



**Hybrid  
Conference**

**3<sup>rd</sup> Annual Students'  
Research Session**

**Faculty of Health - Care Sciences  
Eastern University, Sri Lanka**

*ASRS 2021*

**Today's Researcher -  
Tomorrow's Inventor**

*20<sup>th</sup> December 2021*

**BOOK OF EXTENDED  
ABSTRACTS**





**3<sup>rd</sup> Annual Students' Research Session –  
2021**

Faculty of Health – Care Sciences  
Eastern University, Sri Lanka

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**Book of Extended Abstracts**

**Faculty of Health-Care Sciences  
Eastern University, Sri Lanka  
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# Agenda

- 09:30 Session opens
- 09:35 Welcome address and Introduction to ASRS-2021  
(Dr. K. Kartheepan, Chairperson/ASRS 2021)
- 09:40 Welcome Dance
- 09:50 Address by the Dean/FHCS  
(Dr. (Mrs). A. N. Arulpragasam)
- 10:00 Launching of abstracts
- 10:10 Address by the Chief guest  
(Professor F. C. Ragel, Vice Chancellor/EUSL)
- 10:20 Introduction to Keynote Speaker
- 10:25 Keynote Address  
(Professor Shalini Sri Ranganathan)  
“Students as Researchers: Road is Difficult – Destination is Beautiful”
- 10:55 Free Paper session I
- 11:25 Break
- 11:30 Introduction to Guest Speaker
- 11:35 Guest address I  
(Professor A. Rameez)  
“Drug usage and youth: an emerging social issue in Sri Lanka”
- 12:05 Free paper session II
- 12:35 Lunch Break
- 13:00 Quiz
- 13:30 Free paper session III
- 14:00 Introduction to Guest Speaker
- 14:05 Guest address II  
(Dr.T.Gadamabanathan)  
“Embrace Resilience-Empower your mind”
- 14:35 Awarding of the winners & wrap up session
- 14:50 Vote of Thanks  
(Ms. S. Krishana, Secretary/ASRS 2021)



## Message from the Vice Chancellor

I am delighted to note my message for the Third Annual Students' Research Session (ASRS), Faculty of Health-Care Sciences-2021, Eastern University, Sri Lanka (EUSL). Research is integral part of university education and all of us are bound to engage and promote research at different levels. Our new Research Policy as per to the Goal-2 of our Strategic Plan promotes research in two fronts; i.e. for socio-economic development of the region and nation, and for generation of new knowledge of global significance.



As per to the new research strategy, the Annual Research Sessions of EUSL are mainly focused on dissemination of undergraduate students' research findings on issues that are significant to the region, the environment and the local community. Therefore, faculties are encouraged to collaborate with key external public and private organizations in the region and integrate Honours Degree research projects, thereby disseminating the findings. The university is committed to provide research grants to extend such potential preliminary research findings to the next level. The university has developed awards for excellence in research with regional/national significance to encourage this exercise.

On the other hand, EUSL in its new research policy, is promoting research of global significance by recognizing research publications in reputed journals (i.e. journals indexed by Web of Science, Scopus, etc.) that would contribute to enhance the global ranking of Eastern University. We have established output based award schemes for researchers who perform high quality research and produce high impact research findings of global significance, so that these grants can be used to further enhance their research activities. I would like to urge the academic community to aim at such high impact research of global significance which would enhance your research visibility and repute. I am glad to note that there have been many such good publications emanating from the Faculty of Health-Care Sciences, which is whole mark of its progressive research culture.

ASRS-2021 of the Faculty of Health-Care Sciences, with the theme **“Today’s Researcher-Tomorrow’s Inventor”** provides an excellent opportunity for the student researchers by giving a valuable platform to disseminate their research experiences in a professional conference environment, and receive

constructive and timely feedback from participating scholars. The research session focuses on tracks dedicated to Fundamental Health Sciences, Allied Health Sciences, Family and Community Health, Diagnostic and Laboratory Sciences, Clinical Sciences and Healthcare Education.

I would like to take this opportunity to emphasize the need for more research in Consciousness-based medicine in addition to the research being done in modern biomedical treatment where drugs are used to affect body chemistry. "Biomedicine focuses on the biochemistry of the body perceiving diseases as mechanical errors at the micro level, while consciousness-based medicine (or holistic medicine) focuses on the individual's experiences and conscious whole". There are scientific evidence of many non-materialistic integration within biological process, for example, Morphogenetic Fields and Morphic Resonance that are the foundation behind bioenergetics, what we call the Human Body-Field that are an essential part of every living organism which greatly influences on our health and healing processes. Finally, I thank with appreciation the enthusiasm and efforts of the Dean, the organizing committee, academics and students of the Faculty of Health-Care Sciences in organizing the conference in corroboration with the research policy of EUSL, and congratulate all of you for the success being achieved on the objectives.

Professor F C Ragel,  
Vice Chancellor  
Eastern University, Sri Lanka

## **Message from the Dean**

### **“Today’s Researcher-Tomorrow’s Inventor”**



I am honoured to record my statement at the Annual Student Research Sessions 2021. This is the third annual programme in the series of platforms dedicated to showcasing student research at the Faculty of Health-care Sciences, EUSL.

Both the MBBS and BSc Honours (Nursing) degree programmes offer a research component worth six credits. This component opens the pathway for the undergrads to explore the world of research. Every year we find students eagerly looking for suitable topics in their areas of interest and engaging in their projects with enthusiasm. As supervisors, the staff too become invigorated and inspired by this activity. I am confident that a number of our young researchers will emerge as inventors in the near future. With our university's motto, *per ardua ad scientiam*, the Eastern University and the Faculty of Health-care Sciences strive to nurture the culture of science and research among the student and staff community. I have little doubt that our graduates in the field of health-care, walking out the gates of FHCS will contribute immensely to promoting health in the region through innovative research.

Until now, the staff and student researches of FHCS have been confined to descriptive studies held in the hospital and community settings. The reason for this limitation is restrictions in time, funding and facility. To give students more time, we made changes in the curricula and timetables. With the shift of the faculty to the new Pillayaradi Building Complex shortly, the staff and students of FHCS will get the opportunity to conduct interventional studies in the proposed Research Centre attached to the Primary Healthcare Centre, with the provision of the well-equipped laboratories of the departments of Human Biology and Pathophysiology. We envisage a significant contribution to the local community by FHCS from ventures of this nature in years to come.

Last year in keeping with the new normal, the presentations were done in the online platform. This year too, we will have live streaming with recorded videos of the presentations followed by a live discussion with the presenters. Further, to make the session more interesting, the ASRS organizers have introduced a few interactive events, which are expected to increase the



participation of all students, especially the junior-most batches, creating awareness and interest in research in them. My heartiest congratulations to the Conference Chair, Dr. K. Kartheepan and his passionate team in effectively organizing and executing this very successful event. My commendation to all the research teams, presenters, and respective supervisors.

Let us all have a productive and enjoyable day on the 20th of December 2021!

Dr Angela Arulpragasam Anthony  
MBBS. MD (Paediatrics)  
Dean  
Faculty of Health-care Sciences

## Message from the Chairperson



It's my great pleasure to be the Chairperson of the Organizing Committee of the third Annual Student's Research Session of Faculty of Health-Care Sciences, Eastern University, Sri Lanka. I wish to cordially invite you all to make the enormous success of this historical event.

In simple, research is the process of systematically seeking the solution for a problem. In the field of health-care sciences, finding the most appropriate solution for significant health issues with the spectrum of communicable and non-communicable problems such as COVID-19 and suicide are very essential. Improved and sustainable solutions for these health issues are only possible by searching repeatedly (re-search).

In my academic journey, I have been seen students with extra-ordinary talents and intelligence apart from their routine teaching-learning activities; however, these talents are under-utilized by students themselves or staff ourselves in the context of research platform.

When I got the opportunity to serve as the Chairperson of the Organizing Committee of the third Annual Student's Research Session, I was more concerned about the theme of this year session. I proposed five themes to the committee to select one; unanimously, every committee member chose the original theme that **"Today's student researcher is Tomorrow's inventor"** finally, that is modified as **"Today's Researcher-Tomorrow's Inventor"** after the fruitful discussion.

Still, the original theme is ringing in my ear, which should spark our students' brains to become an inventor in the future through the chain of research activities in their careers locally and internationally. This is my dream, one day definitely some of our students prove my dream and this theme to be achievable when they receive the awards and rewards for their invention.

As two previous ASRS-FHCS, I strongly believe, this session also providing the peculiar platform to our budding student researchers of FHCS to disseminate the findings of their research projects to add a significant contribution to the scientific world.

Finally, I wish to convey my hearty gratitude to Vice-Chancellor, Eastern University, Sri Lanka, Dean, Faculty of Health-Care Sciences, Keynote Speaker Prof. Shalini Sri Ranganathan, Guest Speakers Prof.A.Rameez, Dr.T.Gadambanathan, Organizing Committee, ASRS-FHCS-2021, Reviewers of extended abstracts, all stakeholders of this events, all participants and most importantly our student researchers who all are contributed in a variety of manner for the great success of this event.

Dr. K Kartheepan  
Chairperson  
Third Annual Students' Research Session  
Senior Lecturer in Community Medicine  
Department of Primary Health Care  
Faculty of Health-Care Sciences  
Eastern University, Sri Lanka.

## Message from the Secretary



I'm very much privileged and happy in writing this message to the "Book of Extended Abstracts" of the 03<sup>rd</sup> Annual Students' Research Session of Faculty of Health-Care Sciences, Eastern University, Sri Lanka. A researcher needs to have proper dissemination and knowledge sharing of his/her study to achieve the final outcome. In that manner our 03<sup>rd</sup> Annual Students' Research Session will definitely give a big platform to the student researchers to disseminate their findings and have a constructive critique by the expertise panel members.

And of course as our theme describes: we don't have any doubt that Today's Researcher will be Tomorrow's Inventor. So for today's student researchers a proper pathway is needed in the research carrier and I'm sure that this session will definitely be a starting point and it will make a big positive change in the research pathway of the present and future student researchers.

I'm very much happy to be the secretary of this 03<sup>rd</sup> Annual Students' Research Session organizing committee and to work with a very much cooperative committee. I wish all the very best and all the good success for this event.

Miss. S Krishana  
Secretary  
Third Annual Students' Research Session  
Lecturer (Probationary) in Nursing  
Department of Supplementary Health Sciences  
Faculty of Health-Care Sciences  
Eastern University, Sri Lanka.

## Message from Editor

It gives us a great pleasure to launch the book of extended abstracts of the 3<sup>rd</sup> Annual Students' Research Session of Faculty of Health – Care Sciences, Eastern University, Sri Lanka.



This event is the final results of a series of tremendous activities by a team of motivated students and Lectures of Faculty of Health – Care Sciences, Eastern University, Sri Lanka.

It is a great delight to understand that the young Students under the patronage of their Senior Lectures are getting maximum benefit out of the opportunity to get involved in the reaches. No wonder that this experience will be a good start for them to improve their research work in the future medical carrier.

It is also highly impressive that the interest for studies among the students is improving as the numbers of free papers are increasing annually.

We would like to make this opportunity to convey our heartiest gratitude to the reviewers of the free papers for taking time off their busy schedules to add value to our free paper session. Their guidance and advices have been of great importance for all the students in our institution over the past years to improve the quality of the researches.

Hope this congress will be a great success and will enjoy the academic activities!

Dr. V Thadchanamoorthy  
Editor  
Third Annual Students' Research Session  
Senior Lecturer in Paediatrics  
Faculty of Health-Care Sciences  
Eastern University, Sri Lanka.

## Keynote Address

### **STUDENTS AS RESEARCHERS: ROAD IS DIFFICULT - DESTINATION IS BEAUTIFUL**

Professor Ragel, Vice Chancellor, Eastern University of Sri Lanka, Dr Arulpragasam, Dean, Faculty of Health- Care Sciences, the Guest speakers, Professor Rameez and Dr Gadambanathan, Chairperson and members of the organizing committee, distinguished invitees, student researchers, staff and students of Faculty of Health- Care Sciences, a very good morning to all of you. First of all, let me thank the organizing committee for inviting me to deliver the key note address in this prestigious event in the calendar of Eastern University of Sri Lanka. I am honored and humbled. I pray and hope that my address will justify the expectations of the organizers.



I thank the Chairperson for the kind introduction. *“Success is not an accident, it is hard work, perseverance, learning, studying, sacrifice and most of all, love of what you are doing” (Brazilian Football player who scored 1,279 goals in 1,363 games)* Success is a journey and not a destination and the road to success is always under construction.

Let me now move on to the topic: Students as Researchers: Road is difficult, Destination is beautiful. Challenges are tough, benefits are great! I dedicate this key note address to Professor C Sivagnanasuntharam (mostly known as Nanthi), Professor of Community Medicine, Faculty of Medicine, University of Jaffna. He inspired me to brave the challenges of the difficult road.

What is research? It is searching again and again. It is quest for knowledge through systematic study and thinking, observation and experimentation. I have noticed that the current undergraduates lack these skills. As a result, they struggle with research. As University academics, we have to create an environment for students to develop these skills. They will then start to like research.

The National Institute for Health Research of the United Kingdom defines research as an attempt to derive generalizable new knowledge by addressing clearly defined questions with systematic and rigorous methods. It is important to get results from experiment, but most important is the process

in getting that results! Conclusions derived from researches which lack clearly defined questions or rigorous methods or both are worthless and can be dangerous also.

There is only one type of research: Good research. Bad research does not deserve the name of research. An ad hoc data collection from a group of people cannot be labelled as research. This brings me to the essential attributes of academic research: (1) Sound research question (FINER) (Feasible, interesting, novel, ethical and relevance), (2) Systematic, appropriate research methodology, (3) Acknowledges previous research on the topic, (4) Uses relevant, empirical data and proper data analysis methods, (5) Representative and generalizable, (6) Guided by logic, (7) Has external validity, (8) Replicable, reproducible, and transparent, (9) Acknowledges its limitations and provides suggestions for future research and (10) Ethical. However, due to constraints in time and funds, research done by students might not deliver generalizable new knowledge mainly because of inadequate sample size and convenient sampling: Student researchers should adhere to all other attributes. Supervisors should be role models and facilitators.

Research in healthcare could be in diverse areas such as pharmaceuticals, public health, allied health sciences, vaccinationology, genetics, nutrition, metabolism or environment. They have contributed significantly to the current health indices. These are five research papers of yesteryear that revolutionized health (BBC, 2015): Knowledge generated from these researches are now taken for granted

1. Documentation of success of smallpox inoculation
2. Association between lung carcinoma and smoking
3. Causal relationship between *Helicobacter pylori* and ulcers:
4. Successful treatment of type 1 diabetes mellitus with insulin
5. Beneficial effects of using antiseptics during surgery

Recent examples include discovery of DNA, RNA, penicillins, prostaglandins, monoclonal antibodies, oral rehydration salt and cause and effect relationship between human papilloma virus and carcinoma of cervix. If we take Sri Lanka, research in the areas of malaria, dengue, non-communicable diseases, snakebite, organophosphate poisoning and COVID-19 has generated evidence to entire world.

Let us now move on to the difficult research road I travelled: Chairperson of the organizing committee specifically requested me to speak on a topic which would stimulate and motivate student researchers. I decided to take you down my memory lane. If I do not share my memories to motivate others, my journey would be a waste. When we share the story of the mountain we climbed – our story could become a page in someone else’s survival guide.

Let me share my first research experience: You may be surprised to know that I encountered research for the first time as a “research participant” and not as a researcher! It was in 1985 when few first year students were recruited as volunteers for a senior student’s research in Biochemistry.

My second encounter with research was in the second year in Biochemistry. From research participant, I became an undergraduate basic science researcher. We used to break at least one test tube per day and mastered the skill of hiding the broken pieces from the vigilant technician! At the end of this lab based research we submitted a report and I think a small proportion of the marks given to the report contributed to the final Biochemistry mark. I met research again in the third year in Community Medicine. Each student had to do an individual research as there was only about 80 students in the batch. From an undergraduate basic Science researcher, I became an undergraduate public health researcher. My supervisor was late Dr N Sivaraja, Senior Lecturer and Consultant in Community Medicine. We were trained in epidemiology, literature review, data collection, questionnaire development and data analysis before we started the research. We did not have the luxury of computers, internet or mobile phones: In Jaffna, no telephone or electricity as well due to the civil war. We have to write and get it typed: The typist charged us every time we made a mistake claiming that he had to re-type as there was no “save” or “delete” option in his manual type writer! In a way, his demand for money deterred us from making mistakes! We knew the key phrases that should appear in research documents such as sample size, pre-tested questionnaire, and random sample. Even 30 years later, they still remain as key phrases. However, now I know the value of them. Ethical considerations is the only additional one which did not exist in early 1990. These encounters with research during my “prolonged” undergraduate period in the Faculty of Medicine, University of Jaffna laid the foundation for my current career as an academic, clinician and researcher.

I met research again as a “temporary student demonstrator” attached to the Department of Community Medicine when there was a long gap in our MBBS



programme. It was the golden period in my research journey as I came under the direct supervision of the great man, Professor Sivagnanasuntharam. During this period, I had to extract data from the cards maintained by Professor Nanthi and do chi-square calculations manually with a help of a small calculator. During the same student demonstrator period, from chi square calculation, I was promoted to data collection: No Google form or online data collection! We had to collect data from at least 10 houses in one day. Only mode of transport was bicycle. The questionnaire was also a complex one. It was not an enjoyable task. Even if one question was not responded, we were requested to go back to the house next day and get the required information. I learned the importance of meticulous data collection, a practice which I still continue. Two years later, when I was doing internship in Jaffna Teaching Hospital I was promoted to research presenter. I had to present the field study for which we collected data at the Annual Scientific Sessions of the Jaffna Medical Association. I prepared transparencies and projected them using the overhead projector: Most of you would not even know an overhead projector.

As I progressed in my educational career, without realizing I was progressing in my research career as well: I became a co-researcher and co-author: This is when I was a registrar in paediatrics at Lady Ridgeway Hospital. My trainer was an enthusiastic researcher. We used to go from ward to ward with a note book to collect data. I naively wondered at that time why our trainer was including all of us as co-authors! 20 years later, I am laughing at my naive thought. Now as an editor and reviewer, I regularly witness issues related to authorships. Seniors getting the work from the juniors, but not even acknowledging them; on the other hand, juniors submitting papers without discussing with their superiors. From co-investigator, I became a principal investigator when I returned to Department of Pharmacology, Faculty of Medicine, University of Colombo after my local training in paediatrics and was waiting to go for overseas training. For the first time, I heard “publish or perish”. I started my first own research. This was a cohort study looking at the association between Kawasaki Disease and Atopic dermatitis. I presented the findings at the Annual Scientific Sessions of the Sri Lanka College of Paediatricians in 1999, but did not publish. A common mistake of early career researchers at that time.

Every bit of experience I gained during this evolution phase (From 1986 as a research participant to 1999 as the principal investigator, passing several milestones on the way) came to my rescue when I was awarded commonwealth scholarship to do PhD in UK. I underwent many hardships

while I was reading for PhD, but the courage, perseverance, resilience and dedication, the attributes, I collected throughout my journey since 1986 came to my assistance to face those hardships. To sum up, the road I travelled since 1986 was rough, but the destination was beautiful.

Let me now move on to the last part of my address: Students as researchers: What are the benefits? How the medical undergraduate programmes provide the necessary training? What are the challenges?

Let's look at the benefits – this is what Professor Nanthi says in his book “Learning Research”:

1. “The researcher’s role is an integral part of the medical profession. No patient is a prototype of another, and their families differ one way or another. Hence, practice of medicine has to deal with questions, investigations, analysis and interpretations in different situations of healthcare. This spirit of inquiry should be the basic attitude of a doctor, starting as a student and continuing throughout life”. Every doctor has a responsibility to do research. So much so, the Universities and the Ministry of Health are providing research allowance for academics, doctors and allied healthcare professionals for taking up research. Research is a mandatory component in all PGIM training programmes. Many clinicians are currently functioning as principal investigators in Industry sponsored clinical trials. Foundation to become an efficient, effective, ethical and safe researcher is laid during undergraduate period.
2. In the evidence based medicine era, you cannot practice medicine without knowing the current evidence: Publications emerging from researches done in various parts of the world share the generated evidence with the rest of the world. Evidence for “efficacy and lack of efficacy” of various medicines proposed for Covid-19 is one such example. Being familiar with research starting as a student trains you to appraise research publications.
3. Healthcare professionals, hardly take up research as their career in developing countries – they favor clinical work because of the prospect of money, position, privileges, and popularity. Research organizations are always looking for doctors as career researchers. Hence undergraduate research can be a great strength to your CV if you have to seek employment in these organizations.
4. Research disciplines you. While doing research, you spontaneously learn important soft skills such as time management, tolerance, team work, perseverance, communication, data management, curiosity, document management, language, and information technology.

5. Research and learning process cannot be separated – A good researcher will be a good learner. Research gives you the art of systematic thinking and organized curiosity, essential skills for a good learner
6. Research in your curriculum expose you to ethics and professionalism at a very early stage, an opportunity not available in many other programmes

Having presented the value of research in undergraduate curriculum, let me focus on current situation in Sri Lankan medical schools. Web search and personal inquiry confirmed that research is a compulsory undergraduate curriculum requirement and come under the purview of Department of Community Medicine in all the state medical faculties in Sri Lanka. All the faculties have protected time period for research in the timetable. Students take up research as a group comprising 2-4 students. In my faculty, an academic or a community medicine postgraduate trainee is assigned as a supervisor for each group. In most of the faculties, prior training on epidemiology and statistics are given before students take up research. Students are taught, guided, supported and supervised by the Department of Community Medicine and the supervisors during all stages of research programme. Faculties which have established research programme give a detailed study guide to students. In all the faculties, students submit a report and face an individual or group viva. Marks obtained for research contributes to the Community Medicine or Community Stream mark.

Like this student research session at the Faculty of Healthcare Sciences, Eastern University of Sri Lanka, all the faculties provide some form of platform for student researchers to present their researches. I have seen students presenting in regional, national and international forums and winning awards also. In my Faculty, from 2017 onwards, the top 10 research projects that scored highest are given an opportunity to write full paper articles under student category in the Ceylon Journal of Medical Sciences. In summary, all the medical and healthcare faculties try their best to provide the best possible training in research to their students.

Let's look at the challenges now

1. Making students to realize the importance of research
2. Creating the spirit of inquiry in students who had not been trained to do so during primary and secondary education
3. Getting the due recognition from all stakeholders for undergraduate research programmes

4. No patient is a prototype of another. Patients and hospitals are rich source of research questions. Getting the commitment of clinical trainers to research programme is a challenge
5. Getting the research programme into the otherwise tight academic programme
6. Arranging research programme without getting in the way of exams
7. Inadequate resource persons is a major challenge for faculties with limited staff

What type of researches students should take up? Research is indispensable for resolving public health challenges. I would advise students and their supervisors to be vigilant about the public health challenges around you. There will be plenty: Once you have spotted the public health challenge, as recommended by the World Health Organization, you can research the challenge under five generic areas:

1. Measuring the magnitude and distribution of the health problem
2. Understanding the diverse causes or the determinants of the problem, whether they are due to biological, behavioural, social or environmental factors;
3. Developing solutions or interventions that will help to prevent or mitigate the problem
4. Implementing or delivering solutions through policies and programmes
5. Evaluating the impact of these solutions on the level and distribution of the problem

One Final remark: The object of research is to extend human knowledge beyond what is already known. But an individual's knowledge properly enters the domain of science only after it is presented to others in such a fashion that they can independently judge its validity; for this to happen, research should generate papers. If the research does not generate papers, it might just as well not have been done. So start publishing.

Let me conclude: my dear students: you heard the bumpy road I travelled, but as you can see, the destination is beautiful, so that I am with you today delivering the key note address at your annual research symposium. Research is a journey without end.

Professor Shalini Sri Ranganathan  
Professor in Pharmacology and Specialist in Paediatrics  
Faculty of Medicine, University of Colombo, Sri Lanka.

# **Message from the Guest Speaker**

## **DRUG USAGE AND YOUTH: AN EMERGING SOCIAL ISSUE IN SRI LANKA**

### **Introduction of drugs**

A number of social problems exist in the world today such as teenage pregnancy, drug addiction, poverty, domestic violence, child abuse, prostitution, road accidents, divorce and crime, etc., all of which have adverse effects on individuals and societies. Drug addiction has lately become one of the biggest social problems in the modern world.



Drugs are viewed as unnatural substances that are forced onto a society from deviant external forces. Many people in the world are alarmed about the use of drugs by the young and old and about its invasion into their societies. Drugs possess both positive and negative connotations that depend on the usage and the persons who use it.

Commonly, drugs are categorized into two types as licit drugs and illicit drugs. Licit drugs are known as the legal drugs. Making, selling and using licit drugs is not prohibited. Alcohol, tobacco and caffeine are some examples of licit drugs in the market. Illicit drugs are prohibited, so it is illegal to make, sell or use them by anyone. Illicit drugs have been classified as illegal drugs because they are a threat to the health and life of the victims, as well as being a danger to the whole society. Heroin, cocaine, LSD, ecstasy, methamphetamine, amphetamines and hallucinogens are some examples of these kinds of drugs. Illicit drugs are highly addictive in nature and pose serious risks to those who use them in all ways (Brecher, 1972).

### **Drug usage among youth or adolescence**

Usage and addiction of dangerous drugs which have been identified as Narcotics, Depressants, Stimulants, I hallucinogens and Cannabis (Dharmapriya, 2001), in various countries has been a recent trend in both developed and developing countries specially among the youth or adolescence.

Adolescence is defined by the World Health Organization (WHO) as “the transition period from childhood to adulthood”, ranging from ages 10 to 19

years. In Sri Lanka, adolescents consist of 16.1% of the total population, with 70% attending school.

During the past few decades, an increase in trends of smoking and substance abuse among adolescents has been reported worldwide. These behaviors are well-associated with various social, biological, economical, and psychological issues such as violence, crime, injuries, diseases, increased school dropout rates, and deaths in extreme cases.

Cannabis was the most used substance worldwide in 2018, with an estimated 192 million people using it worldwide. Opioids, however, remain the most harmful, as over the past decade, the total number of deaths due to opioid use disorders went up 71 per cent, with a 92 per cent increase among women compared with 63 per cent among men.

Drug use increased far more rapidly among developing countries over the 2000-2018 period than in developed countries. Adolescents and young adults account for the largest share of those using drugs, while young people are also the most vulnerable to the effects of drugs because they use the most and their brains are still developing.

Cannabis also remains the main drug that brings people into contact with the criminal justice system, accounting for more than half of drug law offences cases, based on data from 69 countries covering the period between 2014 and 2018.

### **Drug usage among youth or adolescence in Sri Lanka**

Alcohol and drug abuse has become a highly visible social problem in South Asia too. India, Bhutan, Bangladesh, Nepal, and Sri Lanka are the countries mostly affected by drug abuse in this region. Heroin, Cannabis, Opium, and certain pharmaceutical preparations are the commonly abused drugs in these countries. Alcohol and tobacco use in combination with other drugs is also seen in these countries. Addiction to heroin by those below the age of 17 and cannabis usage by those in the 18–20 age group has been reported in this region.

In Sri Lanka, the smoking prevalence among aged 13-15 years is believed to be around 2%. Tobacco use includes use of both smoked (ganja, cigarette, bidi, cigars) and smokeless (chewing tobacco, betel with tobacco, babul, and madana modaka). More than 6000 children (10-14 years old) and 1725000 adults (15+ years old) continue to use tobacco each day.

The prevalence of drug use in Sri Lanka and the focus on illicit drug trafficking can be determined by several key components. Criteria such as arrests for drug related offenses, imprisonment, reporting to treatment and rehabilitation services, and drug related crimes are primarily based on this. According to the National Prevalence Survey of Drug Use 2019, cannabis and heroin have been identified as high prevalence drugs.

Cannabis is the most commonly used illicit drug, with a prevalence of 1.9 % of the total population of above 14 years. An estimated 301,898 persons are cannabis users. An estimated 92,540 or 0.6 % of population of above 14 years are heroin users in Sri Lanka. Heroin use among male population (above 14 years) is 1.2% and among female population (above 14 years) is 0.017 percent. Approximately 0.2% of total population (above 14 years) are abuse any pharmaceutical drug. Polly drug use is common among drug users.

92,540 or 0.6% of the population over the age of 14 in Sri Lanka are heroin users and heroin is reported as the second highest prevalence drug in the country. The majority of people for heroin are street level heroin users and have been arrested on the offense of possession for personal consumption. In 2020, 1250 kilograms of heroin were seized and 51,696 people were arrested. The number of arrests related to heroin, increased by 21% in 2020 compared to 2019. The prevalence of heroin use was 254 per 100,000 populations, aged 15-64 in 2020.

In 2020, 1649 drug addicts received treatment –and 740 (45%) of them reported from the treatment centres of National Dangerous Drugs Control Board, 104 (11%) from the prison treatment program, 226 (14%) from NGOs and 449 (30%) from Kandakadu Treatment and Rehabilitation Center under the Bureau of the Commissioner General of Rehabilitation. The majority (27.5%) of those clients are institutionalized from Colombo District. 40% of clients seeking treatment and rehabilitation were in 30 years or above. Treatment admissions have been decreased by 54.3% during the year 2020 with compared to the 2019 due Covid 19 pandemic and travel restrictions.

In 2020, the total number of people imprisoned for drug related offenses was 19,856. Out of them, 9,336 have been imprisoned for narcotic related offenses. It accounts for 47% of all imprisonments. In the year 2020, 1277 persons (13.7%) were imprisoned for cannabis related offenses and 974

(85.4%) persons were imprisoned for heroin related offenses. Imprisonment for drug related offenses has decreased by 32% in 2020 compared to 2019

Drug use is a phenomenon which can be created social and health problems to the society and it can be identified that there is an interrelationship between drug use and crimes when examine the minor and grave crime incidents reported in recent past. According to the annual crime data of the Colombo Crimes Division, 281 incidents of minor and large-scale drug related crimes were reported in the year 2020. The majority of drug users have been involved in house breaking, robbery and theft of property including over Rs.25, 000.00.

## **Current trends related to drug abuse in Sri Lanka – 2020**

### **Hashish**

The use of hashish, a cannabis-based product, is growing steadily in Sri Lanka. According to the statistics on drug related arrests in 2020, 70 cases of hashish were reported and 71 people were arrested. The hashish related arrests were mainly raids by the Sri Lanka Police (63), the Police Narcotics Bureau (01) and the Special Task Force (06). In the year 2020, 671 grams of hashish were seized and 53% of the cases related to hashish were reported from the Western Province.

### **Heroin**

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The total number of persons arrested for drug related offenses in Sri Lanka in the year 2020 was 97,416 - an increase of 9% compared to 2019. 53% were arrested for heroin related offenses and 42% for cannabis offenses. The majority of persons arrested for drug offenses are from the Western Province (42%) and 12% from North Western Province and 10% from Southern Province. 23% of the total arrested in the Colombo District, 13% in the Gampaha District and 7.5% in the Kurunegala District.



The prevalence of drug related arrests was 479 per 100,000 populations, aged 15-64 in 2020.

### **Cannabis**

The highest number of drug related arrests (41,044) were reported for cannabis related offenses and the highest number of cannabis raids were reported from the Colombo district (18%). Quantity of cannabis seized island wide was 7208 kilograms which is a significant increase. 32% of the cannabis related cases were reported from the Western Province, 11% from the Southern Province, 10% from the Central Province and 11% from North Western Province. Cannabis is used in Sri Lanka for the production of Ayurvedic medicines under standardized and prescribed methods. Ayurvedic Physicians and Ayurvedic Drugs Corporation are the main legal consumers. 477 kg of cannabis has been used for Ayurvedic medicine in 2020 and 331.4 kg of cannabis were consumed to produce Kameshwari Modakaya and Madana Modakaya.

### **Methamphetamine**

The number of people arrested for methamphetamine (ice) and the quantity of methamphetamine seized have increased in 2020 compared to 2019. In the year 2020, 2387 persons with 811 kilograms and 800 grams of methamphetamine have been arrested by the law enforcement agencies. Reports of arrests show that the use of methamphetamine has increased significantly over the past two years. Surveys have revealed that the majority of people who use methamphetamine in Sri Lanka are people who use multiple drugs. The use of methamphetamine is significantly more widespread among street drug users. Also, people who are addicted to methamphetamine are less likely to obtain treatment and rehabilitation services.

### **New Psychoactive Substances (NPS)**

Compared to the global distribution of new psychoactive substances, there is very little distribution in Sri Lanka. “Kath”, a plant based smuggled from foreign countries has been arrested by law enforcement agencies. This drug has been smuggled through international postal services. Several such incidents have been reported in 2020.

### **Trends related to Covid-19 and drug use in Sri Lanka**

- The National Dangerous Drugs Control Board (NDDCB) conducted a preliminary assessment of drug use and the covid 19 pandemic in Sri Lanka and revealed that there has been a decrease in legal alcohol

consumption during the period of travel restrictions due to the pandemic situation. Observations from law enforcement agencies have shown that there is a tendency for people to resort to illicit alcohol production for their own use at low cost due to their inability to obtain legal alcohol.

- There has also been a decrease in the use of Kerala cannabis. But there has been no significant reduction in the use of other illicit drugs, including heroin.
- Prices of controlled liquors have increased in some areas, but no increase in street prices for illicit narcotics.
- Focusing on the prevalence of narcotics at the street level, data from drug users indicate that there has been no significant change in the supply of narcotics during the period of the spread of covid 19 virus.
- Considering the number of arrests related to the drug abuse during the Covid 19 pandemic, there has been a slight decline in cannabis related arrests compared to the previous period. That is, 45,923 people were arrested for cannabis related arrests in 2019, up from 41,088 in 2020. That's a 12% reduction as a percentage. But there has been no decrease in arrests related to other illicit drugs such as heroin.
- Despite the travel restrictions, there has been no decline in the circulation of narcotics in the country and drug traffickers have resorted to specialized methods of smuggling. There were few evidences which are reported to the law enforcement agencies that drug traffickers have used motorcycles to distribute narcotics in areas out of Colombo. Further, motorcycles which are using for delivering of processed foods items being used for drug trafficking during the covid 19 period. XXVIII
- Although the circulation of narcotics was limited due to the restrictions imposed during covid 19 period, there was a decrease in drug related arrests due to restrictions. In addition to this, with the decrease in the travelling of people, the police and the excise officers also have less information coming through the general public.
- Compared to 2019, there is a lower tendency to receive treatment in the year 2020. This is due to the limited admissions in the treatment process due to the spread of the covid 19 pandemic in the country. The

total number of people treated in 2019 was 3613 and the number of people treated in 2020 was 1649.

- Although the demand for treatment services has increased, the number of admissions has been limited. During the curfew period, inability to come for the admission to the treatment centers, common limitations arisen with the island wide lockdown, difficulties of getting admitted by following correct health guidelines, practical limitations arising from P.C.R tests and Rapid Antigen tests, when the P.C.R result being received, clients had changed their decision of admitting to the treatment centers, since after P.C.R tests being done, it takes more days to receive the results, clients had left home in the meantime, availability of limited space within the treatment centers and inability to admit the same number of clients as before under new health regulations were among the main issues that arose.
- During the period of the spread of covid 19 virus, the previous methods of implementing residential treatment programs had to be modified and implemented. In particular, family counseling sessions are conducted remotely. It is also a challenge to use of external resources for the treatment program and it was limited.
- During the period of travel restrictions, some countries have had to set up emergency services in response to the lack of funding and access to treatment and care services. In Sri Lanka, there was a move to provide services under remote methodology in response to the prevailing situation.
- National Dangerous Drug Control Board was launched a telephone counseling service during March 2020 and it operates as a support service for people with problems related to drug use and their families, and as a basic intervention mechanism. This is an opportunity for individuals and their family members who are addicted to drugs to obtain professional counseling on how to avoid their physical and mental problems or to seek counseling services. There is access for professional intervention for drug abuse and co-occurring disorders.
- During the covid 19 pandemic, the number of newly identified drug users were higher than the number of new identifications under normal circumstances. The number of new identifications of drug users was higher in Colombo and suburbs while the number of new identifications

in other parts of the island was relatively low. One of the reasons for the increase in the number of new identifications of drug users reported to the outreach officers over the reporting period was the introduction of the 1927 telephone counseling service. XXIX

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### **Drug related arrests**

Drug related arrests have been increased by 9% in 2020 compared to the year 2019. From the total percentage of arrests made during the year 2020, 42% was from Western Province and 102% from North Western Province and 10% from Southern Province. The Law Enforcement Authorities have seized 1630 kg of heroin in 2020.

### **Distribution of Narcotic Drug Related Prisoners Admissions by age Categories**

<b>Year</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Below 16	-	-	-	-
17-22	944	952	1,832	827
23-30	2,481	3,261	4,480	3,413
31-40	3,141	4,081	4,336	2,556
41-50	2,026	2,229	2,269	1,384
Above 50	1,997	2,293	2,175	1,132
Not Recorded	-	-	31	24
<b>Total</b>	<b>10,589</b>	<b>12,8196</b>	<b>15,123</b>	<b>9,336</b>

(Source: Department of Prisons, 2020)

## **Drug Related Crimes**

Substance misuse and crime are linked in a number of ways, including people who use or supply illegal drugs and people who commit violent offences while under the influence of drugs. According to the report crime offences during the year 2020, house breaking (75), theft of over Rs.25,000 (04), robbery (31) and grievous hurt (29) were the major crime offences. In addition, cases on hurt by knife (50) and homicide cases (15) were also reported due to drug use during the year.

Reasons for drug usage of **adolescence**

### **1. Peer Pressure**

The National Institute on Drug Abuse conducted a survey in 2016 and discovered that 1.9 million adolescents ages 12 – 17 years old had used illicit drugs within 30 days of the survey. A majority of these teens reported being given drugs or alcohol by a peer. Teens want to be accepted and to fit in. When their best friend offers them drugs or alcohol, it's unlikely that they'll say no.

### **2. Self-Medication & Escape**

It's not uncommon for mental health symptoms to begin to make an appearance during the teen years. In order to cope with symptoms of depression, anxiety, or other mental health disorders, teens often begin using drugs or alcohol to minimize their symptoms or to "numb out".

### **3. Performance Improvement**

With immense amounts of pressure relating to academics and extra-curricular activities, teens may begin using performance-enhancing drugs or stimulants in order to meet the expectations of their parents, teachers, or coaches.

### **4. Experimentation**

Kids are naturally curious, and kids grow into teenagers. It's not uncommon for teens to seek out drugs or alcohol just to know what the sensations of being inebriated are like.

### **5. To Feel Grown Up**

Teens want to feel grown-up, and it's no surprise that they do! The idea of being an adult is new and exciting, and being able to drink, smoke cigarettes, or use illicit and harmful drugs is also exciting for many teens.

## **Conclusion**

Alcohol and drug abuse has become a highly visible social problem in South Asia too. India, Bhutan, Bangladesh, Nepal, and Sri Lanka are the countries mostly affected by drug abuse in this region. Heroin, Cannabis, Opium, and certain pharmaceutical preparations are the commonly abused drugs in these countries. Alcohol and tobacco use in combination with other drugs is also seen in these countries.

The prevalence of drug use in Sri Lanka and the focus on illicit drug trafficking can be determined by several key components. Criteria such as arrests for drug related offenses, imprisonment, reporting to treatment and rehabilitation services, and drug related crimes are primarily based on this. According to the National Prevalence Survey of Drug Use 2019, cannabis and heroin have been identified as high prevalence drugs.

Drug use is a phenomenon which can be created social and health problems to the society and it can be identified that there is an interrelationship between drug use and crimes when examine the minor and grave crime incidents reported in recent past. Therefore, it is essential that the authorities will have to enforce laws strictly on those offenders of drug and thus strict punishment will have to be meted out in order wipe out these types of social issues.

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## Message from the Guest Speaker

### EMBRACING RESILIENCE & EMPOWERING MIND



Stress is an inevitable part of life and university life is not an exception. It is a fact that despite the initial optimism in entering the university, the period of life in the university poses multiple challenges for students that may increase psychological distress. University students experience stresses because of changes in relation to peer pressure, life-style changes, related to changes in lifestyle, increased academic load, new additional responsibilities, time, and performance related pressures as well as in interpersonal relationships. Extreme levels of psychological stress can negatively impact on their physical and emotional wellbeing. This can result in poor academic performance and attrition unless the students can effectively cope and manage those stresses. This will also have long term negative consequences such as worse health outcomes and reduced quality of life in their later life. These increased pressures already existing in the university students to be viewed in the light of post COVID -19 forecast about increase in people with negative mental health consequences – both challenges and illnesses in addition to multiple socio-economic challenges. As such the university undergraduates to be considered as a vulnerable population and identifying students at risk of developing mental health problems and providing early supports to them is of paramount importance. In addition, ensuring and enhancing well-being of university students to be part of the undergraduate support system.

It is a dilemma as universities has a primary role and responsibility to challenge thus enabling the students to develop and master essential career competencies, and these cannot be minimized to improve well-being of the university students. One feasible way of addressing and mitigating this dilemma would be to find ways and means of improving resilience in university students and thus help them to cope with the new and challenging tasks they face in their university life. During the transition to university there is decrease in the family support or connectedness and there is demand for autonomy and self-regulation and to be independent. Appropriate interventions to enhance resilience not only helps in reducing the level of stress, anxiety and depressive state but also function as a protective factor that interacts with stressors to reduce the likelihood of negative outcomes. This will result in positive socio-emotional well-being,



enhanced mental health, and improve the level of adjustments needed in the university life.

Resilience interventions offer one potential means of strengthening students' capacity to overcome academic challenges and external threats. Resilience enhancement programme has multiple components that include, promoting positive thinking, effectively regulating their emotions, fostering a sense of competence, improved goal setting, problem solving skills as well as learning to succeed despite failures. Further measures are necessary with vulnerable groups of students and that includes, having at least one trusted adult, with regular access over time; preparedness and capacity to help with basics; providing safe spaces to retreat from 'busy' university life, ensuring access to extra-curricular activities that includes hobbies and sports, facilitate mapping of sense of future by instilling hopes and aspirations; and encourage peer supportive mechanisms.

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