



SLACPT NEWS

THE OFFICIAL NEWSLETTER OF THE SRI LANKA ASSOCIATION OF
CLINICAL PHARMACOLOGY AND THERAPEUTICS

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SLACPT

DEPARTMENT OF PHARMACOLOGY,
FACULTY OF MEDICINE,
UNIVERSITY OF COLOMBO
NO. 25, KYNSEY ROAD, COLOMBO 08

Tel: 0112697483

Fax: 0112 697 483

Email: slacpt2017@gmail.com

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Message from the President

The Sri Lanka Association of Clinical Pharmacology and Therapeutics (SLACPT) has bestowed on me a great honour by electing me as the third president of the SLACPT. I accept this prestigious post with humility and enthusiasm as it gives me a positive vibe to lead the association for the next 2 years in close collaboration with the new council members.

In the past 6 months, our association has been invited for regional level clinical sessions. SLACPT has accepted participation at these sessions as a real honour to be actively involved with the physicians and paediatricians in wisely using medicines. Hopefully we take it as a sign that what we as clinical pharmacologists say matters.

Our theme for the coming two years is *“optimization of medicines through safe, effective and economic prescribing”*. Medication is a crucial component of almost every type of care and the most common form of health care intervention. In 2016, the total number of visits to the outpatient departments of the state health care facilities alone totaled 53.62 million. Therefore, it could be postulated that it would have resulted in an equal number of prescriptions for which the medical supplies division spent LKR 20 billion. It is also well known that an equal number seek private health care which is mainly financed out-of-pocket. Hence given the cost incurred the role of our association is to ensure that patients get the most from their medicines. Determinants of which would be optimization through safe, effective and economic prescribing.

How do we propose to achieve our theme?

1. Having interactive discussions at the regional level on choosing medicines wisely through application of clinical pharmacokinetics, and pharmacodynamics, supported by evidence of benefit and free of serious harm and pharmaco-economic evaluations where needed.
2. Through periodical newsletters citing articles on emerging safety concerns
3. By designing a curriculum on medication safety
4. By performing medicines utilization studies to highlight national prescribing trends of antimicrobial use.

Last but not least I take this opportunity to thank the past presidents and their council for all the hard work done to keep our association alive and active since its birth in 2015.

Senior Professor Rohini Fernandopulle
President
SLACPT



Message from the Secretary

First of all, let me thank the Sri Lanka Association of Clinical Pharmacology and Therapeutics (SLACPT) for electing me as the Secretary for the 3rd council 2019/2020 period. It is a privilege. I promise that I will use my fullest ability in carrying out my duties as the Secretary.

Let me delve into the fundamental problem – defining the role of clinical pharmacology. Every specialist who has taken up clinical pharmacology as his or her expertise faces this challenge frequently.

In the own words of Professor Sir Colin Dollery*

“it is not simply a laboratory discipline dealing with biomarkers, pharmacokinetics, drug metabolism, and genetics based on human samples; not simply a desk discipline dealing with design and evaluation of clinical trials, drug utilization on a local and national level, clinical guidelines for drug use, and pharmacovigilance; and not simply a hands-on clinical discipline dealing with patient care, experimental medicine studies of old and new drugs, clinical investigation of adverse reactions and interactions, and consultancy services to other clinicians who have drug problems. It combines all of these”(1).

He further comments

“Its weakness is that as a laboratory discipline, clinical pharmacology has to compete with pharmacologists and other basic scientists; as a desk discipline, it has to compete with epidemiologists, statisticians, economists, and policy makers; and as a clinical specialty, it has to compete with other clinical specialists, including nurses and pharmacists.

Of course, it is hardly possible for one individual to be equally expert in the laboratory, at the desk, and at the bedside. One major objective of SLACPT is to bring these different experts together and prove the strength and value of clinical pharmacology. In the opinion of Professor Sir Colin Dollery *“the strength lies in the fact that the clinical pharmacologist can pull all these strands together into a single tapestry*

Let’s start to create this single tapestry ‘of rich and varied hue’.

Professor Shalini Sri Ranganathan

Secretary

SLACPT

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Pioneer in the field of clinical pharmacology in UK



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Wall of Fame



Professor Chandanie Wanigatunge was inducted as the 43rd President of the Ceylon College of Physicians, a non-profit oriented academic body established 52 years ago. The Ceremonial Induction of the new President of the Ceylon College of Physicians was held at the BMICH Lotus Hall on 4th of January 2019 in the presence of more than 350 guests.

The council and the members of SLACPT rejoice in the achievement of Professor Chandanie Wanigatunge and wish her a successful tenure.



Outreach Programmes

Joint symposium with Hill Country Clinical Society - Adverse Drug Events and Safe Prescribing

The first outreach programme of the SLACPT was conducted in Nuwara Eliya District General Hospital in collaboration with the Hill Country Clinical Society (HCCS) on February 28, 2019. SLACPT was invited to conduct the joint symposium on Adverse Drug Events and Safe Prescribing at the 9th Annual Academic Sessions 2019 of the Hill Country Clinical Society. In line with the current theme of the SLACPT, this timely topic focused on sharing knowledge on safe prescribing, which has received less attention in the Sri Lankan context.

The joint symposium was conducted with inputs from both SLACPT and HCCS resource persons. Professor Shalini Sri Ranganathan, Professor in Pharmacology and Specialist in Paediatrics, Faculty of Medicine, University of Colombo, and Secretary/SLACPT initiated the session by enlightening the audience on Pharmacovigilance in Sri Lanka: The need, challenges and way forward. This was followed by a lecture by Dr. Thilanka Seneviratne, Senior Lecturer in Pharmacology and Specialist in Paediatrics, Faculty of Medicine, University of Peradeniya, and Social Secretary/ SLACPT in which she highlighted the practical approach to safe prescribing.

The panel discussion on Safe Prescribing: Current Status, Challenges and Solutions was facilitated by Professor Shalini Sri Ranganathan, Dr. Thilanka Seneviratne, Dr. Thiyahini Sunil Navaratinaraja, Senior Lecturer in Pharmacology, Faculty of Medicine, University of Jaffna, and Treasurer/SLACPT along with Dr. Lalindra Dias, Consultant physician and President/ HCCS) and Dr. Jayajeeva Sugathapala, Consultant Paediatrician and Committee Member/ HCCS. Panel discussion was compered by Dr. Priyanga Ranasinghe, Lecturer in Pharmacology, Faculty of Medicine, University of Colombo, Assistant Secretary/ SLACPT. The session received positive feedback from the audience.



CPD Programme with Kandy Society of Medicine and Department of Pharmacology, University of Peradeniya on Safe, Effective and Economic Prescribing

The SLACPT, in line with its theme for 2019/2020, “*optimization of medicines through safe, effective and economic prescribing*” has undertaken the mission of promoting the teaching of the same through CPD programmes at regional levels. As its second outreach programme for this year, SLACPT conducted a CPD programme, organized in collaboration with Kandy Society of Medicine and Department of Pharmacology, University of Peradeniya on the 29th March 2019 at the Auditorium of Kandy Society of Medicine, Kandy Teaching Hospital. The half-day session included a range of lectures and panel discussion.

Professor Rohini Fernandopulle, Senior Professor in Pharmacology, General Sir John Kotelawala Defence University and President/ SLACPT commenced the session with an introductory lecture on Pharmacokinetics for clinicians. Dr. Chamari Weeraratne, Senior Lecturer in Pharmacology and Specialist in General Medicine, Faculty of Medicine, University of Colombo and council member/ SLACPT enlightened the audience on Medication safety with special focus on patients with limitations. The session after the tea break comprised three lectures. Professor Nirmala Wijekoon, Professor in Pharmacology and Specialist in General Medicine, Faculty of Medicine, University of Sri Jayewardenepura and council member/ SLACPT discussed on Rational use of antibacterials for common infections. Dr. Thilanka Seneviratne, Senior Lecturer in Pharmacology and Specialist in Paediatrics, Faculty of Medicine, University of Peradeniya and the social secretary/ SLACPT discussed on Best approach to treat asthma in children. Dr. Chamila Mettananda, Senior Lecturer in Pharmacology and Specialist in General Medicine, Faculty of Medicine, University of Kelaniya and council member/ SLACPT discussed the Place of aspirin in primary prevention. This was followed by a panel discussion. The audience actively participated in the discussion. The session was highly appreciated and received positive feedback from the participants.

The Council extends its gratitude to Dr. Thilanka Seneviratne for her immense contribution in organizing this outreach programme.



What's in the Name? Medicines, Medications and Drugs in Health Care

Dr. Priyanga Ranasinghe (MBBS, MD, PG Cert Med Edu)

Lecturer, Department of Pharmacology, Faculty of Medicine, University of Colombo and Assistant Secretary/ SLACPT

Email: priyanga@pharm.cmb.ac.lk

The terms Medicine, Medications and Drugs are often used synonymously to refer to pharmaceutical preparations that are used in the treatment of disease. The terms are often used interchangeably in both non-scientific and scientific literature. However, careful examination of the terms shows subtle differences in meaning, making it important to use the proper terminology, especially in the context of scientific and academic communications. For example, while all medications can be considered as drugs, all drugs cannot be considered as medications. Hence, this paper provides a brief discussion, focused on identification of the proper terminology for pharmaceutical preparations that are used for pharmacotherapy and provides suitable recommendations.

What is a "Drug"?

The word Drug, is derived from the French word Drogue which means Dry Herb [1]. The U.S. Food and Drug Administration (FDA) [2], defines a drug as a substance,

- recognized by an official pharmacopoeia or formulary.
- intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease.

- intended to affect the structure or any function of the body.
- intended for use as a component of a medicine but not a device or a component, part or accessory of a device.

However, in the 1994 Lexicon (vocabulary) published by the World Health Organization, the term "Drug" is defined as a term of varied usage [3]. The WHO states that although a drug could be a substance that is, or could be, listed in a pharmacopoeia, in common usage, the term often refers specifically to psychoactive drugs, and often, even more specifically, to illicit drugs, of which there is non-medical use in addition to any medical use [3]. Hence the Oxford dictionary definition of a "Drug" as "a substance which has a physiological effect when ingested or otherwise introduced into the body", is more suited since it includes both pharmaceutical drugs as well as non-pharmaceutical/ psychoactive drugs [4]. The above definition does not imply whether physiological effect elicited by the substance is beneficial or harmful to the recipient. It is important to recognize that when pharmaceutical drugs are used in patient care, a beneficial physiological effect is intended.

In order to avoid confusion, it is better to distinguish between the pharmaceutical drugs and psychoactive drugs, especially in communications intended for common use. However, although it may not be explicitly highlighted, it is most often easily possible to distinguish pharmaceutical drugs and

psychoactive drugs, based on the context in which the term “Drug” is being used.

Medicine Vs. Medication?

The term Medicine/Medication, is used to refer to pharmaceutical drugs, which is defined as any substance in a pharmaceutical product that is used to modify or explore physiological systems or pathological states for the benefit of the recipient [5]. This definition clearly differentiates between a substance that elicits a mere physiological effect, from a one that has a beneficial effect to the recipient. The word Medicine and Medication are interchangeably used, and both terms refer to pharmaceutical drugs. However, it is important to recognize that the term ‘Medicine’ also (and more commonly) refers to the science or practice of diagnosis, treatment, and prevention of disease [6]. The term “medicine” has originated from the Latin word “*medicina*” which means “of a doctor” and “*medicus*” which means



“physician” (Fig1).

Figure 1. Origin of the term ‘Medicine’

The term “medication” has also been used to refer to treatment using pharmaceutical drugs (e.g ‘chronic gastrointestinal symptoms may require prolonged medication’). This probably results from its Latin origin (“*medicationem*”) which means “healing or cure”. Hence, although both terms Medicine and Medication are synonymously used to refer to

pharmaceutical drugs, they are also be used to convey different meanings depending on how they are used.

Examples from Scientific Literature

The latest edition of the British National Formulary (75th Edition), mostly uses the term ‘Drug’ to refer to pharmaceutical drugs, with example terminology including, ‘Drug Action’, ‘Adverse Drug Reaction’, ‘Hepatotoxic Drugs’ and ‘Drug Metabolism’ [7]. However, the word medicine is also interchangeably used in the BNF, the terms ‘Biological Medicines’ and ‘Biosimilar Medicines’ are some examples [7]. The U.S. Pharmacopeia National Formulary also uses terms such as ‘drug product’, ‘drug substance’ and ‘medicinal products’ [8]. However, it is important to appreciate that both NHS-UK and NIH-USA has given the preference to the word ‘medicine’ when referring to pharmaceutical drugs. The NIH-USA generally uses the term ‘drug’ to refer to psychoactive/illicit drugs. Hence, although there is still ambiguity regarding the exact terminology, few leading health care organizations are making an effort to be uniform with regards to the terminology used in reference to pharmaceutical drugs.

Conclusions

The term ‘drug’, ‘medicine’ and ‘medication’ are interchangeably used, even in reputed scientific communications. However, efforts are being made to maintain uniformity in nomenclature.

Recommendations

- The term ‘medicine’ (or ‘medication’) seems to be more suitable when

referring to pharmaceutical drugs that are used in health care.

- The term 'drug' is more appropriate when referring to psychoactive/illicit drugs.
- Irrespective of the terminology being used, it is important to maintain uniformity in the nomenclature.

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Out with the mould, in with the new?

Medicines are in use for millennia. However, pharmacology as a science has existed for just around two centuries. Some important discoveries were serendipitous like the finding that penicillin —a by-product of a type of mould can cure infection. However, in recent decades medicine research and development has become increasingly sophisticated. Progress in pharmaceutical science makes it tempting to assume that “newer” means “better and safer”. However, researchers caution against this thinking, advising physicians not to prescribe new (and usually more expensive) treatments when the existing ones are equally efficacious. In fact, new drugs have a one in five chance of being stamped with a “black box warning”, or being withdrawn from the market. Seen through this statistical lens, the newness of a drug does not guarantee its safety.

Hence, it cannot be assumed that progress in pharmaceutical science means that all drugs on the market are safe for everyone. There is no “magic bullet” drug that offers all benefit and no harm.



SLACPT MCQ Course

The Sri Lanka Association of Clinical Pharmacology and Therapeutics organized a successful preparatory MCQ course for doctors preparing for postgraduate and qualifying examinations (local/ foreign) on 30th March 2019 at the Pharmacy lecture hall in NHSL. About 75 participants registered for this one day paid course. Majority were medical officers preparing for various selection examinations and foreign MBBS graduates preparing for the ERPM examination.

The MCQ course was facilitated by four resource persons covering various topics through the MCQ discussion. Dr. Sachith Abhayaratna, Senior lecturer in Pharmacology and Specialist in Endocrinology, Faculty of Medicine, University of Colombo discussed the MCQs on endocrine pharmacology. This was followed by discussion of the MCQs on basic pharmacology by Dr. Chamila Mettananda, Senior lecturer in Pharmacology and Specialist in General Medicine, Faculty of Medicine, University of Kelaniya. The session after the lunch break was facilitated by Professor Rohini Fernandopulle, Senior Professor in Pharmacology, Faculty of Medicine, General Sir John Kotelawala Defence University. She discussed the MCQs on pharmacology of anti-infectives. The concluding session was on the cardiovascular pharmacology, which was discussed by Professor Priyadarshani Galappatthy, Professor in Pharmacology, Faculty of Medicine, University of Colombo.

This MCQ course received a positive feedback from the participants with requests to conduct similar sessions in the future incorporating other topics in pharmacology as well.

The council of SLACPT extend their gratitude to Dr. Priyanga Ranasinghe, Assistant Secretary/ SLACPT, Dr. Sharith and Dr. Sivaharenee - demonstrators from department of pharmacology, Faculty of Medicine, University of Colombo and Ms. Inoka Gammune, Management assistant, department of Pharmacology, Faculty of Medicine, University of Colombo for their enthusiasm, hard work and commitment in organizing this one day course.



Antibacterial Corner

Compiled by Professor Shalini Sri Ranganathan

The World Health Organization's Expert group on selection and use of essential medicines has brought a new classification of antibacterial agents in order to optimize use of these agents. The classification is known as **AWaRe**, in which 'A' denotes Access, 'Wa' denotes Watch and 'Re' denotes Reserve. Antibacterial agents listed under Access category are the ones which are first and second choice for empirical treatment of 21 common infectious syndromes. The Watch group lists antibacterial agents or classes which appear to have higher toxicity concerns or resistance potential than the Access group. Antibacterial agents of last-resort options are grouped under Reserve category.

There are some limitations in applying this classification, but appears to be useful if this category is adapted at national levels.

For further details: <http://apps.who.int/medicinedocs/en/m/abstract/Js23413en>

First MD trainee in Clinical Pharmacology & Therapeutics in Sri Lanka



Dr. Priyanga Ranasinghe is the first MD trainee in Clinical Pharmacology and Therapeutics in Sri Lanka.

Dr. Priyanga Ranasinghe graduated with MBBS (Honours) degree from the University of Colombo in 2008 and upon completing his internship, joined the Department of Pharmacology, University of Colombo as a Lecturer in 2012. He completed his registrar in Medicine training attached to the University Medical Unit of the National Hospital of Sri Lanka, and subsequently obtained his MD (Medicine) from the Postgraduate Institute of Medicine, University of Colombo in 2018. He has also successfully completed his PhD, which involved two novel clinical trials evaluating treatment/prevention strategies for diabetes.

Dr. Ranasinghe's primary research interests are to study the epidemiological aspects of obesity, diabetes and non-communicable diseases in Sri Lankans and conducting pharmacological and ethnopharmacological interventional studies aimed at prevention. He has over 70 research publications in peer reviewed international journals, and more than 100 research communications presented at national and international conferences. He has been the recipient of numerous research awards, including the CVCD Award for the most outstanding young researcher (Medicine) in 2014.

From the WHO

The meeting of the 22nd WHO Expert Committee on the Selection and Use of Essential Medicines was held at WHO Headquarters, Geneva, from 1st to 5th April 2019 to revise and update the WHO Model List of Essential Medicines (EML) and Model List of Essential Medicines for Children (EMLc). This will be the 21st adult essential medicine list and 7th essential medicine list for children. Professor Shalini Sri Ranganathan, Secretary of the SLACPT served as an expert in the 13 member committee. The detailed report as well as the lists will be published soon. There had been interesting applications for inclusion, deletion and change.

Further details can be found in www.who.int/selection_medicines/committees/expert/22/en/

Ceftriaxone and Hepatitis in Elderly Patients ≥ 75 Years

Ceftriaxone is a 3rd generation cephalosporin with broad-spectrum gram-negative activity; has lower efficacy against gram-positive organisms. It is highly stable in presence of beta-lactamases (penicillinase and cephalosporinase) of gram-negative and gram-positive bacteria. Bactericidal activity results from inhibiting cell-wall synthesis by binding to penicillin-binding proteins and interfering with synthesis of peptidoglycan which is a major structural component of bacterial cell wall. Cephalosporin is used in the treatment of a large variety of infections. The most frequently reported adverse reactions for ceftriaxone are eosinophilia, leucopenia, thrombocytopenia, diarrhoea, rash, and increased hepatic enzymes.

Dr. Ian Boyd (Australia) says that in October 2017, there were about 67 individual case safety reports (ICSRs) of hepatitis in association with ceftriaxone in patients 75 years and older recorded in VigiBase, the WHO global database of ICSRs. These cases were submitted from Australia, France, Germany, Italy, Republic of Korea, Singapore, Spain and the United States. Ceftriaxone was the only drug suspected in 27 of these cases. Time to onset was reported ranging from the same day that administration began to about four months with a median of six days.

Of the 59 reports in which the outcome was stated, 52 were reported as recovered or recovering in which, the drug was withdrawn in 50 cases. In the remaining seven cases, it was reported as not recovered. The consistent time to onset and the cases reported as recovered or recovering after ceftriaxone withdrawal are highly suggestive of a drug-induced effect. In addition, the product information mentions raised liver enzymes and there are five reports of such association in the literature.

In conclusion, although hepatitis may have other possible causes in some patients in this series, the use of ceftriaxone appears the most likely reason.

Read more at <http://apps.who.int/iris/bitstream/handle/10665/277447/WPN-2018-06-eng.pdf?ua=1>

What is Clinical Pharmacology?

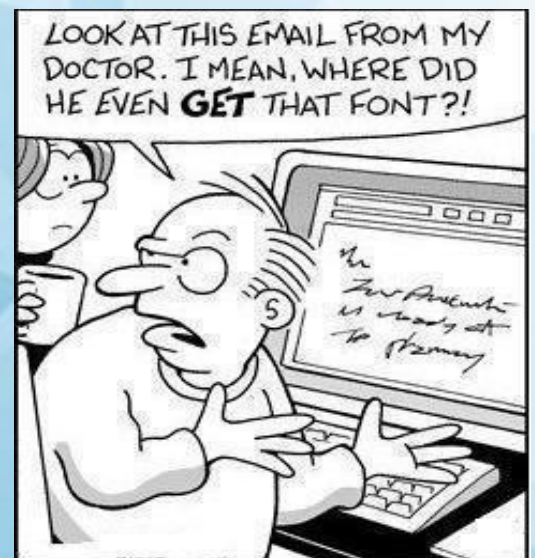
Clinical Pharmacology is the scientific discipline that involves all aspects of the relationship between drugs and humans. Its breadth includes the discovery and development of new drugs, the application of drugs as therapeutic agents, the use of drugs, the beneficial and harmful effects of drugs in individuals and society, and the deliberate misuse of drugs. Clinical pharmacology is a multidisciplinary team science that encompasses professionals with a wide variety of scientific skills including medicine, pharmacology, pharmacy, biomedical science and nursing. Other professionals who are important in various aspects of clinical pharmacology include social and behavioural scientists, dentists, economists, epidemiologists, geneticists, toxicologists, mathematicians and computer scientists.

The descriptor 'clinical pharmacologist' is normally used in a professional sense to refer to physicians involved in the medical care of patients who are specialists in clinical pharmacology. They have usually undertaken several years of postgraduate training focusing on important aspects of clinical pharmacology including clinical trials, drug evaluations, pharmacoepidemiology, pharmacoeconomics, pharmacovigilance and clinical drug toxicology. Some countries have accreditation programmes for clinical pharmacology as a physician specialty but many do not.

- Originally from "Clinical Pharmacology in Research, Teaching and Health Care-Considerations by IUPHAR, the International Union of Basic and Clinical Pharmacology" which was published in the journal Basic and Clinical Pharmacology and Toxicology (BCPT) in 2010, Volume 107, pages 531 – 559.

Upcoming Events . . .

- Plans are underway to conduct the Annual CPT Quiz for undergraduates. Watch out for further details in the next issue.
- MCQ Course – The next MCQ course is expected to be held soon.



Write to us!

SLACPT welcomes suggestions from members towards improving the image of the Association and the newsletter. Please send your suggestions to:

Email: slacpt2017@gmail.com