.04$).

Conclusions: The supportive staff members with a good knowledge on standard and aseptic precautions were more adherent to the correct practice. Neither the level of education nor the experience was associated with their knowledge or good practices. Hence, awareness programmes and proper monitoring systems could be implemented to improve compliance on universal precautions and aseptic techniques. Hepatitis B vaccination and post-vaccination antibody testing should be made mandatory before starting their carrier.

PP8

Evaluation of leptospirosis seroprevalence among residents in Girandurukotte, Sri Lanka

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Background: Leptospirosis including asymptomatic cases could progress to chronic kidney disease (CKD) as suggested. Recently, a new type of kidney disease with a glomerular filtration rate of <60mL/min/1.73m² for ≥3 months that does not arise due to diabetes mellitus, hypertension or snake bites, known as CKD of uncertain aetiology (CKDu) has emerged. CKDu is a major health concern in Sri Lanka due to its high prevalence among the rural agricultural communities.

Objectives: Evaluate the association between leptospirosis and CKDu among residents in Girandurukotte, a CKDu endemic region in Sri Lanka. Evaluate the selected risk factors that could lead to leptospirosis among residents in Girandurukotte, Sri Lanka.

Methods: A cross sectional study was carried out recruiting, clinically diagnosed CKDu patients by the renal clinic, district Hospital as cases (n=80) and healthy residents with

normal serum creatinine levels (0.5-1.2mg/dL) as controls (n=77). The blood samples were subjected to a direct ELISA test to detect anti-leptospiral IgG antibodies. Furthermore, descriptive analysis, comparison of possible risk factors and association of variables were analysed using SPSS. Relative risk (RR) ratio was calculated using MedCalc.

p value <0.05 was considered as statistically significant.

Results: Anti-leptospiral antibody seroprevalence of 24.7% and 22.5% were observed in controls and CKDu patients respectively. The RR was 0.9416, corresponding to a 95% confidence interval (P value, 0.7522). Furthermore, possible risk factors such as gender, age, involvement in agricultural activities and encountering with rodents in the immediate environment showed no statistical significance to acquiring leptospirosis.

Conclusions: A statistically significant association between the development of CKDu and leptospirosis was not found. However, in order to determine the exact nature of the relationship between leptospirosis and CKDu, further studies with a larger sample size are needed for testing. (i.e Western Blotting and Microscopic Agglutination Test).

Acknowledgement: Partially funded by University Research Grant (URG/2018/28M) and National Science Foundation of Sri Lanka (RPHS/2016/CKDu/06) that was received by Prof. Rohana Chandrajith, (Study 03 PI – Dr. Chandika D. Gamage), Department of Geology, Faculty of Science, University of Peradeniya, Sri Lanka.

PP9

Bacteria associated with acute and chronic pericoronitis in patients attending the Oro-Maxillo Facial (OMF) clinic at Colombo South Teaching Hospital, Sri Lanka

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Background: Pericoronitis is an inflammation of the soft tissues surrounding the crown of an erupted or partially erupted tooth including dental follicle and gingiva. Pericoronitis lesions are commonly seen in mandibular third molar area. If untreated, it can lead to life threatening complications. Although pericoronitis is common among young adults in Sri Lanka limited data is available with regard to the causative agents.

Objectives: The study aimed to determine the bacteria associated with acute/chronic pericoronitis in mandibular third molar.

Methods: A descriptive cross-sectional study was carried out with 35 patients with pericoronitis attending the Oro-Maxillo-Facial clinic at Colombo South Teaching Hospital. Pus specimen was aspirated from an affected site. A control swab was collected from an un-affected non-third molar region of the contralateral side. Causative aerobes/anaerobes were identified by culture followed by appropriate biochemical testing.

Results: Bacterial colony count of the affected site was significantly higher than

that of the control ($p < 0.05$). Strict anaerobes were predominantly associated with pericoronitis (112/204; 54.9%). Of them, *Veillonella* spp. (12/35; 34.3%) was predominant followed by *P.buccae* (11/35; 31.4%), *P.denticola* (11/35; 31.4%), *P.intermedia* (9/35; 25.7%), *P.melaninogenica* (8/35; 22.9%), *A.odonolyticus* (8/35; 22.9%), *S.constellatus* (8/35; 22.9%) and few more. Among aerobes/facultative-anaerobes, Viridans group (26/35; 74.3%) were predominant followed by Coagulase negative staphylococci (24/35; 68.5%), Enterococci/Group-D (13/35; 37.1%), *Enterobacter* spp. (10/35; 28.6%), *Serratia* spp. (4/35; 11.4%), *Proteus* spp. (3/35; 8.6%) and few more. In the control-sites, *P.buccae* (9/35; 25.7%) was predominant strict anaerobe followed by *Veillonella* spp. (7/35; 20%), *P.denticola* (5/35; 14.3%), *Capnocytophaga* (5/35; 14.5%), *C.difficile* (4/35; 11.4%), *Actinomyces israelii* (3/35; 8.6%) etc. Among aerobes/facultative-anaerobes Viridans group (29/35; 89.9%) were predominant followed by staphylococci (24/35; 68.5%), Enterococci/Group-D (12/35; 34.3%), *Enterobacter* spp. (6/35; 17.1%) and *Proteus* spp. (5/35; 14.3%). *Serratia* spp., *S.constellatus* (milleri group), *S.intermedius*, *P.prevotii*, *P.micros* were found only in pericoronitis samples compared to control sites.

Conclusions: Affected-sites had higher bacterial colonization compared to that of unaffected-sites. Viridans group streptococci were predominant aerobes/facultative-anaerobes while *Veillonella* spp. was predominant strict anaerobe isolated from the affected sites. *Serratia* spp., *S.constellatus* (milleri group), *S.intermedius*, *P.prevotii*, *P.micros* were found only in pericoronitis samples.

PP1

Kidney Injury Molecule-1 in Leptospirosis Acute Kidney Injury

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Background: Acute kidney injury (AKI) is one of the major complications observed in leptospirosis. Diagnosis of AKI relies upon the level of serum creatinine and it does not rise until around 50% of kidney function is lost. Kidney injury molecule-1 (KIM-1) is a transmembrane glycoprotein expressed in apical membrane of dilated tubules during AKI and thus be useful in prompt diagnosis of AKI. However up to day information is not available on the use of KIM-1 in diagnostic utility of AKI associated with leptospirosis.

Objectives: To determine the diagnostic utility of KIM-1 in leptospirosis associated AKI.

Methods: Blood and urine specimens were collected from leptospirosis suspected patients between January to December 2017 in Western province of Sri Lanka. Leptospirosis was confirmed by either microscopic agglutination test, real time PCR or culture isolation. KDIGO criteria were used for AKI diagnosis and KIM-1 levels were investigated using ELISA assay.

Results: Of the 172 leptospirosis suspected patients, there were 62 leptospirosis confirmed patients. Median serum KIM-1 levels in leptospirosis confirmed patients were significantly higher than in patients without confirmed diagnosis of leptospirosis [71.93 vs 16.14 ng/ml, $p < 0.0001$]. Among leptospirosis confirmed patients 26% developed AKI. Most of them had KDIGO stage 3 (10 cases, 62.5%), followed by KDIGO stage 2 (3 cases, 18.7%) and KDIGO stage 1 (3 cases, 18.7%). Median serum KIM-1 levels in those developing AKI were significantly higher than in patients not developing AKI [224.9 vs 40.25 ng/ml, $p < 0.0001$]. Further median urine KIM-1 levels in those developing AKI were significantly higher than in patients not developing AKI [2133 vs 754.5 ng/ml, $p < 0.0279$]. Serum KIM-1 and urine KIM-1 levels associated with AKI had AUC-ROC of 0.853 and 0.812 respectively.

Conclusions: This study shows that serum and urine KIM-1 elevated in leptospirosis associated AKI, thus further studies are needed to identify its role as an early diagnostic marker.

Acknowledgement: This study was funded by grants awarded by University of Sri Jayewardenepura, Sri Lanka. [ASP/01/RE/MED/2016/48]

PP11

The impact of matrix metalloproteinases-2 (MMP-2) and metalloproteinase tissue inhibitor-1 (TIMP-1) for wound healing in patients with chronic diabetic wounds

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Background: Matrix Metalloproteinases (MMPs) are enzymes that play a vital role in wound healing. The presence of high concentrations of MMPs can cause excessive degradation and could result in delayed wound healing.

Objectives: This study was aimed to determine the expression level of MMP-2 and TIMP-2 in serum of the patients with chronic diabetic wounds (CDWs) and non-diabetic traumatic wounds (NDTWs) and to comprehend their impact in wound healing.

Methods: Two sequential blood samples (3ml each) were collected from patients with CDWs (n=24) and NDTWs (n=25) as initial and follow-up (after 2 weeks) samples. Enzyme linked immunosorbant assay was performed to determine the expression levels of MMP-2 and TIMP-2 in serum.

Results: The majority of patients with CDWs (12/24; 75%) and NDTWs (22/25; 88%) were males. MMP-2 levels of the patients with CDWs and NDTWs in the initial samples ranged between 198.92 - 4251.77ng/mL (Median=478.19ng/mL) and

74.50–1273.12ng/mL (Median=596.49 ng/mL) respectively. Of follow-up samples, MMP-2 levels of patients with CDWs and NDTWs ranged between 152.23 - 2032.69 ng/mL (Median=513.24 ng/mL) and 69.05 - 1008.99 ng/mL (Median=593.78 ng/mL) respectively. TIMP-2 levels of initial samples of patients with CDWs and NDTWs ranged between 14.44 -70.24 ng/mL (Median=31.44 ng/mL) and 7.82 - 68.38 ng/mL (Median = 25.85 ng/mL) respectively. TIMP-2 levels of follow-up samples of patients with CDWs and NDTWs ranged from 3.36 - 63.71 ng/mL (Median=27.12 ng/mL) and 4.44 - 36.89 ng/mL (Median =27.01 ng/mL) respectively. No statistically significant difference was seen between MMP-2 and TIMP-2 levels in the initial and follow-up samples of patients with CDWs (p>0.05). All NDTWs had healed at the time of collection of follow-up samples.

Conclusions: Circulating levels of MMP-2 and TIMP-2 were higher in patients with CDWs. Both enzyme levels reduced with improved wound healing.

Acknowledgement: University of Sri Jayewardenepura (Grant no: ASP/RE/MED/2016/50) and Medical Research Institute (MRI – Grant no: 2015/67).

PP12

Incidence rate of hospital-acquired MRSA positivity in Colombo South Teaching Hospital, Sri Lanka from year 2010 to 2018

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Background: Methicillin resistant *Staphylococcus aureus* (MRSA) is an important pathogen in health care settings causing severe infections. This is a prospective study to compare the incidence rate of MRSA positivity in Colombo South Teaching Hospital over the years 2010 to 2018.

Objectives: To compare the incidence rate of hospital onset MRSA based on clinical cultures in Colombo South Teaching Hospital (CSTH) from 2010 to 2018. To compare the incidence rate of hospital onset MRSA blood stream infections in CSTH from 2013 to 2018. To compare the incidence rate of hospital onset MRSA in surgical wards, surgical ICU and medical ICU from 2010 to 2018.

Method: The MRSA incidence rates were calculated according to the MRSA surveillance through the National Healthcare Safety Network 2008 (CDC) using the standard formulae. The number of MRSA isolates from each unit were obtained from the register in infection control unit. The total patient-days for each year for the hospital and each unit were obtained from the department of hospital medical record keeping.

Results: The incidence rate of hospital acquired MRSA based on clinical cultures in

2010 was 0.225 while it became 0.215 in 2018 and the rates remain static throughout. In 2012 and 2014 the rates exceeded 0.3. When the rates of the surgical wards and intensive care units are compared there are few isolated peaks but no rising trend. Incidence rate of bacteremia fluctuates between 0.006 to 0.037 and in 2018 a significant peak of 0.07 was observed.

Discussion: This is the first study done in a Sri Lankan hospital to evaluate the incidence rate of hospital-onset MRSA over the years. The incidence rates of hospital onset MRSA do not have a marked rise compared to high prevalence of MRSA in previous Sri Lankan studies. It has a static stage which is compatible with some global data. Expansion of the renal unit could have increased the incidence of MRSA bacteraemia in 2018.

Conclusion: The existing MRSA infection control policy is appreciated and for MRSA bacteremia protocols and monitoring have to be optimized.

PP13

Spectrum of the yeast identification, ABC genotyping and virulence factors of *Candida albicans* isolated from patients with oral leukoplakia

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Background: Oral Leukoplakia (OL) with *Candida* species has been associated with increased malignant potential compared to non-*Candida* leukoplakia. However the specific role of each genotype in oral pathology is still an enigma.

Objectives: To evaluate candida infestation, genotypes and an array of their virulence traits in a cohort of Sri Lankan adults with oral leukoplakia

Methods: A total of 35 clinical isolates of *C.albicans*, isolated from 80 OL lesions were included in the study. The selected virulence traits evaluated were esterase, phospholipase, proteinase, and hemolysin production, coagulase, switching activity, adherence and biofilm formation. We compared these with 18 *C. albicans* isolates from oral cavities of age, and sex matched healthy individuals. Genomic DNA of all the isolates were subjected to genotyping to ascertain their A, B or C group status.

Results : Out of 35 *C. albicans* isolates from OL patients 21 (60%) and 13 (37%) were found to be genotype A and B, respectively; only a single isolate belonged to genotype C. Amongst isolates from healthy individuals, 14 were genotype A, and two isolates each were genotype B and C. Of the 35 *C. albicans* isolates from OL patients, phospholipase and proteinase activity was seen in 80% (28/35) and 28.57% (10/35), respectively. Hemolytic, esterase activity and adherence were noted in all isolates (35/35). Coagulase activity and biofilm formation were noted in 97.14% (34/35) and 77.14% (27/35) of isolates, respectively, and finally phenotypic switching was detected in 8.6% (3/35) of isolates. The intensity of expression of the proteinase activity, in isolates from OL patients who were habitual smokers was significantly greater than in isolates from non-smokers.

Conclusions: There was no significant genotypic difference between *C.albicans* from OL patients and the healthy controls. No association was found between *C.albicans* genotypes and patients' demographic variables. However, *C.albicans* isolates from habitual smokers showed increased proteinase activity compared to non-smokers.

PP14

Importance of routine screening for Diabetic peripheral neuropathy, glycemic control and foot care among type 2 diabetic patients

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Background: Increasing prevalence of diabetes mellitus (DM) in Sri Lanka contributes to the increased risk of diabetic peripheral neuropathy (DPN). DPN is a debilitating complication of poor glycemic control resulting in foot ulcers and limb amputation. Thus it is essential to monitor the patients for glycemic control and monitor for DPN in routine diabetic clinics.

Objectives: To determine the DPN and to determine the glycemic control among patients with type 2 diabetes mellitus (T2DM) attending community clinics in a selected peri-urban area in Colombo district.

Methods: A descriptive cross-sectional study was conducted on 384 T2DM patients attending selected central dispensaries in Colombo district. Baseline data and foot care practices were assessed by a questionnaire. Michigan Neuropathy Screening Instrument (MNSI) and Monofilament test were used to screen for DPN. Monofilament test was done with 10g Semmes Weinstein monofilament and vibration perception threshold (VPT) was determined using 128 Hz tuning fork. DPN was diagnosed with two positive results from MNSI questionnaire, MNSI examination and Monofilament test. Glycemic control was determined by the HbA1c level.

Results: Poor glycemic control was detected in 287 (74.8%) patients. 174 (45.4%) patients with T2DM had DPN. Mean HbA1c of the neuropathy and non-neuropathy groups were 8.1±1.9 SD and 8.2±5.5 SD respectively. 79 (20.6%) had abnormal monofilament test results, 197 (51.2%) had poor scores for MNSI questionnaire while 235 (61.2%) had abnormal scores for MNSI examination. Foot care practice was significantly different between neuropathy and non-neuropathy groups (p= 0.003).

Conclusion: Good glycemic control delays onset of neuropathy. Thus importance of glycemic control needs to be emphasized to T2DM patients. MNSI questionnaire and MNSI examination are the most useful tests to early screen T2DM patients for neuropathy and can be used to early diagnose neuropathy in busy clinics. Foot care practices should be improved among T2DM patients to prevent diabetic foot disease.

Acknowledgement: The University research grant, University of Sri Jayewardenepura for funding this research project.

PP15

Prevalence of non-communicable diseases and perceived behavioral risk factors among working women in Hanwella area, Sri Lanka

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Background: Non communicable diseases are the medical conditions or diseases that do not possess an infectious origin or which are non-contagious. These diseases have spread globally throughout the past decade as an epidemic. Eventually this has posed a giant threat to Sri Lanka.

Objective: To determine the prevalence of common non communicable diseases (NCDs) and perceived risk factors existing among working women in PHI areas of Hanwella Medical Officer of Health Division (MOH).

Methodology: Randomly selected 175 participants were recruited for this descriptive cross sectional study. Sample was calculated using an equation by incorporating the prevalence of risk factors. Among them only 150 women responded to the semi-structured pre-tested self-administrated questionnaire. The study was conducted in 3 villages in Hanwalla MOH division. Women aged between 25-55 years who were residing in the study area more than a period of one year and having a diagnosed NCD were included. History taking contributed in identifying the prevalence of NCDs. Ethical approval was obtained from Ethics Review Committee of National Hospital of Sri Lanka.

Results: Among participants, the reported NCDs were Cardio Vascular Diseases (CVD), Hypertension (HTN), Diabetes Mellitus (DM), Chronic Respiratory Diseases (CRD) and

Cancer. Most reported NCD was CVD (42.9%). Study also revealed nutritional facts such as 16.90% women have consumed the recommended amount of oil, 25.35% salt and 45.07% sugar respectively. Unfortunately only 0.08% of the women involved in an exercising schedule. Study showed that 96% of the patient population was free from betel chewing. No alcohol consumers or smokers were detected.

Conclusion: Physical and nutritional risk factors were the most influencing among the three main risk factor categories tested. The most common NCDs prevailing among the population were CVDs, DM, HTN, CRDs and Cancer. Healthy practices among working women were low, which was evidenced by the prevailing risk factors. More awareness should be provided that would enhance the strength of primary health care of Sri Lanka.

PP16

Characteristics of neonates who are undergoing early interventions for future neurodevelopmental deficits in a local multi-disciplinary team clinic

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Background: There is growing evidence that interventions which are commenced in the early neonatal period minimize the probability of future neurodevelopmental deficits. Paediatric multi-disciplinary team (MDT) clinic at Colombo-South teaching hospital (CSTH) recruits neonates with risk factors for future neurodevelopmental defects to initiate therapies including physiotherapy, occupational therapy, speech therapy and other relevant treatments from birth, and review them regularly.

Objectives: To identify the neonatal risk factors among infants undergoing early interventions.

Methods: A descriptive study was conducted taking into consideration of all the patients recruited for early intervention within a period of 2 years from 01/2017 to 01/2019 to the paediatric MDT clinic at the University paediatric unit of Colombo-South teaching hospital. Data of 108 patients was collected from the records maintained by the clinic team. Characteristics of the sample were analyzed using SPSS version 21.0 and the frequency charts were generated.

Results: Among the 108 subjects 65.74% were preterm, compared to 34.25% term

babies. Out of the preterm babies 12.67% were extreme preterm babies (less than 28 weeks). 45.07% babies were born within 28-32 weeks of gestation. 39.81% of the 108 subjects were admitted to SCBU for further management at birth. Among the 43 subjects who were admitted to SCBU. 37.96% required an artificial ventilation method. 45.3% babies were born with low birth weight (LBW). Commonest risk factors for early interventions other than prematurity and LBW, were in order respiratory distress, neonatal jaundice, birth asphyxia, neonatal meningitis which were 46.2%, 39.8%, 17.5% and 15.7% respectively. 31% of babies had five or more risk factors whereas 20% had two risk factors.

Conclusions: Majority of the babies who were recruited to the MDT was preterm and was born with low birth weight (LBW). Commonest risk factors for early interventions other than prematurity and LBW, were respiratory distress, neonatal jaundice, birth asphyxia and neonatal meningitis.

PP17

Factors affecting adherence to recommended medication among patients with chronic obstructive pulmonary disease (COPD) in a selected teaching hospital, Sri Lanka; A preliminary Study

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Background: COPD is a worldwide burden which causes more frequent exacerbations of disease and hospitalizations. Since COPD is an irreversible and slowly progressive respiratory disease, adherence to recommended medication is critical to managing the severity of the disease. However, the factors affecting adherence to recommended medication among patients with COPD in Sri Lanka is not sufficiently studied.

Objectives: This study was conducted to determine the prevalence of adherence and factors affecting adherence to recommended medications among patients with COPD in a selected teaching hospital in Sri Lanka.

Methods: A descriptive cross-sectional design was used among conveniently selected (n=100) participants who attended the chest clinic (n=75) and admitted to medical wards (n=25) of Colombo South Teaching Hospital (CSTH). Data were collected using a pre-tested (n=10) interviewer-administered questionnaire and 4 items Morisky Green Levine Scale from January to March 2019. Participants who have scored more than 3 for adherence scale was considered an adherent group. Data was analyzed using descriptive statistics-chi square test.

Results: Most of the participants were male (61%, n=61). More than half of the participants were less than 65 years old (53%, n=53). Majority were on recommended medication for COPD for less than three years (59%, n=59). Among all participants, 76% adhered to recommended medications for COPD and 24% of participants were non-adherent. Demographic factors were not associated with adherence. The only number of medication on the last prescription (p<0.05) was significantly associated with adherence group. Hence, it may affect the adherence to recommended medication for patients with COPD.

Conclusions: Simplification of dosing regimens by prescribing fewer frequency medicines and using combination drug therapies may enhance the adherence to the recommended medication of COPD. Furthermore, health education interventions might enhance the sustainability of adherence to recommended medication among patients with COPD.

PP18

“Are we succeeding?” Assessing the effectiveness of early intervention for neonates at risk of future motor deficits, in a multi-disciplinary paediatric clinic

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Background: Multi-disciplinary Team (MDT) clinic at Colombo South Teaching Hospital (CSTH) accept referrals of newborns with risk of neurodevelopmental deficits (e.g. prematurity, birth asphyxia, neonatal meningitis, sepsis) to initiate early interventions which include physiotherapy, occupational therapy and other treatment modalities. Alberta Infant Motor Scale (AIMS) is a norm referenced, validated, observational scale that is used to gauge motor development.

Objectives: To assess the effectiveness of early intervention for motor development by the use of AIMS score and the corresponding centile improvement.

Methods: Serial AIMS scores and centiles were obtained from the clinic records of 46 patients who were followed up at MDT clinic, CSTH during the past two years for early intervention. Mean values of the AIMS scores and centiles at first three MDT visits were obtained. Descriptive statistics and comparison of means (paired sample T test) were analyzed by SPSS version 16.0.

Results: Of total, 50% of the population had an AIMS of <10th centile, at the 1st visit at a mean age of 4 months compared to the

22.8% at the 2nd visit at mean age of 7 months ($\geq 10^{\text{th}}$ is considered as the cutoff for normal AIMS). Comparison of mean values of AIMS centiles at first two visits revealed a statistical significance ($p = 0.000$). Comparison of means of AIM scores at first two visits revealed a strong positive correlation with a statistical significance ($p = 0.000$). Out of the 23 infants who were <10th centile at 1st visit, 13(56.5%) had improved motor development with early intervention, at the 2nd visit.

Conclusions: Early intervention significantly improves the motor development of infants who are at risk for future neuro-developmental deficits.

PP19

Patients’ perceived responsiveness in a selected tertiary care hospital, Sri Lanka

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Background: At present in Sri Lanka, both patients and health care providers focus more attention on the quality of care than in the past. Responsiveness, which is a quality of care indicator, needs to be frequently evaluated and improved effectively.

Objectives: The aim of this study was to assess the patients’ perceived experience on responsiveness at Teaching Hospital, Karapitiya (THK) with socio-demographic and service utilization factors.

Methods: This descriptive cross sectional study included 395 inward treated patients randomly at the time of their discharge from general surgical and medical wards. Sample size was calculated using ‘Cochran formula’ for quantitative studies with considering probable estimation of responsiveness as 50% and 10% of non-response rate. An interviewer administered, pre tested and validated questionnaire was used. Questionnaire was adapted from World Health Organizations’ Multi Country Survey Study in year 2000. Data collection was carried out during November 2018 to January 2019. SPSS Version 23.0 was used for statistical analysis.

Results: Response rate was 93.6% (n=395). Of these participants, majority were stayed in the hospital for 3-5 days (75.2%, n=297). Noticeably 27.1% (n=107) of respondents have stated that they have discriminated during care. ‘Confidentiality’ was the best

experienced domain with 89.6% (n=354) response rate where freedom to choose care provider was rated as worst with 0% response rate. ‘Prompt attention’, ‘communication’ and ‘quality of basic amenities’ were reported as most important domains. However the overall performance of responsiveness was 48.6 %.

Conclusion: Overall responsiveness was relatively low at THK. Health service users’ non health expectations were partially met and there was a gap between their expectations and performances of health care providers. Its needs institutional based wide attention to replenish poorly performed domains of responsiveness and minimize discrimination through continuous education, monitoring and evaluation programme with participation of every discipline of health care providers in THK.

PP20

Factors related to myocardial infarction among young women in a selected teaching hospital, Sri Lanka

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Background: Myocardial infarction (MI) is a major cause of death and disability worldwide. In recent decades, the incidence of MI is increasing in young women affecting their quality of the life.

Objectives: The purpose of this study was to investigate the factors related to MI among young women (18-55 years) in Cardiology unit at Teaching hospital Kandy, Sri Lanka.

Methods: A quantitative descriptive design was carried out to investigate the factors related to MI among young women attending the cardiology unit at Teaching Hospital Kandy in early 2018. A content validated, pre-tested, self-administered questionnaire was distributed among 200 females using convenience sampling method. Ethical approval was obtained from the same hospital. Data were analyzed by descriptive statistics using SPSS 22 version.

Results: Forty percent of the participants were between aged 45 to 55 and 67% were married. Overall, most of the study subjects were presented with cholesterol history (67%), diabetes history (47%) and hypertension history (72%). Most identifiable risk factors among 18-45 age group were high

intake of instant foods (81%) and physical inactivity (67%). Further, 31% of women had pregnancy induced hypertension (PIH) and 91% were using oral contraceptives in 35-45 age group. Also, obese (42%), overweight (14%), physically inactive (72%) and menopause (24%) were the significantly identified risk factors of 45-55 age group. Considerably, less than 20% of respondents were presented with anxiety and depression as psychologically affected factors.

Conclusions: Most of the risk factors which were found are modifiable factors like overweight, high intake of instant foods and inactivity. Relative risks were also elevated in women who had PIH and on oral contraceptives. Therefore, it is recommended to have more awareness programs emphasizing the importance of adhering to life style modifications and alternative birth control methods by means of reducing the risk and to control the further occurrence of MI in affected females.

PP21

The validity of the beep test against Astrand-Rhyming Cycle Ergometer test to estimate cardiorespiratory fitness of volleyball players in Sri Lanka

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Background: Cardiorespiratory fitness is an important factor to consider in assessing physical fitness of Volleyball players. The Astrand-Rhyming Cycle Ergometer test has been used extensively in local laboratories as a valid test of measuring cardiorespiratory fitness through VO₂ max. However, since its use in the field is not feasible, the Beep test has been used as the substitute.

Objective: To determine whether Beep test can be used as a substitute to Astrand-Rhyming Cycle Ergometer test to measure cardiorespiratory fitness.

Methods: Sixteen male professional Volleyball players, aged 20-30 years were recruited. Beep test was performed according to the standard protocols. Astrand-Rhyming Cycle Ergometer test was performed on a bicycle ergometer for 6 minutes or until a constant heart rate level was reached. VO₂max was calculated via Monark Analysis Software. Paired t-test was used to determine the significance between the means. Pearson's correlation was used to determine the relationship between the two methods for predicting VO₂max.

Results: The mean age and weight of the players were 24.1±3.0 years and 68.8±9.8 kg respectively. Average VO₂max predicted via Beep test was 36.6 ml/kg/min, while it was 46.8 ml/kg/min for Astrand-Rhyming Cycle

Ergometer test. The mean difference was statistically significant (p<0.01). However, there was a significant moderate positive correlation between VO₂max obtained through Beep test and Astrand-Rhyming Cycle Ergometer test (r= 0.601 and p<0.05).

Conclusion: The Beep test is not an acceptable substitute as a field test to assess cardiorespiratory fitness of Volleyball players instead of laboratory based Astrand-Rhyming Cycle Ergometer test, although VO₂max measured by the Beep test correlated positively with that of Astrand-Rhyming Cycle Ergometer test.

PP22

Do socio demographic characteristics influence the correlation between vitamin D and parathyroid hormone? Study among pregnant mothers in the Colombo district, Sri Lanka

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Background: Epidemiologic studies from neighboring South Asian countries have reported vitamin D deficiency regardless of age, gender, ethnicity or any socio demographic characteristics. A number of socio demographic factors have been reported to be associated with vitamin D status and other bone biochemical parameters. The correlation strength between vitamin D and parathyroid hormone (PTH) varied a lot in the previous reported studies. There are no sufficient evidence regarding these relationships with regard to Sri Lankan population especially in the vulnerable population such as pregnancy and infancy. Thus, the purpose of this study was to investigate whether the selected socio demographic factors affect the correlation pattern between vitamin D and PTH among a population of pregnant mothers.

Methods: The study was carried out as a descriptive analytical study among all the medical officers of health (MOH) antenatal clinics in the Colombo District. A total of 226 pregnant mothers who didn't receive vitamin

D supplementation with uncomplicated singleton pregnancies were recruited. Data were collected using an interviewer administrated questionnaire (demography, general health). A venous blood sample was collected during recruitment and tested for vitamin D and PTH. Data were analysed using SPSS version 15.0. Pearson correlation was performed to find out the correlation pattern. P<0.05 at 95% confidence interval was considered as significant.

Results: Mean age of the study population was 29±6 years. Mean±SD vitamin D and PTH were 18.8±8 ng/mL and 24.6±11.0 pg/mL respectively. Vitamin D deficiency/insufficiency (<20ng/mL) was observed among 61.4% of the population. Vitamin D levels significantly (r= -0.238; p=0.000) correlated with PTH. However the correlation was weak. The correlation between vitamin D and PTH in different groups were as follows: age <35 (r=-0.201;p=0.003), age ≥35 (r=-0.401;p=0.006), Tamils (r=-0.181;p=0.305), Sinhalese (r=-0.245;p=0.000), Moors (r=-0.061;p=0.766), working mothers (r=-0.192;p=0.136), house wives (r=-0.263;p=0.000), income <Rs.40000 (r=-0.257;p=0.006) and income ≥ Rs.40000 (r=-0.262;p=0.001).

Conclusion: Vitamin D deficiency/insufficiency is high among pregnant mothers in the Colombo district. The socio demographic factors had a significant influence in the correlation strength of Vitamin D and PTH levels.

PP23

Exploration of the impact of companion involvement in normal labor at the De Soysa Maternity Hospital for Women

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Background: Childbirth is a natural process which is an extremely painful and stressful experience for women. Companion involvement in labor is increasingly used in the western world by considering its positive outcomes.

Objective: To explore the impact of companion’s involvement in labor pain management among laboring mothers in the maternity hospital of the De Soysa Hospital for Women.

Methods: This was a qualitative phenomenological study conducted among eight mothers who delivered their babies by normal vaginal delivery with the involvement of labor companions. In-depth semi-structured interviews were conducted using a theme guide. Interviews were tape-recorded and transcribed verbatim. Data were analyzed using seven steps of the Colaizzi’s descriptive phenomenological method. This study was approved by the Ethics Review Committee of the National Hospital of Sri Lanka. Written informed consent was obtained from all the participants prior to the interviews. Trustworthiness was assured in the study.

Results: Data analysis revealed three major themes aligned with labor companion

involvement for providing support for the laboring mother including physical, emotional and informational support. Among the findings labor companion provided physical supports to the laboring mother by hand holdings, giving back massage, helping to change position, offering drinks, helping to keep cool by fanning and fulfilling specific requests like wiping face and the body. Laboring mother felt emotional supports of the labor companion through feelings of sense of security, praise, and encouragement, reassurance, acceptance, and affection by using soothing words. Labor companion was provided informational support by encouraging for deep breathing when occurring pain, explaining pushing effectively, verbal persuasion, disclosing personal experiences and giving support to communicate with the staff.

Conclusion: Labor companion involvement in normal labor provides physical, emotional and informational support for the laboring mother which leads to easier the laboring process and increase positive outcomes for both mother and newborn.

PP24

Sensory aspects of cancer pain and their association with quality of life of patients with cancer pain: A descriptive cross sectional study

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Background: Cancer pain is an unpleasant experience affecting individuals, functionally and psychosocially. Holistic assessment is therefore considered for satisfactory control of cancer pain. The Short Form Brief Pain Inventory (SF BPI) is a globally used validated tool for assessment of cancer pain. Translated and validated Sinhala version is available in Sri Lanka.

Objective: To determine sensory aspects of cancer pain and their association with quality of life of patients with cancer pain.

Methods: A descriptive cross-sectional study was carried out at Apeksha Hospital, Maharagama among patients ($n=384$; 18-80 years) with all types of cancer-related pain of at least a month or longer duration. Patients with psychological instability and/or with primary cancers or metastases in the brain were excluded. Sensory (0 -10; no pain to worst pain) and reactive items of pain (0-10; does not interfere to completely interfere) were measured on a numerical rating scale using SF BPI Sinhala version. Descriptive analysis was done for demographic, sensory and reactive data. The strength of relationship between sensory and

reactive variables was tested using Spearman correlation.

Results: Mean age of the participants was 56 years ($SD \pm 11.8$) and, the majority were females ($n=231$; 60.2%). Means of pain scores in the last 24 hours were analyzed; worst pain 7.9 ($SD \pm 1.9$); least pain 0.72 ($SD \pm 1.3$); average pain 4.6 ($SD \pm 1.5$); pain now 2.5 ($SD \pm 2.3$). Mean of the interference items was 5.4 ($SD \pm 2.0$). Statistically significant ($p<0.001$) moderate to weak relationship between sensory and reactive variables were noted for relationship with other people ($r=0.380$), sleep ($r=0.398$), normal work ($r=0.293$), general activities ($r=0.261$), mood ($r=0.251$) and walking ability ($r=0.211$).

Conclusions: Despite variation in the intensity of cancer pain felt over 24 hours, a significant weak to moderate association with the quality of life was noted.

Acknowledgement: Study funded by Cancer Research Center, Faculty of Medical Sciences, University of Sri Jayewardenepura; 002/2017

PP25

Health related quality of life among patients with chronic obstructive pulmonary disease on treatment in central chest clinic, Borella, Sri Lanka

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Background: Chronic obstructive pulmonary disease (COPD) is a slow progressive disease characterized by air flow limitation and destruction of lung parenchyma. It is the fourth leading cause of death in worldwide, corresponds to 5% of all deaths globally and projected to be the third leading cause of death by 2020. Individuals with COPD have markedly impaired quality of life compared to other chronic diseases.

Objective: Study was conducted to assess health related quality of life among patient with COPD on treatment in central chest clinic Borella.

Methods: Descriptive cross-sectional study was conducted among 150 COPD patients who were enrolled using systematic sampling method, from central chest clinic Borella. Data was collected using pretested, interviewer administered World Health Organization, validated quality of life questionnaire (WHOQOL-BREF). Data was analyzed according to the WHOQOL user manual and using descriptive statistics. SPSS version 23 was used as the analysis tool.

Results: Amongst most of the participant were married (84%, n=126) males (66.7%, n=100) belong to 50–69 years of age (65.4%, n=98). Most of them were currently

employed (66%, n=99) but earn less than 60000 LKR per month (79.3%, n=119). Most of the patients are having moderate levels of physical (55.3%), psychological (60%) and environmental (60%) quality of life. Social quality of life of the participants (51.3%) were poor. Age (P=0.006), education level (P=0.004), monthly income (P=0.042), frequent exacerbations (P=0.002) and lack of sleep (P=0.000) were significantly associated with quality of life of COPD patients.

Conclusions: Overall health related quality of life among patient with COPD was moderate. Age, education level, monthly income, frequent exacerbations and lack of sleep were significantly associated with quality of life of COPD patients.

PP26

Prevalence and known risk factors associated with renal dysfunction in people residing in selected tea estates in Balangoda area, Sri Lanka

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Background: During the last two decades the prevalence of renal dysfunction and subsequent chronic kidney disease has increased markedly among the agricultural communities of Sri Lanka.

Objective: The aim of the study was to investigate prevalence and known risk factors associated with renal dysfunction in people residing in selected tea estates in Balangoda area.

Method: A total number of 162 volunteer individuals were recruited in this cross sectional study. Serum creatinine concentration was measured by creatinine kinetic method. Renal dysfunction was diagnosed if the serum creatinine level was elevated above 1.1 mg/dl in females and 1.3 mg/dl in males. Socio-demographic data of the volunteers were also obtained.

Results: The overall prevalence of renal dysfunction was 8.6%. Prevalence of renal dysfunction was higher in males (9.5%) compared to females (8.1%). There was no significant association between renal dysfunction and age, sex, BMI, employment status, duration of work, chemical and environmental exposure, sources and storage method of drinking water, water

filtration before use, family history of CKD, chronic use of NSAID, use of ayurveda treatment, history of snake bite, smoking and alcohol consumption in the study group. A significant association between renal dysfunction in males and smoking, duration of work and sources of drinking water (village well, tube well, main supply, natural sources) was observed in subset analysis. There was a significant association between renal dysfunction in females and purification of drinking water, working inside or outside of the tea estate.

Conclusion: The percentage of renal dysfunction among the study participants was 8.6%. There was a significant association between renal dysfunction in males and sources of drinking water, smoking and duration of work. There was a significant association between renal dysfunction in females and work inside or outside of the tea estate, purification of drinking water.

PP27

Quality of life among patients with epilepsy attending the epilepsy clinic at National Hospital of Sri Lanka

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Background: Marriage and employment are two aspects that contribute to the quality of life (QOL) of patients with epilepsy. The role of seizure severity on QOL is incompletely explored.

Objective: To describe the quality of life and its association with seizure severity of adults with epilepsy

Methods: A hospital-based cross-sectional study was conducted among 136 patients followed-up at the Epilepsy Unit of National Hospital of Sri Lanka. They were selected using systematic sampling. An interviewer-administered questionnaire including QOLIE-10 and SSQ V2.2 obtained data on overall QOL, employment, marital status and seizure severity. Data were statistically analysed by Chi-squared test.

Results: Majority were males (53.7%) and aged <40 years (53.7%). Mean duration of epilepsy was 19.9 years (SD=14.15 years), with nearly half experiencing generalized tonic clonic seizures. An aura was experienced by 55.1% of the participants of whom 40% considered it 'helpful'. Regarding seizure severity, 66.9% experienced movements or actions during a seizure while others had altered consciousness only. Physical (87%), emotional (59.8%) or cognitive (77.2%) effects were common

during recovery. 'Good' overall QOL was seen among 78 patients (57.4%), which was significantly associated with low seizure severity ($p < 0.001$). However, it was not associated with work limitations, social limitations, memory difficulties or physical and psychological effects of antiepileptic drugs. Of the 51.5% who were employed, 78.5% showed job satisfaction, but 47.1% believed that they were under-employed owing to epilepsy. One fourth of the unmarried believed that having epilepsy was a negative factor for marriage negotiations. However, low seizure severity was not associated with being employed ($p = 0.403$) and having successful marital life ($p = 0.634$).

Conclusions: 'Good' overall QOL seen in the majority of patients receiving treatment for epilepsy, seemed to be determined by low seizure severity. Though seizure severity did not affect the QOL related to employment and marriage, proper management and follow-up is indicated.

PP28

Mothers’ knowledge on early detection of autism in Lady Ridgeway Hospital for children

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Background: Autism is a brain disorder or abnormality in brain structure or function. It begins in early childhood and persists throughout adulthood. Numbers of children diagnosed with Autism in Sri Lanka is increasing. However, this area is poorly studied in the local context.

Objective: To assess mothers’ knowledge on early detection of Autism in Lady Ridgeway Hospital for children, Colombo.

Methods: This was a descriptive cross-sectional study conducted among 200 mothers of newly diagnosed autistic children attending the autistic clinic at Lady Ridgeway Hospital. Data were collected using content validated, a pre-tested and self-administered questionnaire from the purposively selected sample of mothers from January to March 2016. Ethical approval for the study was obtained. All the mothers signed an informed consent prior to their participation.

Results: The response rate was 82.5% (165/200). The majority of participants were aged between 31 to 35 years (36%, n=60), educated up to advanced level (41%, n=68) and unemployed (60%, n=100). Approximately 60% of mothers never heard about autism, 84.8% of mothers knew that autism could identify by the behavior changes of the child while more than 60% of

mothers knew that autism occurs as a brain and neurological disorder. Mothers’ knowledge was low in some areas including identification of autism as an inherent disease (20.6%) and diagnose method of autism (9.1%). Most of the mothers identified the child’s abnormal behavior changes by themselves (75.2%) and noticed delayed milestones during 13-18 months of the child’s age (50.9%).

Conclusion: Mothers’ knowledge of early detection of autism is moderate. Since mothers’ ability of early detection of autism is important in the initiation of early treatment, steps need to be taken to improve their knowledge.

PP29

Outcome of Intra Uterine Insemination (IUI) in Colombo South Teaching Hospital, Sri Lanka

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Background: Assisted reproductive technologies are considered as an established therapy for the treatment of infertility as IUI being a simple, easy and non-invasive technique with a reasonable outcome.

Methods: Descriptive Analysis of all the IUI that had taken place from January to June 2019, was considered for the present study. The IUI outcome and possible factors contributing to the assisted reproductive technologies in a government fertility center were determined and further analyzed.

Results: Out of the 274 IUI procedures performed during this period most had been attempted on couples who had been sub fertile for a period of less than six years (77%). It was the first attempt in 46% of them with the numbers decreasing drastically when it comes to the 10th (0.4%). Most of females (34%) and males (39%) were in age range of 30-34 years. A greater number were treated with clomiphene (75%), with average dose of 100mg daily, whereas 21% with letrozole 5mg daily and only 4% were injected with FSH and all of them have received HCG. This was successful in 8% of the patients with more being on the first attempt (67%) than the subsequent ones with success rate of 80%. 86% of the females who received clomiphene only, have conceived in comparison to those induced with letrozole alone (9.5%) or letrozole and clomiphene

together (5%). All of them had received Intramuscular HCG injection 5000u (90%) or 250u recombinant HCG (10%) on D14 of menstrual cycle.

Conclusion: According to the study 92% failure rate of IUI may be due to both maternal and paternal factors in old age and the increased duration of subfertility.

PP30

Awareness, perception and practices on fever and febrile convulsion among mothers with children in the vulnerable age group in Polpithigama medical officer of health area, Sri Lanka

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Background: Fever is a common symptom in many childhood illnesses. It can be complicated with febrile convulsions in about 2-3%. The level of knowledge on detection and management of fever and febrile convulsions is variable in different communities.

Objectives: To describe the awareness, perception and practices on fever and febrile convulsions among mothers with children in the vulnerable age group in Polpithigama Medical Officer of Health area.

Methods: A descriptive study was conducted in all well baby clinics of Polpithigama Medical Officer of Health area in May 2019. All mothers of babies aged between 6 months to 5 years attending clinics were recruited after obtaining informed written consent. Data were collected using an interviewer-administered pre-tested questionnaire. Ethical approval was obtained from the Ethics Committee of Sri Lanka College of Paediatricians.

Results: A total of 398 mothers (mean age-30.1±5.5years) were recruited of which only 47% used thermometer to check body temperature when their children are suspected to have fever. Only 12% knew the

correct cutoff temperature to identify fever. Measures used to control fever were; antipyretics-41%, tepid sponging-42%, removal of excess cloths-53% and fan-6%. Sixteen (4%) children has had febrile convulsions while 31% mothers had witnessed a febrile convulsion. Only 20% were knowledgeable about correct positioning during a seizure and 55% knew that baby should be carried on side while going to the hospital. Large proportions perceived that febrile convulsions have grievous outcomes; brain damage-33%, mental retardation-15% and epilepsy-8%. Better overall knowledge on fever and febrile convulsions were associated with higher maternal education level ($p<0.01$) and family income ($p<0.05$).

Conclusions: Knowledge on cut off temperature for fever, measures used for fever control and first aid measures of febrile convulsions are poor in a majority of mothers with children of vulnerable age group in Polpithigama area.

PP31

Knowledge and preventive practices regarding respiratory diseases due to air pollution among traffic police officers in Colombo, Sri Lanka: A preliminary study

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Background: Occupational health risks and hazards due to polluted environment have become a serious public health issue. The traffic police officers (TPO) who are continuously exposed to polluted air may be at an increased risk for respiratory diseases (RD) due to the nature of their job.

Objectives: To determine the level of knowledge, preventive practices and the association between knowledge and preventive practices regarding RD due to air pollution among TPO in Colombo, Sri Lanka.

Methods: A descriptive cross-sectional design was used among purposively selected 50 TPO from the Traffic Police Headquarters, Colombo. A pre-tested (n=10) interviewer-administered questionnaire, developed by the researchers based on the literature review, was used to collect data and descriptive statistics and chi-square tests were performed. Ethical approval was obtained from the Ethics Review Committee of Faculty of Medical Sciences, University of Sri Jayewardenepura and further approval was obtained from the relevant authorities.

Results: Less than half of the subjects (40%, n=20) were in the age group 30-34 years. All study population were males. Less than half of them had 6-10 years (26%, n=13) working experience. Nearly half of them (n=26, 52%) had an above average knowledge regarding

respiratory diseases due to air pollution and more than half of them (n=29,58%) had below average level of related preventive practices. There was no association ($p>0.05$) between knowledge and preventive practices regarding RD due to air pollution. There was an association ($p\leq 0.05$) between the level of education and the level of knowledge and between working experience and the level of preventive practices of the subjects.

Conclusions: The majority of TPO were knowledgeable on RD related effects of air pollution. The level of preventive practices on prevention of RD is not satisfactory. Health education sessions on preventive practices to avoid RD due to air pollution will be useful to prevent RD among TPO in Sri Lanka.

PP32

Availability of resources for provision of homecare and knowledge of care giving among family caregivers of dependent stroke survivors – Preliminary results

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Background: In Sri Lanka, family caregivers provide homecare to stroke survivors after hospital management. Therefore, the availability of resources and knowledge of care are important to provide better homecare for stroke survivors.

Objectives: To determine availability of resources in the home and to determine the knowledge of family caregivers to provide homecare for dependent stroke survivors.

Methods: A descriptive cross-sectional study was conducted using consecutive sampling technique on family caregivers of stroke survivors with disability score of below 60 in the Barthel index validated Sri Lankan version in three hospitals of Colombo district. Ethical approval was granted from University of Sri Jayewardenepura. An interviewer administered questionnaire was used. Knowledge on aspects of care giving was scored and interpreted as poor, satisfactory, good and very good. Data were entered into a database and descriptive analysis done using SPSS software (version 16.0).

Results: Mean age of the caregivers (n=85, 40 males) was 47.1 (± 13.86 SD) years. Majority

(76, 89.4%) were married and 39 (45.9%) were unemployed. Most caregivers (46, 54.1%) were educated up to G.C.E. (Ordinary Level) and 47.1% had experience as family caregivers. Most patients (78, 91.8%) were cared in their own home. Majority of the patients (65, 76.5%) had good sanitary facilities and pipe borne water supply (59, 69.4%). 65 (76.5%) respondents indicated that wheelchair accessibility at home was unavailable. Poor knowledge was observed in 78 (90.7%) of family caregivers on providing care related to activities of daily living.

Conclusion: Majority of respondents had basic resources to provide homecare for the stroke patients. However, their level of knowledge was poor. Thus, homecare can be improved with provision of proper education programs and would help to improve the quality of life of both the stroke survivors and the family caregivers.

PP33

Facilities available at medical officer of health (MOH) offices and the training needs of MOH team in Sri Lanka

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Background: The implementation of the Family Health Programme is carried out by the MOH teams under the technical guidance of Family Health Bureau. Identification of basic facilities at MOH offices are useful for management of human, financial and physical resources.

Objectives: To assess the human, physical and other facilities at MOH offices and the training needs of MOH team in Sri Lanka.

Methods: A cross-sectional descriptive study was conducted in 2018 covering all 354 MOH offices in Sri Lanka using a self-administered questionnaire prepared by a panel of experts in public health and piloted. It was posted to 304 Medical Officers of Health (MOOH) and 326 Additional Medical Officers of Health (AMOH). Ethical approval was obtained from ethical committee at national hospital Sri Lanka. Statistical analysis was done using SPSS software.

Results: As this was a postal questionnaire response rate was low (316, 50.2%). Most of the medical officers had work experience more than 10 years (215, 68.3%) and one third of them (110, 34.9%) has worked as a MOH for more than five years. Around two third MOOH had MOH training. AMOOH are available in 66% MOH offices. Availability of supervising public health inspectors and Public Health Nursing sisters in MOH office are 77% and 69% respectively. Ministry

conducted Maternal and child health trainings were received by less than half of the total MOH staff. Almost all MOH offices have facilities such as electricity, water supply, computers and vehicles. However more than one third of the MOH offices don't have some essential facilities like adequate waiting area with seating facilities, proper garbage disposal system and a disaster plan. Most of the MOOH are satisfied with facilities available at MOH office (80.1%) but only half of the MOOH are satisfied to work as a MOH (54.1%).

Conclusions: Most of the MOOH offices have vacancies in all staff categories. Half of the staff didn't received mandatory trainings.

PP34

Oral hygienic practices, dietary habits and their association to dental caries among a selected population of preschool children with dental caries

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Background: Early Childhood Caries (ECC) is a very common disease condition and affects major proportion of children worldwide. The aim of this study was to identify the association of dental caries with oral hygienic practices and dietary habits among preschool children presenting to the National Institute of Dental Science Maharagama (NIDS).

Objectives: To describe the association of dental caries with oral hygienic practices and dietary habits among preschool children with dental caries.

Methods: A descriptive cross sectional study was conducted among guardians of preschool children who attended to the dental clinic due to dental caries to NIDS Maharagama. Data was collected using a self administered questionnaire.

Results: The total sample size was 213. The highest prevalence (44.1%) of ECC was seen among children between 49- 60 months old. Majority of them (85.9%) had assistance for brushing their teeth and 7.5 % (n=16) did not brush their teeth at bed time. Out of them 45.5% (n=97) was noted have prolonged breast feeding up to 49-60 months. The number of children who got fed on bottle was 52 (24.4%) and out of them 61.5% had added sugar in their bottle feeds. Among bottle

feeders 44.2% (n=23) of them had feeds during night. All had taken at least one sugary food item each day. Majority (59.6%) of children had started to use a tooth brush between 1-2 year of age (n=127). Out of 213 children 209 (98.1%) children had used tooth paste and only 88% (n=184) guardians knew about the fluoride content of the tooth paste the used.

Conclusions: This study showed that lack of bed time tooth brushing, lack of proper assistance from guardians in tooth brushing were the poor oral hygienic habits and high prevalence and long time duration of breast feeding, taking bottle feeds with added sugar, bed time bottle feeding, consumption of sugary food items frequently were the poor dietary habits that affected dental caries among this study population.

PP35

Perceived barriers to communicate with nurses and patients by nursing undergraduates from two state universities in Sri Lanka

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Background: Nursing undergraduates who undergo clinical learning in hospitals, frequently communicate with nurses and patients. Communication barriers may act as a burden to reach the desired quality of their learning. Nurse-related, patient-related and student-related communication barriers pertaining to nursing undergraduates have to be identified and addressed to provide quality care.

Objective: The objective of this study was to describe the perceived barriers to communicate with nurses and patients by nursing undergraduates in two state universities during their clinical learning.

Methods: A descriptive cross sectional study was conducted using a convenience sample of 120 nursing undergraduates from 2nd, 3rd and 4th years in University of Sri Jayewardenepura (USJP) and Eastern University of Sri Lanka. A previously validated self-administered questionnaire was adopted and pretested for this study after obtaining ethical approval from Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardnepura. Data were analyzed by using General Linear Model in SPSS version 23.

Results: A majority of the participants were females (77.5%). Nurse-related, patient - related and nursing student - related barriers were perceived as moderate barriers by a

majority of nursing students; 66.7%, 72.5% and 66.6% respectively. Nurse-related barriers had the highest overall mean score (3.31±0.5575) compared to patient-related (3.12±0.6359) and nursing student-related barriers (3.00±0.6738). The highest mean scores were found for ‘negative nurses’ attitudes towards students’ (3.91±0.987), ‘serious disease conditions of patients’ (3.75±1.031) and ‘language differences’ (3.34±1.357) as perceived by students in the categories of nurse-related, patient-related and nursing student-related barriers respectively. Ten out of 15 (66.7%) nurse-related communication barriers, three out of 11 (27.27%) patient-related communication barriers and five out of 19 (26.32%) nursing student-related communication barriers were significantly associated with students’ gender, academic year and their respective university.

Conclusions: All three categories of barriers to communicate were found as moderate while nurse-related barriers were the highest and nursing student-related barriers were the lowest. In-service education programs for nurses on developing effective communication skills for facilitation of students in clinical settings is recommended.

PP36

Socio-demographic profile of persons with attempted suicide attending three selected hospitals in Colombo, Sri Lanka

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Background: Eight hundred thousand annual deaths worldwide are due to suicide, whereas attempted suicides amount for twenty times this figure. Sri Lanka was ranked 22nd in the global league table of suicide in 2012. Thus, identification of socio-demographic profile of suicide attempters may help in developing preventive strategies for suicide.

Objectives: To describe the socio-demographic profile of attempted suicide cases presenting to three selected hospitals in Colombo district.

Methods: A descriptive cross-sectional study was conducted in three selected government hospitals in Colombo district. Suicide attempters referred for psychiatric care were selected by convenience sampling, and studied using an interviewer administered questionnaire.

Results: Age range was 15 to 70 years (Mean age=34.5, standard deviation=15.356, mode=24). Majority were females (60.8%, n=62). Educational level was up to Ordinary Level Examination or less in 76.5% (n=78). Most were married (48%, n=49) and 51% (n=52) employed, but 48.1% (n=25) employed subjects' had incomes Rs.20000 or less and 63.5% (n=33) worked 8 hours or more. Unoccupied subjects', were mainly females (74%, n=37). Majority (65.7%, n=67) had shifted from hometowns and 63.7%

(n=65) lived in nuclear families. Most (57.8%, n=59) had hobbies but of them 83.1% (n=49) had introverted type hobbies. Many (66.7%, n=68) participants watched television daily. Commonest (76.47%, n=78) method of attempt was Paracetamol overdose. Most self-burn victims were females (76.9%, n=10) with 84.7% (n=11) between 35 to 64 years.

Conclusions: Majority were young, married females of low educational level and low socio-economic level, who had left their hometown and lived in nuclear families. Many had hobbies which were introverted. Commonest method of attempt was by Paracetamol overdose. Targeted interventions including introducing a scale to assess suicide risk, and addressing the social isolation issue in identified groups, as well as general interventions on suicide education and media utilization to decrease attempted suicide, are proposed.

PP37

Comparison between 24-hour dietary recall and three-day diet diary in assessing energy and macro nutrient intakes among postpartum mothers

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Background: Accurate information on dietary intakes is essential to assess the nutritional status and evaluate adherence to dietary recommendations. The 24-hour dietary recall (24HR) and diet diary are common methods used in research.

Objective: To compare the 24HR with 3-day diet diary in assessing dietary intake of postpartum mothers in three selected districts of Sri Lanka.

Method: As a part of a quasi-experimental study, a purposive sample of 50 postpartum mothers who underwent a life style intervention were recruited from special postnatal clinics for Gestational Diabetes Mellitus in Colombo, Gampaha and Galle districts. Their dietary intake was evaluated at two time points of the study with an interval of six months. Participants were educated about the food portion sizes using standard pictures and house hold equipment before dietary assessments to ensure uniformity of reporting. Diet diaries were

maintained by mothers on two week days and one day in the week end and the 24HR was filled by the investigator on one of the three days to minimize recall errors. Wilcoxon signed rank test was performed to compare calorie and macronutrient intakes between the two methods.

Results: Mean age (\pm SD) of the sample was 33.6(\pm 5.8) years. A median energy intake of 1965.45 kcal/day was reported by the mothers according to 24HR. The corresponding intake according to the 3-day diet diary was 2214.00 kcal/day. The intakes of carbohydrate, fat and protein in 24HR vs three-day diet diary at 1st time point were 308.10 vs 332.67, 68.00 vs 75.97 and 74.45 vs 75.9 g/day respectively, The energy (median), carbohydrate, fat and protein intakes in 24HR vs three-day diet diary at the 2nd time point were 2005.3 vs 2031.15 kcal/day, 313.15 vs 304.3, 69.8 vs 70.1 and 67.0 vs 67.42 g/day respectively. There were no statistically significant differences between any pairs of intakes.

Conclusion: The findings show that after educating subjects about the portion sizes, both 24HR and 3-day diet diary have the same merit in assessing energy and macronutrient intakes of postpartum women.

Acknowledgement: Research Grant, University of Sri Jayewardenepura (ASP/01/RE/MED/2015/44 and ASP/06/RE/MED/2013/39).

PP38

Knowledge, attitudes and sources of information on reproductive health and sexuality in a group of adolescents in Sri Lanka

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Background: Studies have consistently shown that knowledge and attitudes among Sri Lankan adolescents on reproductive health and sexuality are inadequate. The researchers felt that there was a lack of data on whether schools provide adequate knowledge to the students on these areas in practice, despite these areas being included in the school curriculum, and what other sources were more effective in providing knowledge.

Objectives: To determine the level of knowledge and attitudes about reproductive health and sexuality and to determine the contribution made by the school curriculum towards them, among a group of adolescents in a selected school in Sri Lanka.

Methods: The study was a cross sectional descriptive study carried out among 96 students in grades 10-12 in Seevali Maha Vidyalaya Sivalakulama. Data was collected using a questionnaire prepared using the International Technical Guidance on Sexuality Education published by UNESCO.

Results: Knowledge on reproductive health was inadequate in most areas, with only 4.2%, 10.4% and 18.8% of students having satisfactory knowledge on STDs, contraception, and child abuse, respectively. Attitudes were generally conservative, with most (80.2%) students holding incorrect

beliefs about menstruation and with only 55% of students being able to speak about sexual matters with either parent. The school curriculum only contributed to knowledge in key areas as follows; pregnancy; 53.1%, teenage pregnancies; 59.4%, child abuse; 52.1%. With regards to other sources, for the same topics, health education programs had a greater contribution among students than the school 64.6%, 71.9% and 75% respectively.

Conclusions: Knowledge on most areas of reproductive health and sexuality especially practical aspects is low and needs to be improved. Open discussions with trusted adults are not available to students and misconceptions need to be addressed. The school does not play an adequate role in educating the students on these matters and should increase its contribution to their knowledge. Health programs could possibly help to address the weak areas of knowledge.

PP39

Parenting competencies among mothers of infants at early infancy attending maternal and child health (MCH) clinics in Galle District, Sri Lanka

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Background: Parenting competencies of mothers vary according to the cultural norms and are sparsely described in the Sri Lankan context. Determining the level of parenting competencies helps to understand the characteristics of parent’s functioning and identify the vulnerable groups.

Objectives: To determine the level of parenting competencies among mothers of infants at early infancy attending maternal and child (MCH) clinics in Galle District.

Methods: A cross-sectional study was conducted in a random sample of 600 mothers of infants at early infancy period attending the MCH clinics in Galle District during November 2018 to April 2019. Subjects were recruited for the study using a multistage cluster sampling technique, using ‘probability proportionate to size’ method. The self-administered maternal competencies assessment tool-early infancy (MCAT-EI) with a total score ranging from 0-100 was used to collect the data from the mothers who fulfilled the inclusion criteria. All data were analysed using SPSS.

Results: The majority of the mothers were Sinhalese and Buddhist (n=549, 91.5%).436

(72.7%) belonged to 20-29 years age category. Most of the mothers (n=564, 94%) had completed post primary education and only 130 (21.7%) were employed. Approximately 574 (96%) of the mothers were married and n=261 (42.4%) had only one child. The mean score for parenting competencies was 53.7 with a standard deviation (SD) of 11.6. The mean score \pm SD and the range of scores respectively for the subscales of MCAT-EI were: feeding 24.0 \pm 7.1, 0-36, maintaining hygiene 7.9 \pm 2.9, 0-15, maintaining health and protection 9.9 \pm 3.5, 0-18, ensuring sleep and comfort 6.9 \pm 2.8, 0-12 and identifying normal growth and development 4.9 \pm 3.4, 0-12. The highest level of competencies was observed in relation to feeding and lower levels of competencies in other domains were highlighted in measures of MCAT-EI.

Conclusions: On average mothers of infants in Galle district had moderate levels of parenting competencies, except in relation to feeding. MCH services should focus on the mothers with low parenting competencies to reach positive outcomes in infant caring.

PP4

Public knowledge about medical genetics and hereditary diseases: a preliminary study from Family Practice Centre, University of Sri Jayewardenepura, Sri Lanka

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Background: Genetic literacy among general public is essential to have realistic expectations about genetic disorders.

Objectives: The study aimed to investigate the knowledge about medical genetics and related diseases among public.

Methods: An interviewer administered questionnaire was used to gather information on knowledge and awareness about genetics and hereditary disorders among first consented 100 patients attending the Family Practice Centre, University of Sri Jayewardenepura.

Results: There were 46 males and 54 females. Of the total participants 6% had education up to grade 5 or less while others had secondary or tertiary education. Of the total, majority (83%) were aware about the inheritance of hereditary characters from parents and 68 % understood that some of the heritable disorders may not show symptoms until late adulthood. However, 65% were unaware that Down syndrome might run in families. Only 53% responded thalassemia as a genetic disorder and 32% were unaware that consanguineous marriages should be discouraged. The awareness of thalassemia

(18.2%) and consanguineous marriages (27.3%) were even lower among participants with primary education or less. Of the total, 76% thought genetic tests were useful to screen genetic diseases while only about half (48%) were aware that diabetes mellitus and ischemic heart disease have a genetic predisposition.

Conclusions: Although basic knowledge about medical genetics is acceptable overall, knowledge on genetic diseases and their inheritance is low. Further there was a positive association between level of education and knowledge on genetics. This implies the need for public awareness programmes and health care practices to enhance genetic literacy among public in order to minimize genetic disease burden.

PP41

Knowledge, attitudes and practices regarding first aid among undergraduates of the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura

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Background: First aid is a quick, temporary and simple drugless process to manage emergency medical conditions with or without medical equipment. It is important in preserving life, preventing deterioration of the situation or contributing to a treatment process before professional medical care is available. First aid knowledge and skills are important for everyone, especially young adults such as university students, who can actively provide first aid in emergency situations.

Objectives: To describe knowledge, attitudes and practices regarding first aid among undergraduates of the Faculty of Management Studies and Commerce, University of Sri Jayewardenepura

Methods: This was a descriptive cross-sectional study using a web-based questionnaire. The questionnaire contained four parts: socio-demographic data, knowledge, attitudes and practices regarding first aid. Analysis was done using SPSS version 15.0 software.

Results: The questionnaire was sent to 750 students (2014/2015 year), of which 384 completed the questionnaire. Mean age was

23.6 years. 65.9% were female and 34.1% were male. The majority were aware of the meaning of ‘first aid’ (92.4%). However, 49% had poor overall knowledge, while 25.5% each had moderate and high knowledge regarding first aid practices. There was a significant difference between males and females in the knowledge level on first aid. Knowledge of first aid was higher in females than males. Most had heard about first aid from family (75.5%). 72.7% of the students had given first aid previously in different situations such as difficulty in breathing, animal bites, bleeding wound, fainting attack.

Conclusions: Half of the students had poor knowledge about first aid. The practices on first aid were acceptable among university students. The students identified the need for further knowledge and were willing to undergo training to build up experiences and confidence level in an emergency situation.

PP42

A descriptive study on dental health awareness and practices among pregnant women attending antenatal clinics in Sri Jayewardenepura General Hospital, Sri Lanka

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Background: Dental health is one of the most important aspects of health and teeth problems are common in the pregnancy which influence the growing fetus.

Objectives: Study was conducted to assess awareness and practices regarding dental health among pregnant women attending antenatal clinic at Sri- Jayewardenepura General Hospital.

Methods: A descriptive cross sectional study was conducted with the participation of randomly selected 150 pregnant women attending antenatal clinic by using pre tested interviewer administered questionnaire. Knowledge and practices scores were developed based on the maximum and minimum marks allocated for each section. Pearson Chi-square test was performed to determine the associations.

Results: 70 % (105) of the participants were aware regarding the fact that hormonal imbalances during pregnancy may affect their dental health. Only 21.3% (32) had awareness regarding the fact that frequent vomiting during pregnancy period is a risk factor for dental erosion. 56.7% (85) of the participants were knowledgeable regarding the influence

of mother’s dental health for their growing fetus. Most frequent source of knowledge regarding the importance of dental health during pregnancy was the family doctor in 40 % (60). 54% (81) of the participants had good knowledge regarding dental health during pregnancy. Regarding overall level of dental care practices, only 14.4%% (22) had adequate dental care practices. Monthly income showed a significant association with dental care knowledge and the level of education showed significant association with dental care practices among participants.

Conclusions: Although more than half of the participants had good knowledge regarding dental health, less than one fourth of individuals were following proper dental practices. This study emphasizes the importance of conducting programmes to reduce the knowledge practice gap and to highlight the importance of dental care practices during pregnancy for better health outcome of the mother and baby.

PP43

Knowledge, attitude and practices on breastfeeding among mothers with children aged up to 2 years in Wattalla MOH area, Sri Lanka

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Background: Breastfeeding is a way of providing ideal food for the healthy growth and development of infants with important implications for the health of the baby and mother.

Objectives: A descriptive cross-sectional study was conducted to assess knowledge, attitude and practices and their associated factors among 280 mothers with infants aged up to two years in Wattala MOH area.

Methods: The study was conducted among 280 mothers with infants aged up to two years in Wattala MOH area. A pre-tested interviewer administered questionnaire was used as the study instrument.

Results: In general, the overall knowledge, attitude and practices pertaining to breast feeding were satisfactory (62.1%, 81.8% and 89.7%, respectively). Being employed ($\chi^2=17.695$, $p<0.01$), high income ($\chi^2=8.559$, $p=0.003$), male gender of the baby ($\chi^2=0.886$, $p=0.049$), baby's current age being less than 9 months ($\chi^2=4.464$, $p=0.035$), birth weight of more than 2.5 kg ($\chi^2=8.479$, $p=0.004$) and being a non-vegetarian ($p=0.003$) were found to significantly associated with higher level of knowledge. High level of income ($\chi^2=8.702$, $p=0.003$) was only an associated factor for attitude towards breast feeding. None of the

assessed factors were found to have a significant relationship with breast feeding practices. A substantial relationship was seen between knowledge and attitudes with a statistically significant moderate correlation ($r=0.454$, $p<0.01$). However, there was no correlation of practices with either knowledge or attitudes.

Conclusions: Further strengthening of public health education and promotion programmes to promote BF is important to improve the situation further.

PP44

Prevalence of respiratory symptoms and illnesses of women exposed to biomass fuel smoke in Colombo district, Sri Lanka

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Background: Use of biomass as a cooking fuel is common in some areas of Sri Lanka. Long term exposure to biomass fuel (BMF) smoke is associated with increased respiratory symptoms and illnesses.

Objectives: To estimate the prevalence of respiratory symptoms and illnesses of women exposed to BMF smoke and determine associations with exposure index.

Methods: Cross sectional study was carried out using two stage cluster sampling method. Lifelong nonsmoking females more than 18 years of age who are currently cooking using BMF (n=350) were recruited. Data on respiratory symptoms, physician diagnosed respiratory illnesses and cooking fuel use were obtained using an interviewer administered questionnaire. BMF exposure index (EI = hours of BMF exposure per day × years of BMF use) was computed and categorized into high (EI>60) and low (EI<60) EI groups. Spirometry was performed using a portable spirometer according to ATS/ERS 2005 guidelines (Cosmed Pony FX, Italy). FEV₁/FVC <70% was defined as airflow

obstruction. Data was analyzed using SPSS (version 23).

Results: Mean age of women was 47 years±4SD. Majority (91%) were Sinhalese and unemployed (69%). Mean BMF exposure was 28 years±4SD. Mean EI was 168.8±108SD. Majority (86.3%) had a high EI. Prevalence of chronic cough was 13.5% [OR=0.68 (0.26-1.81)], phlegm was 13.5% [OR=0.37 (0.11-1.24)], wheeze was 21.3% [OR=0.67 (0.29-1.49)], breathlessness was 23.3% [OR=0.59 (0.26-1.31)] and physician diagnosed asthma was 6.5% [OR=1.78 (0.63-5.03)]. Mean FVC (2.17L±3.66SD) and FVE₁ (1.7L±0.5SD) were significantly low compared to the predicted values of Sinhalese (PredFVC =2.7L±0.4SD and PredFVE₁=2.17±0.4SD) P <0.05. Prevalence of airflow obstruction was 23.6% [OR=0.58 (0.26-1.28)]. No symptoms or illnesses retained a significant association with the predictor.

Conclusions: Wheeze, breathlessness and airflow obstruction are more prevalent than cough and phlegm among BMF smoke exposed women. However none of these were significantly associated with BMF EI. Majority of symptomatic individuals deny having respiratory diseases and are not on medication. BMF smoke exposed women also reported poor lung function parameters.

Acknowledgement: University Research Grant of University of Sri Jayewardenepura, Sri Lanka (ASP/01/RE/MED/2017/35)

PP45

Diet, physical activity and recreation for the management of diabetes

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Background: It has been identified that behavioral risk factors has increasingly influenced the mortality rate in the world. Several behaviors that exert a strong influence on health are tobacco use, alcohol consumption, physical inactivity and diet. Diabetes mellitus is a major non-communicable disease and if poorly controlled it could lead to a number of other complications involving other bodily systems or even death. Genetic predisposition, environmental factors, lifestyle and unhealthy diet contributes to diabetes and it has reduced the quality of life globally.

Objectives: The aim of this review is to bring into the limelight the importance of ayurvedic dietary and lifestyle guidelines, impact of physical activity and recreation on prevention and control of type 2 diabetes.

Methods: Published information from Ayurveda compendia, from 1990 to 2012, 268 publications in Pubmed, Scopemed, Dhara online, WHO reports and other allied databases covering fields of therapeutics, health, biomedicine, sport and recreation were screened and taken into study.

Results: “Madhumeha” is a polyuric disease, could be equated to type 2 Diabetes Mellitus. “Pathya” (compatibility) is having a key role in the management of “madhumeha”.

“Apathya Ahara” (incompatible diet) and “ApathyaVihara”(incompatible behaviors) both are the major risk factors for “Madhumeha”. Ayurveda mentions the importance of diet, physical exercise and mental well-being in Madhumeha. Cereals, vegetables and low caloric diet are prescribed. Various physical activities, forceful massages, playing sports etc. are recommended and long, comfortable sitting, long sleeping, etc. should be avoided. Taking part in recreational activities, particularly outdoors can improve physical wellness and mental well-being. Recreational activities found to be pleasurable can play a major role to control and prevent diabetes.

Conclusions Unhealthy lifestyle probably initiates and propagates the majority of type 2 diabetes. Lifestyle modification helps to prevent the onset of disease. Though diabetes is difficult to cure, proper lifestyle regimen helps in preventing the onset and the complications.

PP46

Knowledge, attitudes and practices regarding Pap smear test among women in Godigamuwa grama seva division in Ratnapura District, Sri Lanka

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Background: Cervical cancer is the second commonest cancer among women in Sri Lanka, even though it can be preventable through early detection.

Objectives: To describe knowledge, attitudes and practices regarding Pap smear test among women in Godigamuwa grama seva division in the Ratnapura district.

Methods: A quantitative descriptive cross-sectional study was conducted with 250 women in Godigamuwa grama seva division in Ratnapura District using an interviewer-administered questionnaire. Data were analysed using SPSS version 23. Descriptive statistics were calculated.

Results: The mean age of participants was 46.45(SD=9.002) years. Although 86% of participants had heard about cervical cancer, only 74% had heard about Pap smear test. More than half (51.2%) received information about Pap smear test from health care professionals. Further, only 36.4% knew that Pap smear test should be done every 5 years. Thus a considerable number of participants (38.4%) had a poor knowledge regarding Pap smear test. Meanwhile, nearly 55% of participants preferred to do the Pap smear test at the well woman clinic in the primary health care centre and 77.2% out of them preferred to do their Pap smear test by a female physician. Besides, the majority of

women (82.4%) were willing to participate in the Pap smear test, but more than 77% of participants thought they were not at risk of getting cervical cancer. Importantly, less than one-third of participants (31.6%) had done Pap smear test, however, only 24.8% out of them had done it every five years.

Conclusions: Based on the study results, knowledge about Pap smear test was not adequate among participating women. Although patients had a positive attitude towards pap smear testing only few underwent the test which means practices towards Pap smear test were not satisfactory. It is necessary to enhance the knowledge regarding Pap smear test particularly the importance of doing Pap smear test and promote good practice among women in the study setting.

PP47

Does Cu IUCD decrease the risk of abnormal pap smear?

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Background: It is noted that Cu IUCD decrease the risk of abnormal Pap smear but results have been inconsistent. The reduced risk associated with copper IUDs increased with increased duration of use.

Aims: This study aimed to evaluate the association between Cu IUCD consumption and abnormal Pap smear in women who were followed up in clinic.

Methods: A cross sectional descriptive study was carried out and a database of all Pap smear reports from 2014-2018 with a history of Cu IUCD consumption were selected as the case group and women applying other contraceptive methods were selected as control group for evaluation. Both case and control groups were matched by age, parity and socioeconomic status. All of the women in this study maintained a single partner as their husband. The duration of Cu IUCD use was at least 3 years. Statistical analysis included Chi-Squared test. The Confidence interval (95% CI) were applied to estimate the relative risk of negative and positive Pap tests of the cases and the controls. Test results with a probability $p < 0.05$ were considered to be statistically significant. Statistical Package for Social Sciences (SPSS) version 16.0 software was used to perform the statistical analysis.

Results: There were 215 cases and 421 controls involved in this study. Ages ranged from 25-60 years with a mean age of 42 years. Abnormal Pap smear results were observed in 0.1% of cases and 0.1% of controls. There was no significant association between Cu IUCD consumption and an abnormal Pap smear.

Conclusion: Results from current study did not show an association between Cu IUCD consumption and an abnormal Pap smear results. More prospective studies are required.

PP48

Pap smear screening: a retrospective study

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Background: Cervical cancer is the seventh cancer in overall frequency, but the second most common cancer among women worldwide and the commonest cause of cancer related death among women in developing countries. Cervical cancer is the commonest cause of death among women in developing countries. In developed countries, cervical cancer accounts for only 3.6% of new cancers, with a cumulative risk (0 to 64) of 0.8%.

Objectives: Main aim of our study was to find out incidence of abnormal pathology by pap smear screening among patients visiting the hospital clinic.

Methods: It was a retrospective study conducted in Colombo, Sri Lanka among a total of 250 patients who attended the clinic and underwent routine pap smear screening over a period of one year from June 2016 to June 2017. Cytological examination was done by a consultant pathologist and test results were classified according to Bethesda system. Data was analyzed using SPSS Version 16.

Results: A total of 250 patients who have come to clinic for different complaints were screened. According to age distribution, majority were between 31 to 40 years of age (143/250(57.2%)). The patients who attended had come with various complaints like lower abdominal pain, white discharge, bleeding per vagina and infertility. The

majority of patients had no obvious abnormal pathology in cervix on per speculum examination (177/250(70.8%)). Rest of the patients had nabothian follicles, erosion, ectropion and hyperemia like cervical changes present. 23 Pap smear reports turned out to be abnormal. Out of 23, 12 (52.17 %) were suggestive of atypical squamous cell of undetermined significance while 3 reports (13.04%) were in category of low grade squamous intra epithelial lesion (LSIL) and none were with high grade squamous intra epithelial lesion.

Conclusion: Pap smear is an effective screening test for cervical carcinoma. It is a cost effective test with high specificity and very easy to perform thus making it the method of choice for cervical carcinoma screening. With proper follow up patients with abnormal tests are screened and appropriate treatment is being offered to patients to increase survival.

PP49

Determination of positive direct antiglobulin test in immune thrombocytopenic purpura patients in a tertiary care hospital in Sri Lanka

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Background: Direct antiglobulin test (DAT) that detects immunoglobulin or complement on the surface of the red blood cells (RBCs) is used to determine whether RBCs are prone to autoimmune haemolysis. In some patients with immune thrombocytopenic purpura (ITP), a haematological disorder characterized by isolated thrombocytopenia and autoimmune haemolytic anaemia may co-exist. However, an unexpected positive DAT in ITP patients who have no co-existing autoimmune haemolysis has been reported in limited studies and suggests that a positive DAT may not always indicate the risk of haemolysis.

Objective: To determine the proportion of positive DAT and its likely underlying causes among ITP patients who attend haematology clinics at a tertiary-care hospital.

Methods: A descriptive cross-sectional study was conducted among 84 patients attending haematology clinics of a tertiary-care hospital in Colombo district. Full blood count and DAT were performed in all previously-diagnosed ITP patients. Serum bilirubin test, reticulocyte count and blood picture were performed in patients who had positive DAT. Prevalence of positive DAT in the present study and the

prevalence expected based on limited previous studies were compared using the binomial test.

Results: Three out of 84 (3.6%) ITP patients had positive DAT. This proportion was significantly less ($p < 0.001$) than the previously-reported proportions of 22% and 32%. These three patients did not have known causes for positive DAT, namely, haemolysis as indicated from serum bilirubin test, reticulocyte count or blood picture, or treatment with intravenous immunoglobulins.

Conclusion: Positive DAT in ITP patients does not necessarily indicate a risk of haemolysis or treatment with immunoglobulins. Further research is needed to understand the underlying causes for such unexplained positive DAT in ITP and its implications.

PP50

Cortical thickness and subcortical volumes in mesial temporal lobe epilepsy patients measured using automated segmentation of magnetic resonance imaging in a tertiary care centre in Sri Lanka

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Background: Abnormalities in brain structure in patients with diagnosed mesial temporal lobe epilepsy (MTLE) is known. Although multiple international studies exist, such studies are deficient in Sri Lankan setting.

Objectives: To assess cortical thickness and volume of subcortical structures using automated segmentation of magnetic resonance imaging (MRI) data of MTLE patients in a retrospective sample from a tertiary care centre in Sri Lanka.

Methods: A retrospective cross-sectional analytical study was conducted using the T1 weighted brain MRI images of 17 left MTLE, 10 right MTLE, 5 bilateral MTLE and 26 patients with epilepsies other than temporal lobe epilepsy (TLE). Automated segmentation and parcellation was performed using free surfer software suite version 6.0.

Results: Statistically significant reduction ($p < 0.05$) was found in the mean volumes of ipsilateral putamen and hippocampus in patients with both left and right unilateral MTLE as compared to patients with non-temporal lobe epilepsies. Bilateral MTLE was associated with reduction in volumes of

posterior and central regions of the corpus callosum. A significant loss in cortical thickness was seen in the regions of entorhinal cortex, medial orbital frontal cortex and insula of the contralateral hemisphere in patients with left MTLE; and in the regions of fusiform gyrus and banks of the superior temporal sulcus in the ipsilateral hemisphere and the posterior cingulate gyrus of the contralateral hemisphere in right MTLE.

Conclusions: Significant reduction in volume of subcortical structures and in thickness of cortical grey matter was seen in patients with MTLE compared to epilepsy patients without TLE. Free surfer software suite (version 6.0) can be used to measure the volume and thickness of different brain structures.

Acknowledgement: Mr. Sanath Rajapakse and Mrs. Waruni Kumbukage for their assistance in MRI acquisition. This research was carried out as part of the electives programme of the undergraduate academic programme of the Faculty of Medicine, University of Colombo.

PP51

Characterization of anaemia in patients with chronic kidney disease at the National Institute for Nephrology Dialysis and Transplantation

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Background: Chronic kidney disease (CKD) is the third leading cause of mortality and affect 5-10 million people worldwide. Decreased production of erythropoietin (EPO) caused by renal damage leads to anaemia in CKD patients.

Objectives: To characterize anaemia in CKD patients and assess severity, types and factors associated with anaemia of CKD.

Methods: A descriptive cross sectional study was conducted among 116 patients attending clinics of NINDT using a consecutive sampling method. An interviewer administered questionnaire was used to obtain information from patients and disease related information was obtained from individual clinic records. Full blood count results of patients were obtained from the NINDT laboratory and blood picture assessment was performed by a consultant haematologist.

Results: Majority (68%) were males and more than 1/3 (35.3%) were in CKD stage 3. Proportion of anaemia was 54.3% with a

mean haemoglobin concentration of 11.4 g/dL (SD±2.15). Presence of anaemia was highest in CKD stage 3 (30.2%) followed by stage 4 (27.0%), 5 (25.4%). Characterization of red blood cell morphology revealed normochromic normocytic in 75.0%, hypochromic microcytic (10.3%), dual population (3.8%), macrocytic (0.9%) in the population. The common red cell abnormalities with >5% significance were acanthocytes and pencil cells (6.9%).

Conclusions: Prevalence of anaemia increased significantly with advanced CKD stages ($\chi^2=8.053$, $p=0.005$). Factors with significant association with anaemic status and CKD stage were EPO usage and dialysis treatment ($p<0.01$). Further research is crucial to assess the burden of anaemia among CKD patients in Sri Lanka in order to develop policies in effective anaemia management strategies.

PP52

Serum vascular endothelial growth factor A (VEGF-A) protein levels and VEGF A gene expression in Oral Squamous cell Carcinoma

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Background: Oral squamous cell carcinoma (OSCC) is the sixth most common cancer around the world. Tumour growth depends on angiogenesis triggered by chemical signals from tumour cells. Vascular endothelial growth factor (VEGF) is a known angiogenic factor.

Objectives: To determine the correlation of the levels of serum VEGF-A protein and VEGF-A gene expression with histological degree of differentiation in OSCC patients attending Apeksha Hospital, Maharagama.

Methods: Thirty histologically confirmed primary OSCC patients and 30 age sex matched controls were included in the study. VEGF-A serum protein levels were determined using VEGF-A ELISA based on manufacturer’s instructions. The results were compared with the results of VEGF-A gene expression obtained for the same patients using quantitative real time PCR.

Results: Serum VEGF-A concentration of the patients varied from 101.60-2,518.25pg/ml and 96.19–529.77pg/ml among controls. The median and inter quartile range of VEGF-A concentration among the patients was 317.93pg/ml (218.86–740.11) and 235.12pg/ml (183.51–315.46) among controls. The mean relative quantification of VEGF-A gene expression among patients were 2.31 fold higher compared to the control group. Among the patients 18 had well-differentiated, 8 had moderately differentiated and 4 had poorly differentiated OSCC. The well differentiated OSCC patients’ serum VEGF-A levels varied from 101.63–523.96pg/ml. The median was 250.65pg/ml (175.06–310.37). The VEGF-A gene expression was 1.6 fold increased. The moderately-differentiated OSCC patients serum levels varied from 249.84–1430.93pg/ml had a gene expression of 1.97 fold increment and the median was 745.45pg/ml (365.37–938.18). Poorly differentiated OSCC serum levels varied from 437.51–2518.52pg/ml with a median 1702.6pg/ml (726.86–2336.8) and VEGF-A gene expression of 3.64 fold increment compared to control population.

Conclusions: Serum VEGF-A was elevated in OSCC patients. The serum levels of VEGF-A correlate and are comparable with the VEGF-A gene expression. Higher the histological differentiation of OSCC, lower the VEGF gene expression and the VEGF serum concentration.

Acknowledgement: University of Sri Jayewardenepura grant (Grant no ASP/01/RE/2016/46, Grant no ASP/01/RE/2017/62, Centre for Cancer Research (Grant No- 003/17)

PP53

Hepatoblastomas in Sri Lanka: A retrospective analysis

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Background: Hepatoblastoma is the commonest primary liver tumour among the paediatric population but the statistical data regarding hepatoblastomas are minimal in Sri Lanka.

Objectives: The aim of this research was to study the histo-clinico-pathological description of hepatoblastomas in Lady Ridgeway Hospital.

Methods: A retrospective analysis of all children presenting with hepatoblastoma to Lady Ridgeway Hospital for Children from 2016 to 2018 was carried out. Data was extracted from histopathological reports and request forms, patient summary records prepared for Multi-disciplinary meetings (MDT forms) and cancer registry of LRH from patients presented during the period of 2016 to 2018. Study was conducted from March to May 2019. Ethical approval was obtained from the Ethics Review Committee of LRH. The data was analysed using SPSS (Statistical Packages for the Social Sciences) software version 22.

Results: A total of 23 patients were diagnosed with hepatoblastoma accounting for 11.1% of all solid paediatric tumours. The majority were boys (69.5%) from Western

province (30.4%) belonging to the 1-5 year age group (56.5%). Mean age of the patients was 2 years and 5 months. The commonest symptoms the patients had presented with were non-tender mass, pain and fever (13.0% each). There's a high predilection for hepatoblastomas to metastasize into the lung. The majority (47.8%) of patients have undergone surgical resection of tumour with chemotherapy during the study period whereas the information on chemotherapy was not available in 13.0%. Biopsy had been performed in 33.3% of the hepatoblastoma patients. Ten patients (42.8%) had clear resection margins. Out of the patients diagnosed to have hepatoblastomas 4.8% had metastases when the primary tumour was diagnosed.

Conclusions: Hepatoblastomas were the fourth most common solid tumour diagnosed among the study population and the third most common intra-abdominal tumour in Sri Lankan children.

PP54

Wilm’s tumour in Sri Lankan children: A single center experience

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Background: Nephroblastoma is one of the main solid organ cancers which prevails among Sri Lankan children. Local statistics regarding Nephroblastoma are minimal.

Objectives: To study the histo-clinico-pathological description of nephroblastoma at Lady Ridgeway Hospital.

Methods: An institutional based retrospective study using data available from 2016 to 2018.

Results: Nephroblastoma prevalence calculated from the study population was (17.8%). The majority of patients were girls (59.5%) from western province (32.4%) belonging to the 1-5 year age category (67.6%). The commonest presentation was a nontender, intraabdominal mass (29.7%). 27% of tumours were detected incidentally. They were commoner on the left side (59.38%) while 12.5% of the tumours being bilateral. Out of the radiological investigations, CT has been used in 96% of the cases and MRI in 4%. 48.5% of the patients with nephroblastoma had undergone chemotherapy prior to surgical resection while 61.3% had undergone surgical resection only. Biopsy had been performed in 38.7% of the nephroblastomas. Out of the

resected 53.3% had clear margins. Only 21.42% of the nephroblastoma specimens had lymph nodes harvested at the time of nephrectomy. Out of the patients diagnosed to have nephroblastomas 11.4% had metastases at the time of primary tumour diagnosis. Most of the secondaries were found in the lungs.

Conclusions: Nephroblastoma was the second most common tumour found in the study population. Lymph node sampling at the time of primary surgery in our population is very low which would have long term implications such as tumour recurrence.

PP55

Cyclo-oxygenase 2 inhibitory activity of *Psychotria sarmentosa* leaves used in traditional porridge in Sri Lanka

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Background: Inflammation and pain underlie almost every disease process and chronic inflammatory diseases remain one of the world’s major health problems. Cyclooxygenase-2 (COX-2), catalyzes the formation of PGE₂ associated with intensifying inflammatory and pain response. *Psychotria sarmentosa* (“Gonica” in Sinhala) leaves have been used for centuries in Sri Lankan folk medicine for the treatment of inflammatory diseases.

Objective: All of our previous findings contributed to solicit the anti-inflammatory activity of this plant. As COX-2 is a key enzyme in the inflammatory phenomenon, the inhibition of COX-2 activity directly contributed to the anti-inflammatory activity. Hence, an attempt was made to evaluate inhibition of COX-2 level by leaf extract of *P. sarmentosa* on carrageenan-induced rat hind paw oedema model as a mechanism of anti-inflammatory action, in the present study.

Methods: Healthy adult male, Wistar rats (150-200 g) were used for the experiment (n=6/group). The protocol was approved by the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura (No. 35/15). The negative

and positive control groups were orally administered with 1.0 mL of distilled water and indomethacin (5 mg / kg b. w.) respectively. The test group received a dose of 100 mg /kg b. w. of aqueous extract of *P. sarmentosa* leaves (AEPL) which was found to be the most effective dose during the studies on acute anti-inflammatory activity. The serum COX-2 levels in carrageenan-induced rats were assessed using a specific rat ELISA kit.

Results: Treatment with 100 mg/kg b. w. of AEPL significantly ($p < 0.05$) inhibited the COX-2 level as compared to the negative control. It was 368.3 ± 59.3 ng/L in AEPL treated group whereas it was 811.7 ± 56.3 ng/L for negative control. COX-2 level for indomethacin treated group was 278.3 ± 68.6 ng/L.

Conclusion: Hence, the present study has demonstrated that the AEPL has COX-2 inhibitory activity, which may be contributing to its anti-inflammatory effect, the findings justify the traditional use of this plant in the treatment of various types of inflammation.

Acknowledgement: The authors are grateful to World Class University Project grant (Ph. D./15/2012), University of Sri Jayewardenepura.

PP56

Development of an optimized protocol for human DNA extraction and PCR amplification of the CtsK gene for downstream development of biopharmaceuticals, enzyme inhibitors and inducers for Cathepsin K

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Background: Cathepsin K, encoded by *CtsK* gene involves in bone remodelling through ossification. Despite this orthopaedic importance, it demonstrates physiological importance including metastasis of prostate, ovarian and breast cancers. It is a timely concern that inhibitors or inducers that stimulate or inhibit activity of Cathepsin K are brought to arena of pharmaceuticals with the recombinant production of Cathepsin K.

Objectives: To develop an optimized protocol for isolation of DNA from human blood and PCR amplification of *CtsK* gene facilitating downstream production of Cathepsin K biopharmaceuticals by molecular characterization of *CtsK* gene.

Methods: Genomic DNA was extracted from 04 human blood samples using FlexiGene®-QIAGEN®, subjecting blood to action of cell lysis, denaturation and resuspension buffers. Incubation times and number of 70% ethanol washing times were increased and spectrophotometric absorbency was measured. PCR amplification of *CtsK* gene using primers 5'ACGCGTCGACTTAATTCATGGTTAGTTCCCC'3 and

5'ACGCAAGCTTGGTCATGCCAGATTACATATG C'3 was done. PCR conditions were optimized; 94°C initial denaturation, 94 °C denaturation, 55 °C annealing, 72 °C elongation, 72 °C final elongation and 4 °C final hold for 3 minutes, 30 seconds, 30 seconds, 40 seconds, 5 minutes and infinite respectively.

Results: Accordingly, all DNA samples showed a concentration of nearly 500ng/μl while for purity, A₂₆₀/A₂₈₀ ratio for DNA was revealed to be between 1.7 and 1.8 while A₂₆₀/A₂₃₀ was revealed to be between 1.7 and 2.2, reflecting good purity. As a result of PCR, a band of size 550bp was generated in 1.5% TAE-agarose gel, which was verified to be a catalytic domain of Cathepsin K by previous literature that could now be directed towards cloning followed by expression.

PP57

Effects of *Azadirachta indica*, *Mimosa pudica* and *Thespesia populnea* against Diabetic Complications through Glycation Inhibition

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Background: Diabetes mellitus is a chronic disease characterized by hyperglycemia. A prime mechanism leading to diabetic complications is accelerated protein glycation, where protein cross-linking occurs towards latter stages.

Objectives: The study aimed to investigate glycation-induced protein cross-linking inhibitory effects of some medicinal plants using a novel method with SDS-PAGE.

Methods: Sonicated and boiled water extracts of selected plants, namely, *Azadirachta indica* (Kohomba) bark and leaf, *Mimosa pudica* (Nidikumba) whole plant and *Thespesia populnea* (Gansuriya) bark were prepared. Lysozyme and fructose were incubated at 37°C and pH 7.4 in the presence of extracts at concentrations of 0.01% and 0.02% (w/v) and standard glycation inhibitor aminoguanidine (AG), separately. Appropriate controls were also used. SDS-PAGE was used to detect protein cross-linking products in the incubation mixtures at days 7 and 21.

Results: High molecular weight products were observed in the negative control (fructose present; AG and extract absent), indicating the occurrence of protein cross-linking. The positive control (AG) showed no

such products, confirming inhibition of glycation. The degree of protein cross-linking can therefore be determined by observing the intensity of bands formed. At day 7, both boiled and sonicated Gansuriya extracts, and boiled Nidikumba extract, showed inhibition of protein cross-linking at all concentrations, as the band patterns were similar to that of the positive control. Sonicated Nidikumba extract showed inhibition to a slightly lesser degree at 0.02% only. Kohomba extracts showed no inhibition, having bands similar to that of the negative control. At day 21, Gansuriya extracts still showed inhibition, with it being even higher than AG. Nidikumba showed almost no inhibition at all concentrations.

Conclusion: The results provide evidence for strong antiglycation effects of Gansuriya bark water extracts. The observed inhibition by boiled extracts indicates heat stability and thus shows potential to be used as a home remedy for preventing diabetic complications.

PP58

Knowledge and practices on modified release tablets among hospital pharmacists.

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Background: Modified release (MR) dosage forms are novel drug delivery systems that offer numerous advantages but also associated with potential safety hazards. Hence healthcare professionals need to be adequately knowledgeable on using MR forms.

Objectives: To evaluate knowledge and practices on the use of MR tablets among hospital pharmacists.

Methods: This was a prospective, multi-centric study conducted at nine tertiary care hospitals in Colombo district within a period of six months. All hospital pharmacists were assessed using a pre-validated, interviewer administered questionnaire and three mock prescriptions. The questionnaire contained assessment criteria in relation to knowledge and practices associated with MR tablet use. The prescriptions contained correct and incorrect doses of MR tablets to assess routine practices among pharmacists.

Results: Among a total of 187 pharmacists, most were women, (67.9%, 127/187) and belonged to the age group 26-35 (42.2%, 79/187). Only 4% (7/187) of pharmacists accurately expanded all provided abbreviations (SR, DR etc.) used for various MR tablet types, and 8% (15/187) provided correct definitions for each abbreviated type. Pharmacists identified, difficulty to reverse

overdoses (86.1%, 161/187), inability to split tablets (82.4%, 154/187), and risk of dose dumping (81.8%, 153/187) as the major disadvantages associated. When the prescribed strength of a MR tablet is not available in the pharmacy, the majority (93.0%, 174/187) opted to refer patient back to the doctor, and 7% (13/187) opted to dispense the corresponding immediate release tablet instead of MR tablets. A minority (1.6%, 3/187) recommended crushing of the available strength. A few (3.2%, 6/187) were uncertain about the proper action to take. The mock prescriptions revealed that 6.7% (13/187) opted to break tablets to obtain the relevant strengths.

Conclusions: There is a clear gap of knowledge and practices on MR tablets among hospital pharmacists. The need for continuous educational training programs for pharmacists is highly essential to ensure safe practices related to dispensing of MR tablets.

PP55

Cytotoxicity of bacterial synthesized silver nanoparticles and yeast mediated TiO₂ nanoparticles

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Background: Nanoparticles(NPs) have unique physicochemical properties facilitating clinical applications. Their therapeutic value depends on cytotoxicity of the nanoparticles to ensure human and environmental safety.

Objectives: To compare the invitro cytotoxicity of biosynthesized and chemically synthesized TiO₂ NPs and silver(Ag) NPs on two mammalian cell lines; Monkey Kidney Normal (Vero) and Human Rhabdomyocarcinoma (RD).

Methods: *Pseudomonas aeruginosa* ATCC 27853(P-AgNPs), *Escherichia coli* ATCC 25922(E-AgNPs), *Staphylococcus aureus* ATCC 25923(S-AgNPs), and *Acinetobacter baumannii* (confirmed clinical isolate)(A-AgNPs) were used to synthesize AgNPs. TiO₂ NPs were synthesized using Bakers' yeast(Y-TiO₂). As controls, chemically synthesized AgNPs (C-AgNPs) and TiO₂ NPs(C-TiO₂ NPs) were used. The in vitro cytotoxicity was studied using MTT assay and DNA fragmentation. Effective concentrations of NPs to achieve 50% cell death(EC50) were obtained,

Results: A dose-dependent cytotoxicity was observed by MTT assay after both Vero and RD cell lines were treated with NPs. The EC50 values for Vero cells were 200 µg/ml, 102.18 µg/ml, 36.53 µg/ml, 91 µg/ml, 49.7 µg/ml, 4.60 mg/ml and 5.53 mg/ml for A-AgNPs, E-AgNPs, P-AgNPs, S-AgNPs, C-AgNPs, Y-TiO₂ and C-TiO₂ NPs respectively. A-AgNPs, E-AgNPs, P-AgNPs, S-AgNPs, Chemical AgNPs, Y-TiO₂ and chemical TiO₂ NPs had EC50 values for RD at 10.95 µg/ml, 13.93 µg/ml, 37.86 µg/ml, 20.80 µg/ml, 87.26 µg/ml, 13.28 mg/ml and 9.88 mg/ml respectively. DNA fragmentation was clearly observed in RD cells treated with the positive control and a weak banding pattern was observed in cells treated with biosynthesized NPs and chemically synthesized NPs. In contrast, fragmented DNA was not observed in Vero cells treated with negative control, positive controls (1 mM H₂O₂, 25 µg/ml Cycloheximide) or NPs.

Conclusions: A-AgNPs and TiO₂ NPs showed minimum cytotoxicity in Vero cell line. Further, A-AgNPs and E-AgNPs had the strongest anticancer potential. Y-TiO₂ NPs and bacteria mediated AgNPs have demonstrated promising results for further investigations as novel therapeutics.

Acknowledgement: This study was supported by the University of Sri Jayewardenepura and National Science Foundation of Sri Lanka under the research grant No: ASP/01/RE/MED/2017/30 and NSF/SCH/2018/09.

PP60

Evaluation of the acute anti-inflammatory effect of the novel herbal ointment, “Jivadah” using carrageenan induced oedema model in Wistar rats.

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Background: The novel herbal ointment, “Jivadah” consists *Alpinia galanga*, *Areca catechu*, Capsaicin, menthol and Camphor as key ingredients. Since previous studies have observed the anti-inflammatory action of the ingredients separately, this study was conducted to evaluate the overall acute anti-inflammatory activity of the novel ointment using carrageenan induced rat oedema model. Carrageenan acts as an irritant which cause temporary inflammation at the site of the injection.

Objective: To determine the acute anti-inflammatory effect of the novel herbal ointment, in carrageenan induced rat paw oedema model.

Method: Initial paw volumes of each rat (Normal control group (n=6), test group (n=6)) were measured. 0.1ml of 1% carrageenan was injected to the left hind paw of each rat. The ointment was applied to the left hind paw of the test group rats while the normal control group received only the base of the ointment. Volume of the injected paw was measured 1,2,3,4 and 5 hours after the injection. Paw oedema and percentage inhibition of oedema was calculated in each rat at each hour.

Results: Test group showed significant reduction of oedema (P = 0.044) at 95% confident interval compared to the normal control group and 36.36% inhibition of oedema after 5 hours of injection. In both normal control and test groups oedema was ceased completely within 18-24 hours.

Conclusion: Novel herbal ointment “Jivadah” exerts significant acute anti-inflammatory effect in Wistar rats. Further investigations should be carried out to reveal the acute anti-inflammatory mechanism of novel ointment.

Acknowledgement: Fairway Bio Tech (Pvt.) Ltd. Company for financial support throughout the study.

PP61

Paediatric neurology patients: Parental awareness of adverse effects of long term corticosteroid therapy

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Background: Corticosteroids are potent medications used to treat in many inflammatory conditions in paediatric neurology practice. Although corticosteroids are beneficial, their adverse effects may be numerous and vary. As parents are the primary caregivers of paediatric patients, assessing their awareness is timely important.

Objective: To determine the parental awareness on adverse effects of corticosteroid therapy in paediatric neurology patients in the neurology unit at the Lady Ridgeway Hospital, Colombo.

Methods: In this descriptive cross-sectional study, 300 parents of paediatric neurology patients on long-term corticosteroid therapy in the paediatric neurology unit were included. The study sample was drawn by the convenience sampling technique. Parents were volunteered for the study and signed informed consent. Ethical approval was obtained from the ethics review committee of the same hospital. Data were collected using content validated, pre-tested self-administered questionnaire from January to March 2018.

Results: Of the total parents, the majority were mothers (87%, n=262) and more than 70% (n=211) of them completed their

secondary education. Findings demonstrated that parents had average awareness about adverse effects of long-term steroid therapy including child's susceptibility to infections (69.0%, n=207), increase blood glucose levels (69.7%, n=209), moon face (60.3%, n=181), central obesity (60.3%, n=181), increase blood pressure levels (58.0%, n=174) and irritability (50.3%, n=151) while poor awareness on adverse effects include buffalo humps (26.7%, n=80) increase fracture tendency (24.3%, n=73), tarry colour stools (24.3%, n=73), vision impairment (24.0%, n=72), glaucoma (17.3%, n=52), cataract (16.0%, n=48) and delayed wound healing (23.0%, n=69). According to the findings, overall parental awareness of adverse effects was found to be low (38.24 ± 20.57).

Conclusions: Since parental awareness of the adverse effects of long term corticosteroid therapy is inconsistent, special attention is needed to plan and implement appropriate awareness sessions.

PP62

Ketoprofen transdermal emulgel system formulated with Aloe vera gel base

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Background: Plant Aloe vera offers numerous medicinal values and exhibit penetration enhancement properties. Emulgels is a combined dosage form of emulsions and gels. Ketoprofen, hydrophobic drug can be delivered through the skin.

Objectives: To formulate an anti-inflammatory emulgel system using Aloe vera gel-base.

Methods: Gelling component was extracted from fresh Aloe vera leaves. The gel was prepared by mixing Aloe vera gel extract with carbopol 940 .Tween 20 and Tween 80 were used as emulsifiers. The strength of all Ketoprofen gel formulations was 2.5% w/v. The Emulgels were prepared using various combinations of carbopol and Aloe vera extract. Sesame oil used as a permeation enhancer. Methyl paraban and propyl paraben used as preservatives. Prepared Emulgels were evaluated in terms of physical parameters (pH, Viscosity, spreadability), UV absorption, microscopic appearance and accelerated stability.

Results: Percentage yield of Aloe vera gel extract was 34.0 ± 2.5 % w/w. Out of 6 formulations, three formulations (F4, F5, F6) was acceptable with pH 5.71 ± 0.0093 viscosity

6160 ± 675 cps and spreadability 11.5 ± 0.54 g.cm/sec, Microscopic evaluation of emulgel was shown as oil- in water type emulsion entrapped in a gel matrix. UV absorption was at 259nm λ_{max} . Accelerated stability study proved the emulgel was stable up to 60°C.

Conclusions: Ketoprofen emulgel formulations (F4, F5, F6) were stable with respect to physical parameters and microscopic appearance. The optimum formula of Ketoprofen emulgel needed to be selected after conducting real-time stability studies.

PP63

Screening of in vitro antimicrobial activity of seaweed, *Hypnea musciformis*

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Background: Seaweeds are considered as a rich source of bio-active compounds as they are able to produce a great variety of secondary metabolites characterized by a broad spectrum of biological activities including antimicrobial property. However in contrast to terrestrial plants, only a few studies have reported antimicrobial activity of seaweeds.

Objectives: The objective of the study was to determine antimicrobial activities of three different solvent extracts (hexane, methanol and aqueous) of *Hypnea musciformis*.

Methods: *H. musciformis* were collected from the Trincomalee coast (8.5711 °N, 81.2335 °E) and were tested against two human pathogenic gram-positive bacteria (*Staphylococcus aureus* ATCC 25923, *Bacillus* sp.) and two human pathogenic gram-negative bacteria (*Escherichia coli* ATCC 25922, *Pseudomonas aeruginosa* ATCC 27853) using agar disc diffusion method and bio-auto-chromatography assay. The Minimum Inhibitory Concentration (MIC) and Minimum Bactericidal Concentration (MBC) were determined using 96 well plate broth microdilution method. Thin layer chromatography was carried out for identification of antibacterial active

compounds in methanol crude extract. Secondary phytochemical screening was done using TLC spray reagents to identify the antibacterial active chemical compound class.

Results: The highest antibacterial activity was recorded in methanol crude extract against *S. aureus* with a 20.25±1.70 mm mean diameter of inhibition zone. No antifungal activity was detected against tested human pathogenic fungi species *Candida albicans* and *Candida tropicalis*. The lowest MIC and MBC against *S. aureus* were 12500 mg/L and 25000 mg/L respectively.

Conclusions: The study emphasizes the importance of isolating and examining individual bioactive compounds present in *H. musciformis* for future research as it has revealed antibacterial activity.

PP64

Phytochemical screening, acute hypoglycaemic and toxicity assessment of a selected combined medicinal plant extract mixture

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Background: Morbidity and mortality due to diabetes mellitus have been considered as a major public health problem in Sri Lanka over the last two decades. Many oral antidiabetic agents, such as meglitinides, biguanides etc. have recorded considerable side effects. Thus, there is an increasing necessity of natural products with high antidiabetic potential and lesser side effects. The research have shown that plants and plant-based therapies have high potential to treat diabetes mellitus over the last two decades.

Objectives: To evaluate hexane, ethyl acetate and methanol extracts of combined plant mixture composed of *Murraya koenigii*, *Allium sativum*, *Garcinia quaesita*, *Piper nigrum* for screening of phytochemicals, acute hypoglycaemic activity in vivo and for oral toxicity and adverse effects.

Methods: Presence of phytochemicals was evaluated using standard test procedures. Acute hypoglycaemic activity was performed using oral glucose tolerance test for healthy Wistar rats and it was assessed through total oral glucose tolerance curve (TAUC) values. Acute toxicity assessment was performed according to the Organization of Economic Co-operation and Development (OECD) guidelines, using healthy Wistar rats.

Results: Preliminary phytochemical screening of the extract mixture revealed the presence of alkaloids, tannins, flavonoids, steroids and triterpenoids. The TAUC values for hexane, ethyl acetate and methanol extracts treated rats were 2.55 ±0.21; 2.74 ±0.21; 2.98 ±0.40 mmol/L.h respectively, where as in control rats the TAUC value was 3.54 ±0.49 mmol/L.h. However, the reduction in serum glucose concentration achieved for all the extracts of combined plant mixture treated groups is not statistically significant (p>0.05) compared to healthy untreated control rats. The acute toxicity assessment showed that the combined plant extract mixture did not lead to adverse changes in the behavior throughout the experimental period in healthy Wistar rats.

Conclusions: The findings of this study suggested that combined plant mixture is safe as a therapeutic agent and future studies will be focused on its antidiabetic potential.

Acknowledgement: National Research Council (NRC/17/033) for financial assistance.

PP65

Antimicrobial activity of acemannan-silver nanoparticle assembly

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Background: Acemannan, the main active ingredient in the Aloe vera gel, is a polysaccharide which is being used in traditional medicine for many of its biological actions. Apart from its direct medicinal significances, acemannan is a potential compound to be used as a reducing and stabilizing agent to synthesize nanoparticles, especially, silver nanoparticles.

Objectives: The objective of this study is to determine the potency of acemannan-silver nanoparticles (Ac-AgNPs) assembly as a novel antimicrobial agent.

Methods: Acemannan was extracted from Aloe vera gel using alcohol precipitation method. Ac-AgNPs were prepared at room temperature using acemannan as the reducing and stabilizing agent and silver nitrate as the metal precursor. Antimicrobial activity was determined using well diffusion method against *Pseudomonas aeruginosa* (ATCC 27853), *Escherichia coli* (ATCC 25922), *Acinetobacter baumannii*, *Staphylococcus aureus* (ATCC 25923) and *Candida albicans* (ATCC 10231).

Results: Acemannan was a white precipitate with a low yield. The FT-IR studies confirm the presence of acemannan in the precipitate.

The formation of Ac-AgNPs was observed by the appearance of the plasmon peak at 413 nm wavelength in UV-Visible spectrum. Ac-AgNPs exhibited mean zones of inhibition against *P. aeruginosa* (14.7 mm), *E. coli* (12.7 mm), *A. baumannii* (12.3 mm), *S. aureus* (13.0 mm) and *C. albicans* (19.2 mm).

Conclusions: Synthesized Ac-AgNPs showed moderate inhibition against *P. aeruginosa*, *E. coli*, *A. baumannii* and *S. aureus*. Strong inhibition of *C. albicans* suggests that the Ac-AgNPs assembly has a solid potency as an anti-candida agent.

Acknowledgement: University Grant ASP/01/RE/SCI/2017/19 (University of Sri Jayewardenepura)

PP66

The use of internet for medical purposes by non-medical Sri Lankan personnel between the ages 20-50 years

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Background: The rapidly developing field of Information and Communication Technology (ICT) has a profound impact on every aspect of life of modern man, and health care is no exception.

Objectives: This research focuses on who is most likely to use the internet for health care, the wide variety of medical purposes served by the internet and the attitude of users towards the information found.

Methods: A self-administered questionnaire for a descriptive cross sectional study was distributed among 200 males and females of executive grade and above in the age group of 20-50 years in selected private and government companies in Colombo district, Sri Lanka. Chi square test was used for analysis.

Results: Out of 91.5% of respondents who use the internet for medical purposes an association was observed ($p < 0.05$) between their age and educational level. Out of those who have used the internet for medical purposes 75.9% belonged to the lower age group of 20-30 years, 16.3% were of the 31-40 age group and 7.6% belonged to the 41-50

age group. Those educated up to graduate level had used the internet more for medical purposes at 76.5% while 23.4% of users were educated only up to A/L. There was no such association for gender or occupational level. Males had used the internet more for medical purposes with 65.5% of users being of the male gender and 34.4% being of the female gender. Considering the occupation level 75.9% of users were of a junior executive level and 24.04% were of a senior executive level. The highest percentage (83.0%) of people who used the internet for medical purposes were found to have done so to find additional information regarding an illness followed by searching for side effects of a prescribed drug (78.0%) and determining an illness (76.5%). Only 23.5% of the respondents had a poor attitude regarding the information found while the rest said it was fair, good or very good.

Conclusions: People of a higher educational level and a younger age group tend to use the internet for medical related purposes more. The most common reason they referred to the internet was to gather additional information regarding an illness which suggests that people no longer rely merely on information provided by a medical personnel. A majority of people who use internet for medical purposes have a positive attitude towards its use. Therefore Medical personnel should recognize that this will invariably change the way patients perceive and accept their advice and treatment and make necessary changes to provide good, wholesome healthcare.

PP67

Learning preferences among allied health undergraduates in a selected state university, Sri Lanka

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Background: Each individual has a different learning style. Understanding student learning styles may help their instructors to select appropriate teaching styles. There are limited data regarding learning preferences of allied health undergraduates in Sri Lanka.

Objectives: To determine learning preferences among allied health undergraduates in a selected state university in Sri Lanka.

Methods: A descriptive cross-sectional design was used among conveniently selected (n=220) allied health undergraduates at the Department of Allied Health Sciences, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka. Data was obtained through a pre-tested (n=10), self-administered questionnaire which includes two parts: A- socio-demographic questionnaire and B- Visual, Aural, Read/write and Kinesthetic (VARK) questionnaire version 7.8 to measure their preferred learning styles. Descriptive statistics were used to analyse the data. Ethical approval was obtained from the Ethics Review Committee of the Faculty of Medical Sciences, University of Sri Jayewardenepura and relevant authorities.

Results: A total of 220 undergraduates participated in this study. The majority of the participants were female (71.4%) and most belonged to 20 -29 year of age (83.2%).

Majority were from B.Sc. Medical Laboratory Sciences (37.3%) followed by Bachelor of Pharmacy (32.7%) and B.Sc. Nursing (30%). The majority (79%) preferred unimodal while remaining had multimodal (21%) learning preference. Among unimodal learning preferences, most of the participants had auditory learning preference followed by reading (18.6%), visual (15%), kinesthetic (10%). An auditory learning style was the most common learning preference among participants from all three types of undergraduates.

Conclusions: The most preferred learning style among allied health undergraduates was auditory learning style. Findings may be useful for the participants and their instructors for awareness on undergraduates' preferred learning styles.

PP68

Analysis of laboratory errors in a tertiary care reference laboratory in Sri Lanka

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Background: Lanka Hospital Diagnostics (LHD) is an ISO 15189:2012 accredited tertiary care private laboratory, equipped with sophisticated equipment's and continuous supervision by five full-time pathologists offering general and specialized tests in seven different disciplines. In addition to ISO the laboratory has upgraded with international accreditation standards such as Joint Commission International Accreditation and College of American Pathologist.

Objectives: To Identify the basic deficiencies of existing laboratory processes and implementation of specific corrective and preventive actions. To identify knowledge and communication gaps to educate the laboratory staff.

Methods: Laboratory error incidents received from internal and external customers for the year 2018 were documented in quality improvement forms and non-conformity forms. Incidents received in verbal and written mode from external customers were documented by the quality assurance team and deficiencies detected during routine processes were self-documented by the laboratory staff and pathologists. Root cause analysis was done and corrective and preventive actions were taken accordingly.

Results: A total of 142 incidents were documented in 2018. Out of those, 31(21%) were pre-pre analytical errors, 50 (35%) were pre-analytical errors, 14 (9.8%) were

analytical errors, 22 (15.4%) were post-analytical errors and 10 (7%) post-post analytical errors. There were 15 (10%) incidents identified as systemic issues. In comparison to total number of test performed in the laboratory for 2018 the error rate was 0.01%.

Conclusions: The percentage of pre analytical, analytical and post analytical errors were similar to studies done globally. Identifying laboratory errors in each phase and taking corrective actions have prevented adverse incidents which would have seriously impacted on patient health and safety. The analysis also aided in identifying staff educational needs. This study assisted the laboratory as a quality improvement tool and it can be a role model to other laboratories seeking for quality improvement.

PP69

The perception on team based learning among physiotherapy and occupational therapy students in Colombo, Sri Lanka

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Background: Team-based learning (TBL) is a well-defined, student centred instructional strategy that purportedly engages students in active learning and critical thinking. TBL make students to prepare with information learned from completing clearly communicated, pre-class assignments to solve real world problems in permanent, predetermined work teams.

Objectives: This study was developed in order to determine the perception on TBL among physiotherapy and occupational therapy students of school of physiotherapy and occupational therapy, Colombo, Sri Lanka.

Methods: This was a descriptive cross sectional study. Sample size was 60 with 30 students from each physiotherapy and occupational therapy groups. Data collection was done after a TBL session on respiratory mechanisms. Data collection was done using three self-administered questionnaires: socio-demographic questionnaire, Team Based Learning Subscale (TBLS) which assessed student's preference on TBL and students satisfaction subscale (SSS) in which

students feeling /attitudes on TBL was assessed.

Results: Both TBLS and SSS showed a positive response. Results of TBLS recorded as 2.2%-3.9 % (95%) above the neutral score of 48 giving positive preference on TBL. SSS recorded as 15.0%-16.4% (95%) above the neutral score of 27 giving positive feelings/attitudes on TBL among both physiotherapy and occupational therapy students groups respectively. There was not any significant difference of TBLS and SSS (P value > 0.05) in two groups. Further there was a significant correlation (P < 0.05) between TBLS and SSS in occupational therapy student group and the whole population but not in the physiotherapy student group.

Conclusions: There was a positive perception among physiotherapy and occupational therapy students on TBL with significant linear relationship among preference and attitudes/feelings in TBL in the occupational therapy group.

PP7

Assess the effectiveness of the intervention in improving the accessibility of publications made by the department of nutrition in Medical Research Institute(MRI) among medical professionals in Sri Lanka

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Background: Access of medical professionals to a credible source for nutrition-related publications, would enhance the awareness and improve the quality of practices among them. This would facilitate the promotion of the nutritional well-being among the public.

Objectives: To assess the effectiveness of the intervention in improving the accessibility of publications made by the department of nutrition in Medical Research Institute(MRI) among medical professionals in Sri Lanka.

Methods: The project included a qualitative component done with Key Informant Interviews (KIIs) and an institution-based interventional study. Information technology-based digital library for the nutritional-related documents of MRI nutrition unit was developed as an intervention. This was developed after having Key Informant Interviews with supervisory level staff and MRI-related stakeholders. It was then tested for effectiveness among medical professionals. Hundred and seventy medical professionals were randomly selected from post graduate trainees in Post Graduate Institute of Medicine. Pre and post intervention results were analysed using Chi square test.

Results: Only 10% of participants had accessed MRI website prior to the intervention. The project significantly improved the participants' awareness of the MRI website ($P < 0.05$). It further improved accessing MRI website for nutrition related publications ($P < 0.001$), availability of nutrition related publications in MRI ($P < 0.001$) and searching of nutrition-publications as a whole ($P < 0.05$). Additionally, this improved the satisfaction of the participants on the quality of the website.

Conclusion: This intervention has been proven to be effective in promoting the awareness and practices of the participants on searching for medical literature on nutrition and recommended to other related institutions for the benefit of the medical professional and for the community.

PP71

Are women satisfied with the re-engineered OPD service through Hospital Information management System (HIMS) and its effect on the doctor-patient relationship? A descriptive study done at a major women’s hospital in Sri Lanka

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Background: Health information management is one of major pillars in a health system which improves health service effectiveness and efficiency. Electronic Health Information Systems (eHIS) are known to improve the health information management. The tertiary care hospital under this study has implemented Hospital Information Management System (HIMS) as an eHIS. It is essential to assess the patient perception towards re-engineered OPD services through HIMS.

Objectives: To describe patient satisfaction on re-engineered OPD services after implementing the HIMS and to describe the extent of patient satisfaction towards doctor-patient relationship.

Methods: A descriptive cross-sectional study was carried out among OPD patients over 18 years old, using consecutive sampling. An interviewer-administrated questionnaire was used at the OPD registration counter, waiting area and consultation. Quantitative data was analyzed using SPSS-V23 and qualitative data was analyzed using RapidMinner.

Results: All 362 participants were aged between 18-83 years. At registration counter, 98% were satisfied regarding Personal Health Number (PHN) and 86% were satisfied regarding the method of obtaining OPD number. In the waiting area, 99% were satisfied regarding displaying OPD numbers, 96% expressed that it should be announced. Overall OPD Service satisfaction was 99.7%. All comments regarding OPD services after HIMS implementation were ‘positive’. Majority of respondents mentioned that the displayed information should be in all three main languages. At the consultation area, 98% were satisfied with attention given by the doctors, 97% were expressed that computers didn’t negatively affect doctor patient relationship while 65% mentioned that the HIMS implementation improves it.

Conclusions: Majority were satisfied with the overall re-engineered OPD service and HIMS implementation has improved the doctor-patient relationship. Provide information in all three languages while announcing the patient’s OPD number at the waiting area to be considered in future implementations.

PP72

Non-simulator-based techniques in teaching direct ophthalmoscopy for undergraduate medical students: a systematic review

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Background: Ophthalmological pathologies are commonly encountered in general clinical practice; thus, every medical professional must acquire the skills in direct ophthalmoscopy. Non-simulator-based examination methods of the fundal examination have shown to be cost-effective.

Objectives: This study aimed to discuss the different non-simulator-based direct ophthalmoscopy techniques used in undergraduate curricula and their outcomes.

Methods: A systematic review was conducted according to the PRISMA guidelines following PROSPERO registration (No: CRD42019122427). PubMed (MEDLINE) and Cochrane Database of Systematic Reviews were searched using standard MeSH (Medical Subject Heading) terms ophthalmoscopy, medical education, undergraduate medical education, medical student, educational assessment and learning. The search included publications until 28th February 2019. We excluded simulator-based studies. English language was set as a search limit. Two reviewers independently retrieved data and a third reviewer checked accuracy of retrieval.

Results: We found 122 hits in the initial search and included additional 2 articles after

the manual search. We obtained 34 articles after screening abstracts; of them, 12 articles were included in the qualitative synthesis. The studies were comprised of diverse teaching methods which included fundal photograph matching with corresponding eye, continuous education using community-based eye clinics, formal instructions and demonstrations prior to skills training, ophthalmoscopy skills practice using eye pathologies, teaching versus conventional ophthalmoscopy and group-based teaching.

Conclusions: Non-simulator-based techniques such as use of fundal photograph matching of an eye of a volunteer, introduction to eye pathologies, smaller student groups and formal instructions with video demonstrations prior to skills training were highly effective in teaching direct ophthalmoscopy for undergraduate medical students.

PP73

The study on the big five personality traits and self-esteem as predictors of life satisfaction of medical students from University of Colombo and University of Jayewardenepura in Sri Lanka.

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Background: Enrollment to a medical faculty is considered as prestigious opportunity in any country with strenuous selection process. In Sri Lanka with the discrepancy of the facilities available in government sector, the circumstance becomes more argumentative. Within these disagreements it is constructive to discuss the life satisfaction of medical students.

Objectives: This study focused to study the predictability of the student’s life satisfaction and to discover differences of self-esteem, personality and life satisfaction among different academic levels, gender types, attempts in A/L and z-scores in A/L. The purpose of the study was to explore on big five personality traits and self-esteem and determined their predictability on life satisfaction of medical students.

Methods: The study design was quantitative cross sectional survey. The 200 participants were enrolled in the study from faculty of medicine university of Jayewardenepura and Medical faculty of University of Colombo after obtaining informed written consent. The big five personality inventory with 44 questioners, 10 items Rosenberg self-esteem scale, five items Satisfaction with Life scale (SWL) and demographic detail sheet were administered to collect data. All these questioners were in English not validated in Sri Lanka. Ethical approval was obtained from

the Ethics Committee of Colombo Institute of Psychology.

Results: According to the regression analysis, the satisfaction with life was not significantly explained by the self-esteem and big five personality model ($F(6,293) = 2.411, p > 0.0005, R^2 = .047$). As per Pearson correlation analysis, there were significant positive weak correlations in between some variables. Furthermore, there were no significant differences among the demographic factors in Multivariate Analysis of Variance (MANOVA).

Conclusions: Using The Self-Esteem, and Big Five Personality Traits model to predict The Satisfaction with Life of the medical students was not successful. Advanced or improved model with broad inclusive justification supported by validated scales in Sri Lanka can be executed in future studies.

PP74

Work absenteeism among health assistants in secondary care hospitals, Batticaloa district, Sri Lanka

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Background: Absenteeism in the health sector is frequently referred to the loss of scheduled time due to unscheduled work absence which has remained a long-standing challenge worldwide. In Sri Lanka, health assistants can obtain 21 casual leaves and 24 vacation leaves per year. Approval for the leave should be obtained from Heads of the institution prior to the leave with acting duty. However, being absent to work without prior information has been a major issue among health assistants in hospitals in Sri Lanka.

Objectives: To assess the absenteeism among health assistants in base hospitals in Batticaloa district.

Methods: Descriptive cross-sectional study was carried out in all four Base Hospitals (BH) in Batticaloa District. Data collection was carried out in May 2019 by secondary data extraction from year 2018 leave records available with management assistant who handles the leaves of health assistants.

Results: One hundred and fourteen (49.1%) out of 232 health assistants had at least one spell of absence in year 2018. Among the four base hospitals in Batticaloa district, BH Eravur showed highest and BH Kalawanchikudy showed lowest absentee percentage with statistical significance ($P < 0.01$). The overall average number of spells per absentee per year (Frequency rate) was 5.3 spells with the

average duration of spells (severity) as 2.1 days. The total number of days lost per absentee in a year (incapacity rate) was 11.3 days. Overall absenteeism rate was 2.3% with BH Eravur having highest (4.25%) and BH Kalawanchikudy having the lowest (0.95%) absenteeism rate.

Conclusions: Findings from our study showed that up to half of the study subjects experienced at least one spell of absence. Also, it is significantly different between the individual institutions. Even though, overall absenteeism rate was low it differs significantly among hospitals.

PP75

Attitudes, practices and acceptability towards indigenous medicine and allopathic medicine treatment methods for musculoskeletal limb injuries among residents in a selected MOH area in Colombo, Sri Lanka

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Background: Sri Lanka is a country with medical pluralism. When considering musculoskeletal injuries, there seems to be a tendency towards indigenous treatment seeking when compared with other diseases and disorders. Therefore, this study was conducted with the intention of assessing the opinions of people in an urban setting regarding treatment seeking.

Objectives: To describe the attitudes, practices and acceptability among residents in a selected MOH area in Colombo district, towards indigenous and allopathic medicinal systems, for musculoskeletal limb injuries.

Methods: A cross sectional descriptive study was conducted in Battaramulla MOH area for 3 months. Participants were selected for the study by cluster. Data was obtained from an interviewer-based questionnaire. Data collection was done at the households of 111 participants. Data analysis was done using IBM SPSS Statistics version 22. Associations between each element were assessed using chi square tests and T tests where needed.

Results: Study population consisted of 98.2% Sinhalese people and most of the participants were educated and had a middle level or a higher income. 54.1% of the participants have had musculoskeletal limb injuries in the

past 5 years and the majority of them have chosen allopathic treatment. The acceptability towards the treatment methods varied according to the seriousness of the injury; more serious the injury, allopathic treatment. Also, majority preferred allopathic medicine. Effectiveness of the treatment, availability of drugs, good doctors have affected in selecting a treatment method. User friendliness and pain associated with the treatment were also identified as significant factors affecting the choice.

Conclusions: There is a tendency to obtain allopathic treatment over indigenous treatment as the initial treatment method. Initial treatment method has not affected decision making when changing the treatment method. It cannot be concluded that one treatment method is superior over the other with regard to healing of these injuries.

PP76

Factors and barriers related to breaking bad news among nurses in Colombo North Teaching Hospital (CNTH), Ragama, Sri Lanka

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Background: Breaking bad news is revealing negative medical information regarding patient’s condition and possibility of cure to the patient or relatives by a health care giver. It is a difficult task and here, nurses play an important role.

Objective: This study aimed to identify the factors and barriers related to breaking bad news among nurses at surgical, medical and gynecological wards in Colombo North Teaching Hospital (CNTH), Ragama.

Methodology: In this quantitative descriptive study, 150 nurses who had >2 years experiences were selected conveniently from surgical, medical and gynecological wards of CNTH. Prior to data collection, ethical approval was obtained from the ethics review committee of National Hospital of Sri Lanka. Informed consent was taken from each voluntary participant. A self-administered questionnaire was used to assess factors and barriers related to breaking bad news. Data was analyzed using descriptive statistics with SPSS (version 22).

Results: The response rate was 98.6%. Most of nurses were 30- 35years of age and had 5-10 years of work experience. Results emphasized that 87.1% of nurses had not got a proper training on breaking bad news. The

majority believed that using a clear simple language (81.1%), evaluating for understanding (65%), repeating important points (55%), avoiding medical jargons (90%), and maintaining eye contact (78%) are very important factors in breaking bad news. Moreover, poor nurse-patient relationship (51.6%), crowded environment (38.5%), limited time period (66.89%), physical disabilities (68.9%), language barriers (38.8%), personality problems (50%) and depression (50.7%) of patients were identified as barriers.

Conclusion: Using a simple language, repeating important points, good communication skills were very important factors while medical jargons, crowded environment, physical disabilities and language barriers of patients, poor nurse-patient relationship were identified as barriers among nurses in breaking bad news.

PP77

A study on waste segregation practices and bin condition in a base hospital in Sri Lanka

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Background: Waste segregation is an integral part of the waste management process. Exposure to infectious waste can cause serious health problems, particularly for waste handlers, patients, health care workers and for the environment. Lack of awareness of the adverse outcomes and resources, leads to poor commitment in waste segregation, compromising the desired standards.

Objectives: To evaluate the waste segregation practices and bin condition at Base hospital Avissawella.

Methods: A descriptive study was conducted in selected 14 units of the hospital to assess existing waste segregation practices and bin condition, during the period of two weeks from 1st to 14th of January 2019. Segregation was evaluated using three parameters, namely colour code of the bin and the bag, and whether the waste was mixed or not. The overall bin condition was assessed based on three parameters, number of undamaged bins, number of foot operated bins and number of bins with lids. A check list consisting of 48 variables were prepared and observations were made by visiting all units in the hospital. Descriptive statistics were performed on analysis of data.

Results: Total waste segregation in the hospital was 35.8% while the total bin condition was 42.5%. The mean percentage of overall waste management of the hospital

was 39.1%. Waste segregation according to the parameter of not mixing with other waste were, intensive care unit, 56%, outpatient department and clinics, 53%, premature baby unit, 45%, general surgical wards, 39.8%, medical wards, 36%, gynaecology and obstetrics wards and labour room, 29.6% and primary care unit-22%.

Conclusions: Waste segregation of the hospital was well below the desired standards. Stringent measures should be taken to improve the awareness of overall waste management of health care workers, patients as well as bystanders. Colour coded bags and bins should be provided along with frequent training sessions. Periodical audits with necessary interventions should be carried out to ensure progress.

PP78

A study on rates of sample rejection at a reference laboratory

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Background: The haematology laboratory in Lanka Hospital Diagnostics (LHD) receives samples from inpatient (IP), emergency department (EMR), outpatient (OP) and from registered centers outside LHD. As delays in patient management and much distress is caused when retesting is suggested, this study was carried out to evaluate which source had the greatest number of clotted sample draws, insufficient filling, as these two were the most common causes of retesting in my pilot study.

Objectives: To evaluate the sample rejection rate caused by clotted samples and insufficient volume samples at the department of haematology in 2018.

Method: The following samples received in haematology laboratory were rejected due to clotting and insufficient volume during the 12 months period from 1st January to 31st December 2018. According to documentation, 456 samples were rejected from a total of 144,831. These samples were sent for FBC, CBC, ESR, blood picture, retic count, PT, APTT, TT, fibrinogen, D-dimer and lupus anticoagulant.

Results: Rejection rates on clotted samples were 77.2% for routine laboratory tests, 7.6% for coagulation tests and 15.2% for coagulation tests with insufficient volume. The optimum rejection rate was found to be caused by clotted samples for routine tests (50.4%) from inpatient services. The MICU was found to have a rate of 19.5% among

other inpatient services. The outpatient samples showed the lowest rejection rates due to clotted and insufficient samples. Their monthly rejection rate did not exceed 0.5% throughout 2018.

Conclusions: The inpatient samples were found to have the highest number of rejection of samples (50.4%) at LHD. A target monthly rejection rate of 0.4% has been set for 2019 by the quality department. As aspects of study, a brief course of training given to nurses about rejection criteria to reduce retesting which distresses patients and delays patient management related to inpatient care.

PP79

Role of biopsy and radiological investigations in diagnosis of paediatric solid tumors: An institutional based retrospective study

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Background: Childhood cancers form a specific entity of tumors which differ markedly in clinical behavior, histology and site of origin. Statistics regarding accurate diagnostic modalities in paediatric solid tumors are minimal in Sri Lanka.

Objectives: To evaluate the role of biopsy and radiological investigations in diagnosis of paediatric solid tumors in Lady Ridgeway Hospital (LRH).

Methods: An institutional based retrospective study carried out by extracting data to a proforma from histopathological reports and request forms, patient summary records prepared for Multi-disciplinary meetings and cancer registry of LRH from patients presented during the period of 2016 to 2018. Ethical approval was obtained from the Ethics Review Committee of LRH.

Results: Out of 208 patients with solid tumours, biopsy had been performed in 107(51.4%) while surgical resection was done in 76(36.5%). Resection margins were clear in 49% of the cases while lymph node resection had been performed in 16.7%. According to the final histological diagnosis 40(19.2%)

patients were diagnosed with neuroblastoma, 37(17.8%) with nephroblastoma, 23(11%) with hepatoblastoma, 27(12.9%) with lymphoma and 10(4.8%) patients with small blue cell tumours. Majority of the patients had undergone at least one modality of radiological investigation. CT was the most common radiological methodology used by over 138(66.3%), while ultrasound scan was used by over 106(51%) and MRI by 37(17.8%).

Conclusions: Biopsy had been performed in more than half of the population and a majority had undergone radiological evaluation.

Acknowledgement: Departments of Surgery and of Histopathology Pathology of Lady Ridgeway Hospital for Children, Sri L

ABSTRACTS OF CASE REPORTS

PP80

Staphylococcus capitis aortic valve endocarditis: A case report

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Introduction: Coagulase negative staphylococci (CoNS) are emerging pathogens. This case is about a complicated Staphylococcus capitis aortic valve endocarditis.

Case Report: A 47 years old gentleman presented with intermittent fever, loss of weight and flu like symptoms for 4 months and sharp backache for 2 months. He had taken several courses of antibiotics that lead to toxigenic *Clostridium difficile* infection which was treated successfully. Initial blood cultures were negative. There were no implanted prosthetic devices. He is an ex-smoker, and drinks alcohol occasionally. He is not an intra venous drug user. He was febrile, had pan systolic murmur detected over aortic area. There was tenderness over the lumbar region. Neurological examination was normal. Three sets of blood cultures became positive for *Staphylococcus capitis*. Trans-oesophageal echocardiogram revealed aortic valve vegetation. He had spondylodiscitis with epidural collection in Magnetic Resonance Imaging. Intra Venous vancomycin was given for 2 weeks and changed to teicoplanin at outpatient antimicrobial therapy (OPAT) service. After 5 days, he re-admitted with rash, fever, vomiting, raised white blood cell count with eosinophilia and thrombocytopenia. Liver and renal functions were elevated. Drug reaction with eosinophilia and systemic symptoms

syndrome (DRESS) to teicoplanin was diagnosed. Treatment was changed to daptomycin and steroids were started with supportive care. Patient became stable clinically and biochemically. He was discharged and daptomycin was continued to complete the total 6 weeks of IV antibiotics at OPAT and a tapering dose of steroids was administered. At the end of 6 weeks of treatment, patient recovered completely. As a consequence of endocarditis patient developed severe aortic regurgitation for which a surgery was planned.

Discussion: Prolonged indolent symptoms are compatible with CoNS endocarditis. Patients should be monitored in OPAT for drug side effects of drugs. Although evidence of DRESS syndrome with teicoplanin is scarce, there are reported cases. It is considered that vancomycin had increased the threshold of DRESS.

PP81

Antenatally detected thoracic cystic lesion – Diaphragmatic hernia or cystic malformation of the lung?

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Introduction: Congenital pulmonary airway malformation (CPAM), which was formally known as congenital cystic adenomatoid malformation (CCAM) is a rare pulmonary malformation. An entire lobe of lung is usually replaced by a non-working cystic pieces of abnormal lung tissue. Reported incidence is 1: 25000 to 1:35000 live births while the prognosis varies ranging from perinatal death to spontaneous in utero regression with no neonatal morbidity. Here we report a case of antenatally detected left sided cystic thoracic lesion suspected to be a diaphragmatic hernia confirmed to be CPAM type 1 postnatally.

Case Report: A primi gravida underwent an elective caesarean section as her foetus was detected to have a cystic lesion behind the heart, which was strongly suspected to be a diaphragmatic hernia. Baby did not require any respiratory support after birth. His chest X-ray was normal, but ultrasound scan detected cystic lesions in the lingular lobe suggestive of CPAM and was confirmed by a CT scan. Baby is asymptomatic and awaiting an elective lobectomy.

Discussion: Incidence of CPAM is 1: 25000 to 1:35000 and was first described by Ch'in and Tang in 1949. Exact aetiology is not known. It is either due to hamartomatous malformation and abnormal proliferation of pulmonary

tissue at different sites or due to as an arrest in the development of the foetal bronchial tree with air way obstruction. Currently 5 types are recognized and shows a wide spectrum of presenting features as symptomatic cases, recurrent pneumonia or respiratory distress with respiratory failure. CT scan is the most reliable method to confirm the diagnosis. Management plan after birth is aimed at surgery to prevent complications.

PP82

Case report: A neonate with hypophosphatasia

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Introduction: Hypophosphatasia is caused by mutations in the tissue nonspecific alkaline phosphatase (TNSALP) gene. This disease is inherited in either autosomal recessive or dominant manner with no gender predilection. Although the exact incidence of separate subtypes is unknown, the severe forms are estimated to occur in nearly 1:100,000 live births. Typical radiological features and genetic mutation analysis aid in the diagnosis.

Case Report: A term first born male neonate to healthy non consanguineous parents, was antenatally suspected of having skeletal dysplasia. His length was 47 cm and OFC was 34 cm at birth, with Craniosynostosis. He had depressed nasal bridge and low set ears. Right thigh deformity was observed. Skeletal survey revealed, craniosynostosis, widened growth plates in long bones with cupping, splaying and spraying of metaphysis. There were pseudo fractures in both radii distally. Tongue like areas of lucency was observed in few long bones and right femur showed a healed fracture. A low serum alkaline phosphatase activity was noted with normal calcium and phosphorus levels. Due to limited resources, genetic confirmation could not be performed. Parents were counselled regarding the prognosis of this baby and follow up was arranged.

Discussion: As there are six major subtypes of hypophosphatasia prognosis is variable. Definitive treatment is enzyme replacement therapy (Asfotase alfa), despite its lack of availability in resource poor settings. It is a recombinant glycoprotein which has the catalytic domain of the TNSALP enzyme which is administered subcutaneously. Some needs treatment for hypercalcemia & hypercalciuria, respiratory support and management of craniosynostosis. Routine dental care and surgical management of fractures is recommended.

PP83

A neonate with Omphalocele-Extrophy-Imperforate anus-Spinal defects complex (OEIS Complex)

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approach in management due to complexity of the disease. Counselling of parents is of utmost importance.

Introduction: OEIS complex consists of multiple midline defect including, cloacal exstrophy, imperforate anus, omphalocele and spinal defects. It occurs as a result of defective closure of anterior abdominal wall and mal-development of cloaca and urogenital septum due to defect in blastogenesis. It is estimated to affect 1: 200,000 to 400,000 pregnancies. Even though it has been reported in siblings, its occurrence is believed to be sporadic. OEIS has been reported in association with maternal smoking, uterine fibroids, maternal obesity and exposure to Diazepam. The prognosis is variable.

Case Report: We report a neonate with OEIS complex with additional defects. The baby was born at term to healthy non consanguineous parents as the second baby. At birth, she was found to have minor omphalocele, cloacal exstrophy and high lying imperforate anus. There were no dysmorphic features. Interestingly, the defects had not been detected in antenatal scans. In addition, there were rib deformities and ultrasound abdomen revealed single right side kidney. Renal functions were normal. Karyotype was 46, XX. Furthermore, baby had ostium secundum ASD. Ultrasound brain was normal. She underwent the first stage of repair around 6 weeks of age.

Discussion: Babies with OEIS complex need to undergo reconstructive surgery in multiple stages. They require a multidisciplinary

PP84

“Like father, like son”: A case report of partial monosomy of 9p and partial trisomy of 10p born to a balanced translocation carrier father

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Introduction: Partial monosomy 9 is due to a deletion of distal region of short arm (p) portion of 9th chromosome and occurs due to spontaneous mutations in most, in contrary to our case. Most infants are born with normal growth parameters & demonstrate mild to moderate psycho-motor retardation. They have characteristic faces with triangular forehead, flat occiput and widely spaced upward slanting eyes. Affected have various malformations of hands and feet and also genital defects such as micro penis, hypospadiasis and cryptorchidism. Nearly two thirds are affected by congenital heart defects. Nearly 100 cases of partial monosomy 9p are reported in the medical literature. Partial trisomy 10p is a distinct clinical entity. Most significant features include dolichocephaly, prominent fore head, broad root of nose, wide open cranial sutures and fontanellea, cleft lip & palate, club feet and cystic kidneys.

Case Report: A baby boy born to healthy non-consanguineous parents following an uncomplicated pregnancy was noted to have shawl scrotum, descended testis and micro penis. He had subtle facial dysmorphism with triangular faces, broad nasal bridge, and large open fontanelles and separated cranial sutures. Initial investigations ruled out congenital adrenal hyperplasia and 5 α reductase deficiency. His infancy was complicated with marginal gross and fine motor delays. His karyotyping revealed

46XYder(9)t(9;10)(p24;p12.1)pat. All chromosomes showed a derivative chromosome 9 inherited from father, who is a balanced translocation carrier of the same chromosome defect.

Discussion: Translocation is a phenomenon that results in unusual rearrangement of chromosomes in reciprocal or Robertsonian types. Translocations can be balanced or unbalanced. Both types of carriers are clinically healthy, yet at risk of recurrent abortions and producing abnormal offspring. Our child’s chromosomal defect lead to both features of partial monosomy 9p and partial trisomy 10p. These children with chromosomal abnormalities warrant multi-disciplinary care. Parents need genetic counselling with regards to future pregnancies.

PP85

A pigmented new born: A case report of Phacomatosis Pigmento Vascularis

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Introduction: PPV (Phacomatosis Pigmento Vascularis) was first described by Ota in 1947 and so far less than 200 cases have been reported. PPV is a disorder of skin and blood vessels. It is non inheritable, yet results from a genetic phenomenon called twin spotting. The affected genes are GNA 11 and GNA Q which are only present in cells of affected tissues of the body. Presence of central nervous system manifestations favours poor outcome. Systemic involvement is seen in half of the affected. Common skin lesions are port wine stains, café-au-lait and mongolian spots, melanocytic and epidermal nevi, nevus anemicus, nevus spilus, nevus of Ota and nevus of Ito. Ophthalmological manifestations of this condition are ocular melanosis (which our patient developed on follow up), glaucoma, iris hamartomas and nodules, mammillations and plexiformneurofibromas of eyelid. Central nervous system manifestations include segmental dysesthesia, seizures, deafness and ptosis. PPV is associated with Sturge – Weber syndrome, Klippel – Trenunay syndrome and Wyburn Mayson syndrome.

Case Report: A female term baby of healthy non consanguineous parents was noted to have extensive pigmented skin lesions on trunk and limbs. She was clinically well and her haematology including extended clotting profile was within normal limits. A clinical diagnosis of Phacomatosis Pigmento Vascularis (PPV) was made following dermatology referral. Her growth and development remain normal up to date.

Discussion: Diagnosis is done primarily based on physical evaluation. Isolated cutaneous lesions require no treatment, but laser treatment may improve large lesions. Presence of systemic manifestations warrants multi-disciplinary team approach to decide on individualized treatments. Affected individuals should be regularly followed up at a dermatological clinic due to risk of malignant transformation of skin lesions. Regular ophthalmological reviews are warranted for detecting glaucoma early.

PP86

A mere case of homicide or an intimate partner femicide with over killing and lust murder?

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Introduction: Femicide or femicide is the homicide of a female victim. The definitions vary widely and some cover numerous gender-based aspects. Femicide is being increasingly recognized as a public health problem across the globe.

Case report: A 32 year old married woman left her husband and two children to cohabit with an unmarried young man. After an initial peaceful period, their life soon became a turmoil with frequent arguments and physical violence. She was finally killed by the boyfriend by inflicting severe head injuries with a blunt weapon and causing multiple stabs all over the body approximately hundred in number. This conforms to the forensic entity identified as “lust murder with over-killing”.

Discussion: One extreme end of intimate-partner violence would be femicide. The underlying causes are numerous and diverse such as cultural, social, economical, psycho-pathologic and biological. When such an act is driven mostly or purely by the revenge based on sexual jealousy and suspicion of infidelity, it is termed a lust-murder. Lust murders are characterized by mutilation or disfiguration of genital and para-sexual areas as well as causing an unusually high number of injuries (usually stabs) most of which may prove to be peri or postmortem-a phenomenon termed as ‘over-killing’. The psycho-pathological background of the case such as the partner being a substance abuser suffering from

morbid-jealousy and the victim having unfitting personality traits etc. should be studied in depth-a process known as psychological autopsy. The perpetrator should be seen by a forensic psychiatrist. The authors also suggest that the entire litigation process should also have certain changes to accommodate the special characteristics of these homicides. National statistics on gendricides should be maintained separately but not in the common pool of homicides. Multidisciplinary specialist panels should plan preventive measures targeted towards identified vulnerable groups.

PP87

Secrets behind mounting of best pathological museum specimens

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experience on how to cut, correctly paste and shaping of an acrylic sheet is key to produce best mounted specimens. Simple techniques which they have figured out during procedures matter immensely in producing perfect specimens. So the authors wish to comprehensively share the secrets behind their success in order to help other laboratories.

Introduction: A medical student normally doesn't get an opportunity to see all of the pathologies during their allocated time period. The technical staff of the forensic laboratory, worked enthusiastically under the guidance of lecturers of the department to equip the forensic museum with a wide array of real pathological entities as specimens in order to overcome this problem.

Case series: The laboratory of the Department of Forensic Medicine was proudly able to finish many samples pertaining to different pathologies and a few are mentioned here. We are much grateful to the donors of the tissues/organs as these specimens are rare to collect and also difficult to mount meaningfully. Oesophageal varices, polycystic kidneys, horseshoe kidney, aortic dissection (entire length), ruptured heart, pancreatitis, removed skin of a hand due to drowning are among many others.

Discussion: Meticulous planning with a team spirit is necessary from the time of collection of a sample in order to preserve the original colour and shape of the mounted specimen as much as possible. Though the technique of mounting specimens has been used for around 100 years, crafting best specimens needs skilled workmanship and scientific knowledge. Trial and errors and the hands on training that the lab workers received during the past few years produced best pathological samples. The authors believe that the

PP88

Variation in the branching pattern of superior mesenteric artery: A cadaveric case report

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Introduction: An avascular window is present in the transverse mesocolon outlined by the marginal artery of Drummond, middle colic and left colic arteries. It serves as an important site for the surgical access to the lesser sac and the posterior wall of the stomach. Variations in the branching pattern of superior mesenteric artery (SMA) have been reported previously. Thus a thorough prior knowledge on anatomical variation of branches of SMA related to this window is important for a surgeon. Usually the ileocolic, right colic and middle colic arteries originate separately from the SMA and supply the colon along with the left colic and sigmoidal branches from the inferior mesenteric artery by forming the marginal artery of Drummond.

Case report: During the routine dissection of the abdominal region of a preserved adult male cadaver at the department of anatomy, presence of anatomical variations were noted in the branching pattern of SMA. It was observed that the middle colic artery originated from the SMA ran through the transverse mesocolon towards the hepatic flexure. Another branch from the SMA (“accessory middle colic artery”) arose proximal to middle colic artery and passed through the transverse mesocolon towards the splenic flexure. Both the ileocolic and the right colic arteries were originated from a single trunk that arose from the SMA.

Discussion: The findings of this study would greatly contribute in establishing an anatomical classification for variations of branches of SMA. This knowledge is important to define the boundaries of avascular window and to prevent accidental blood loss due to presence of accessory blood vessels.

PP89

Bacteraemic Melioidosis - A case series at the National Hospital of Sri Lanka

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Introduction: *Burkholderia pseudomallei*, the etiological agent of melioidosis is an intracellular Gram-negative bacterium. It is an environmental saprophyte which can cause fatal outcomes. Sri Lanka is an endemic country but late presentations and delayed diagnosis of the disease is noted. We present five bacteraemic cases of melioidosis with different clinical presentations, diagnosed at the National Hospital of Sri Lanka (NHSL) within six months.

Case series: A 28-year-old housewife with newly diagnosed diabetes and trauma to head one month back, presented to a local hospital with headache, fever, unilateral facial swelling. Radiological investigations at NHSL suggested a sub-masseteric abscess and extensive invasion of sinuses and temporal fossa. She succumbed to infection despite appropriate antibiotics and debridement. A 36-year-old diabetic backhoe driver presenting after a fall was investigated for back pain at a local hospital. He was transferred to NHSL with severe pneumonia and septic shock. A 46-year-old farmer and a 55-year-old priest with community acquired pneumonia and uncontrolled diabetes, were found to have lung abscesses. The latter presented with septic shock. The fifth patient was a 46-year-old trishaw driver with diabetes and pyrexia of unknown origin for one month. All five patients had blood cultures positive within 24 hours of incubation with Gram negative bacilli confirmed as *Burkholderia pseudomallei*. Four were sero-positive for melioidosis antibodies. All were started on intra-venous meropenem with oral

cotrimoxazole and four responded to treatment.

Discussion: Melioidosis is known as a great mimicker with iceberg disease pattern. This series of bacteraemic patients with 20% mortality highlights following messages. It is important to consider melioidosis in the differential diagnosis of community acquired pneumonia, deep-seated abscesses and pyrexia of unknown origin. Blood cultures are vital in case detection. Diabetes is a common risk factor. Trauma can be an initial presentation misleading the diagnosis.

PP90

Death by Diethylene glycol poisoning - a case report

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Background: Brake fluid is used for automobiles. It is a mixture of different glycol derivatives including diethylene glycol which is metabolized in to toxic metabolites like diglycolic acid & 2-hydroxy ethoxy acetic acid. Diethylene glycol is known to cause depression of central nervous system, metabolic acidosis with increased anion gap, renal, cardiac and respiratory failure. Fatalities following brake fluid ingestion are rare in forensic practice. We report a case of brake fluid ingestion who developed severe renal failure complicated with erosions of oesophagus and stomach.

Case presentation: A 52-year old male, with a history of alcohol dependence and comorbid moderate depression, died 12 days after ingestion of 100ml of brake fluid mixed with alcohol. He had defaulted from psychiatric follow up. On presentation he was alert but progressively became confused. Few hours after admission he developed severe metabolic acidosis and acute renal failure which necessitated intensive care, other supportive management and the antidote; ethyl alcohol. On the 2nd day he developed upper gastrointestinal bleeding with melena. He had seizures and cardiovascular complications. Autopsy revealed, congested and oedematous brain matter, a thin pericardial effusion, flabby and pale heart without evidence of infraction, erythematous trachea, bilateral diffuse pulmonary oedema, congested liver, erosions and an ulcer over the lower 1/3 of oesophagus and erosions in stomach. The kidneys were oedematous with

diffuse necrosis and the adrenals exhibit haemorrhages.

Discussion: Acute renal failure is seen in about 73%-84% of cases, after 24 hours of ingestion. It can frequently result in severe metabolic acidosis. This case report highlights the severity of effects of brake fluid poisoning including corrosive effect on gastrointestinal mucosa which is rarely encountered in clinical management and the autopsy examination.

An adrenal myelolipoma; a case report

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Introduction: Myelolipoma is a rare, benign tumour of the adrenal cortex and accounts for around 2.6% of all primary adrenal tumours. It commonly occurs in patients in their fifth to seventh decade with a female predilection. Occurrence in the right adrenal is commoner than the left. Myelolipomas are usually non-functional and are incidental findings. Symptomatic patients present with signs of complications including haemorrhage, rupture and abscess formation.

Case report: A 68 year old known hypertensive man with vague right abdominal discomfort was found to have a large, right abdominal mass. MRI revealed a large, fat containing mass measuring 14 x14 x 10 cm with well-defined outlines situated superior to the right kidney. Right suprarenal gland was not seen separately. Para aortic nodes were not enlarged. MRI diagnosis was an atypical lipoma. CT findings were suggestive of a myolipoma. The serum cortisol level and urinary metanephrine levels were within normal limits. Right adrenalectomy was performed and the excised mass was sent for histology. Macroscopic examination showed a large, encapsulated, mass measuring 16 x 12 x 7 cm in size and weighing 1.25 kg. Cut surface showed fat admixed with red areas. Necrosis was not seen. Histology showed adipocytic and myeloid components consisting of mature fat cells, erythroid cells, myeloid cells and megakaryocytes. The diagnosis of an adrenal myelolipoma was

made. The patient had an uneventful recovery.

Discussion: Myelolipomas are benign tumours with no reported cases of malignant transformation. Due to the retroperitoneal location and the adipocytic nature, it mimics a liposarcoma radiologically and macroscopically. The aetiology is unknown but a metaplastic reaction of the reticulo-endothelial cells in the adrenal capillary endothelium to stress, necrosis, infection, or long-term ACTH stimulation has been reported in some studies. Although most patients are asymptomatic with tumours averaging 4-6cm, surgical intervention should be considered in larger tumours due to the increased risk of rupture.

PP92

A monstrous Arias-Stella reaction; a sheep in wolfs' clothing

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Introduction: Arias-Stella reaction is commonly associated with intrauterine or ectopic pregnancy or with trophoblastic disease. It rarely occurs secondary to progestin therapy. The diagnosis of Arias-Stella reaction is straightforward in a known pregnant patient but can be challenging in others when the underlying aetiology is obscure. Arias-Stella reaction involves pre-existing endometrial glands without evidence of stromal infiltration and there is no mass lesion in contrast to clear cell carcinoma. Endometrium is the commonest site, but involvement of adenomyomatous polyps has been reported.

Case report: A 48 year old woman who was treated with Norethisterone 5mg three times a day for per vaginal bleeding was found to have a polypoid mass protruding into the endocervical cavity on vaginal examination. Endometrial curettage and excision of the polypoid mass was performed. The curettings measured 2.5x3.5x3cm and the polypoid mass measured 4x3.5x1.5cm. The cut surface of the polypoid mass was white and whorled resembling a fibroid.

Histology of the curettings showed hypersecretory glands. The polyp was lined by endometrial-type epithelium and contained glandular and a prominent smooth muscle component. Glandular epithelium showed papillary tufting, vacuolated cytoplasm and tubal metaplasia. Hobnailed monstrous morphology with bizarre, smudgy nuclei, eosinophilic to vacuolated cytoplasm was

present focally. Mitotic activity was not seen. The differential diagnosis included a monstrous type Arias Stella reaction or a clear cell intraepithelial carcinoma. The monstrous nuclei were ER positive with a Ki 67 index of 1-2%, compatible with a monstrous Arias-Stella reaction occurring in an adenomyomatous polyp.

Discussion: Arias Stella reaction is frequently observed in pregnancy and less commonly with hormone therapy. Although benign, the morphological features can overlap with a clear cell carcinoma and providing relevant clinical information to the reporting pathologist, supplemented by immunohistochemistry, is vital to prevent an erroneous diagnosis.

PP93

Rare case of abdominal obstruction: A case of Non-Meckel small bowel diverticular disease

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Introduction: A diverticulum is a bulging sack in any portion of the gastrointestinal tract. Small intestine diverticular disease is much less common than colonic diverticular disease. Duodenal diverticula (DD) occur equally in males and females, while a slight male preponderance exists in jejunoileal diverticula. Non-Meckel small intestine diverticular disease is rare and has been reported in 0.3–1.3% of post-mortem studies.

Case Report: We present a case of a patient with DD who died following a brief period of abdominal pain. 85-year old male was admitted to a teaching hospital with neck pain of two days duration. He had a past history of hypertension, ischemic heart disease, chronic obstructive pulmonary disease and recurrent constipation. He was on regular treatment. The day after admission, he had complained of abdominal pain. He was managed as for intestinal obstruction and died before surgical intervention, on the same day. Autopsy examination revealed multiple diverticula on mesenteric border of jejunum with evidence of diverticulitis and peritonitis. The cause of death was concluded as peritonitis due to small bowel diverticulitis.

Discussion: Non-Meckel’s diverticulitis can be overlooked in the initial diagnosis because of the location of the diverticulosis, the age of the patient, and the rarity of the disease. Patients with non-Meckel’s small intestine diverticulosis may be asymptomatic or present with mal-absorption, complete small

intestine obstruction, bleeding, and diverticulitis. Non-Meckel diverticulitis should be considered in the differential diagnosis of patients with these symptoms and computed tomography scans can help to identify the disease. Duodenum is the most common site of small bowel diverticula seen in up to 6% of patients. In conclusion, small bowel diverticulitis is a rare presentation and it should be considered as a differential diagnosis in cases of acute abdomen.

PP94

Clinical effects of papaya leaf extracts to the haematological parameters of a classical Dengue patient

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Background: Dengue is a remarkable, vector-borne viral disease in Sri Lanka, accounts for hundreds of deaths annually. Antibody-dependent infection enhancement, requirement of a single compound covering its all 4 serotypes, makes it difficult to produce a vaccine on prevention. Thus apart from preventing the disease with vector control, continuous studies are required for novel techniques to reduce the outcomes and complications of dengue fever and to prevent converting of DF to DHF.

Objectives: To design a single centered, retrospective cohort study to evaluate the effect of papaya leaves (*Carica papaya*) to thrombocytopenia, neutropenia and lymphocytosis caused by dengue fever with respective to the recent Malaysian study on improving the thrombocytopenia of a DF patient within 40-48 hours upon administration of papaya.

Method: A 16 year old NS1 positive, in-ward treating boy (n=1) has been orally administered with concentrated papaya leaf extract 5ml twice a day on day 6 of fever as a naturopathic supplement without any allopathic medical advice. The in-ward monitored components of his FBC were graphed against the time retrospectively.

Results: It is noted that the gradient of the inversed curve of platelet count over time has decreased within 3 hours from the initial administration and by 48 hours the platelet

count was increasing, reversing the inversion. The total WBC count also has started increasing and the developing neutropenia and lymphocytosis were improved by 48 hours upon administration. Also the patient did not develop DHF and recovered uneventfully without any ICU admissions.

Conclusions: The improvement of the condition within above time frame could be due to various factors including natural host response with or without the foresaid supplement. But the above context depicts the capability of further research in deploying *Carica papaya* leaf extracts as a novel treatment on Dengue fever patients without causing any negative medical impact.

PP95

Chyle leak following total thyroidectomy: A case report

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Introduction: Reported prevalence of chyle leak due to damage of the thoracic duct following thyroidectomy is very rare (0.5% to 1.4%).

Case Report: A 65-year-old female presented with a goitre of two-years duration with compressive symptoms. Patient was clinically and biochemically euthyroid. A multinodular goitre with retrosternal extension was confirmed by CECT. A total thyroidectomy was performed, and the retrosternal part was delivered to the wound by blunt dissection with fingers. Patient had an uneventful immediate post-operative period until she developed a thick milky discharge from the neck drains on the postoperative day one. Clinically and biochemically she was diagnosed of having a chyle leak. She was kept on a fat free diet and continued intravenous antibiotics for 5 days. The drain outputs were zero by post-operative day five, and she was discharged from the ward.

Discussion: Iatrogenic damage to the thoracic ducts can occur while mobilizing the inferior thyroid pedicle on the left side as the lower pole of the left lobe of the thyroid gland lies adjacent to the thoracic duct as it curves inferomedially to its termination. Cervical block dissections, retrosternal goitres, thyroid malignancies and previous radiotherapy are associated with a high risk of chyle leak. Sudden increase in drain volume, foamy

appearance of fluid, dyspnoea and pleuritic type chest pain may be the indicative of a post-operative chyle leak. This fluid can be biochemically confirmed as chyle if it has a high concentration of triglycerides and chylomicrons. Majority of postoperatively-detected low output chyle leaks can be managed conservatively with bed rest, keeping propped up, maintaining fluid and electrolyte balance, low fat high protein diet, vitamin supplements and wound care. Nevertheless, persistent chyle leak may warrant total parenteral nutrition or even surgical exploration.

PP96

Morphology of ejaculatory ducts: A Systematic Review

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Background: Context: The morphology and variant anatomy of human ejaculatory ducts are important in conducting and interpreting seminal vesiculograms and developing ejaculation preserving transurethral resection of prostate surgeries. However, descriptions on course, dimensions and histology of the ejaculatory ducts in the literature are sparse.

Objective: To describe macroscopic and microscopic anatomy of human ejaculatory ducts.

Methods: Information Sources: A systematic review was conducted using MEDLINE and Cochrane databases. Search terms included “ejaculatory ducts”, “seminal vesicle”, “prostate”, “anatomy”, “histology”, “radiology” and “embryology”.

Eligibility Criteria: We included studies assessing adult(>18 years) humans published in English before 1 March 2019. Studies describing pathological ducts and case reports were excluded.

Risk of bias: Risk of bias was assessed using a pilot-tested checklist. Independent authors extracted data using predefined-criteria including study quality.

Results: Included studies: Of 3369 articles found on the initial search, eight studies were included in the qualitative synthesis.

Synthesis of Results: Range of reported mean lengths and luminal diameters of the ducts were 14-22mm and 2.0-2.1mm respectively. Usually, the ejaculatory ducts entered the prostate by piercing the central part of its base. Most studies identified an anteromedial curve of the ducts within the prostate. However, there were inconsistencies regarding the morphology of the terminal part of the ducts. One study noted a consistent valve at the opening of the ejaculatory duct to the prostatic urethra. Ultrastructurally, the duct consisted of three layers; an inner secretory epithelium, a middle collagen layer and an outer muscular layer. Thickness of the muscle coat diminished as the ducts approached the seminal colliculus.

Discussion: Most of the studies were conducted on elderly populations restricting the generalizability of the results to the young. Dimensions of the ducts may have altered in post-mortem studies.

Conclusions: Ejaculatory ducts angulate anteromedially within the prostate and travel straight towards the seminal colliculus. Terminal parts of the ducts may diverge immediately before joining the prostatic urethra. However, the reported dimensions of the ducts vary majorly among the studies.

(PROSPERO protocol registration number: CRD42018116620)

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ACKNOWLEDGEMENTS

The Research Committee of the Faculty of Medical Sciences wishes to thank the following for their support and guidance in organizing the International Conference on Health Sciences 2019.

- The Vice Chancellor, University of Sri Jayewardenepura for his encouragement and continued support
- Dean, Faculty of Medical Sciences for her support, encouragement and guidance
- President and members of the Clinical Society, Colombo South Teaching Hospital
- President and members of the Clinical Society, Sri Jayewardenepura General Hospital
- President and members of the Clinical Society, Base Hospital, Homagama
- Special thanks to all the eminent invited speakers for the acceptance of our invitation for the symposia. Valuable contributions of all the speakers is highly appreciated in making this endeavour a success.
- We sincerely thank all the special invitees for spending their valuable time and for their encouraging presence this evening.
- The sharing of scientific information during free paper/poster presentations are highly informative and we wish to thank all the presenters for their committed contribution.
- All academic staff members who reviewed abstracts
- The valuable contribution of the Chairpersons and Judges in making this event a success is greatly appreciated.
- All sponsors for the financial support
- Ms. Anagi Shakya Kottahachchi, Mr. Harith Wijeratne and Ms K.K. Chathuni Nuwangi for the musical performance
- Ms. Liyanage Don Dulakshi Chathurika, Nelumi Navodya Ekanayake, Ms. Dimagee Nilminusha Doluweera, Ms. Deekirike Jayamaha Mudalige Dona Hansika Nethmini Jayamaha, Ms. J.A.L. Jeneesha Silva and Ms. Vathma Kaumadi Gunarathna for performing the traditional dance
- Mr. Dinul Doluweera, Ms Devni Yasara Silva and Ms Dewni Yasara Rathnapriya for compering
- Demonstrators: Dr. Lakmi Samaranayaka and Dr. S.L. Dinushani Rasanjala Chandrasiri for their support in coordinating sessions
- AV Productions for providing sounds/backdrop/souvenirs/conference package and support in organizing this conference
- Dr. Hasitha Dissanayake for designing e-flyer of the conference and the cover page of the Book of Proceedings

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- Mr. Chamil Munasinghe for designing and updating the web content relevant to the International Conference on Health Sciences 2019
- MG Printers for printing the Booklet of Proceedings
- The audio-visual coverage of the ICH 2019 provided by Japura flames and Department of Medical Education, Faculty of Medical Sciences
- Mr. Wasantha and Mr. Abeysinghe for their invaluable support in overseeing all technical matters
- Abans Cleaning Service attached to Faculty of Medical Sciences
- The commendable assistance given by the nonacademic staff of the University of Sri Jayewardenepura is greatly appreciated.
- And all those who contributed to make this event a success.

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We wish to gratefully acknowledge the financial support provided by the following sponsors

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It is with immense gratitude we appreciate all the sponsors who contributed to make this Scientific Sessions a success.

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