Sri Lanka Association for the Advancement of Science
(SLAAS)
Section A Newsletter

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This issue:

President's insight

Health Technology Assessment for a sustainable Health Economy

Sri Lanka is in a critical juncture in its history, in terms of overall financing and the sustainability of free health service delivery. During the economic turbulence, policy level decision making became even more complicated, leading to a direct impact on the entire economy.

With the 4th industrial revolution, globally, healthcare related technological innovations were advanced more than the other sectors. Therefore, Health Technology Assessment (HTA) became an integral practice to reduce the high cost of healthcare and aiding the selection of appropriate technology in medical diagnostics and therapeutics.

Scientific basis of HTA is, providing the opportunity of decision making for an equitable, efficient, high quality and productive health system. In resource poor settings, optimum utilization of the existing resources could be guided by the HTA. Making evidence-based choices will lead to the appropriate and efficient use of the resources. HTA is a multidisciplinary process of decision making, which uses the information on medical, social, economic, organizational and ethical issues related to the health technologies of medicines, devices, vaccines on a systematic, transparent and unbiased manner (WHO-EMRO, 2011). For example, health care institutions do not receive any macro level guidance to assess the value for money, cost effectiveness and the usability of medical devices. In such circumstances, the HTA adaptation with multi criteria decision analysis will give a valuable clue to support the decision-making process. This analysis will use variables such as prevalence of the disease, target population, cost effectiveness, cost and burden of the new technologies. Those recommendations are very helpful in daily decision making in healthcare institutions.

Establishment of a HTA culture is not easy. HTA units or agencies in healthcare need to be positioned in communication with multiple stakeholders and the decision-making authorities for the expected advisory role. Also, identification and establishment of the HTA agencies in different levels such as deferent ministries, Government and private hospitals, foundations and consulting companies may add value to the decisions taken based on generated evidence.

Low middle income countries may benefit from HTA the most. Such countries should strive for HTA knowledge transfer from countries with established HTA systems. EUnet HTA adaptation toolkit provides such help under multiple domains (Heupink, 2022).

The HTA decisions are not only for the development of health system, but also, they could be incorporated in selecting the best options in purchasing.

Purpose of HTA

As described earlier, HTA is a decision supportive tool to select the best cost-effective option. The decisions based on such recommendations, will save money in different ways. The regulatory authorities could decide whether the purchasing and procurement is actually necessary. Also, financing could be allocated depending on the benefit over the cost. Clinicians also could give their recommendation via HTA rather than the personal preference. Especially in the private healthcare market, patients will also be able to decide whether to pay such a cost for the given services.

History of HTA

In 1960's using the technology in diagnosing and therapeutics in healthcare had a steep rise. There were instances of having an unintended / potential harmful effects and consequences of such technologies. Therefore, assessing the impact was required before the establishment and use of such technology. This early assessment saved lots of money, minimized the undesired impacts and saved the lives of patients. Therefore, US introduced the Technology Assessment in 1965, as a supportive measure for the policy making. A committee was formed in the US House of Representatives, with the congressmen and committee on Science and Astronautics. The committee report was discussed in the parliament, and it was decided to establish a separate 'Office for the Technology Assessment (OTA)' in 1973, which became operational in 1974, and introduced to the health sector in 1975.

Why there is a market for the Health Technology Assessment (HTA)

Advances in Medical science and Engineering technologies complicate the selection criteria of equipment for the health care institutions. With the rising economic downturn which creates a limited space for the purchasing of the high-cost technologies, assessing the cost over benefits will influence the decision-making capacity of the officials. Other factors such as aging of the population, growing trends of the chronic diseases and emerging diseases will add more burden to the health system if evidence-based decision making is not in place. Demand from the client end also add competitiveness in the point of delivery. They may not be satisfied with the services offered with average technologies when there is an advance technology in the market, which may entangle with the cascade effect of unnecessary tests, unexpected results and reliability issues.

In the advancement of the technology there is a rapid emerging of subspecialties in the health sector, which may demand advanced equipment for practice, not considering the huge expenditure over lower penetration of the technology on patients. Clinicians may override the decision makers in such situations. Tt is necessary to control the provider competition over the State of Art technology and also to control the off-label use of the drugs, biologics and the devices through proper HTA.

What is the role of SLAAS in adopting the Technology Assessment, as the premier Scientific Body in Sri Lanka?

SLAAS as the premier science organization in Sri Lanka, would be the best organization to put together developmental and economic aspects. This will enable SLAAS to contribute the National development and enhance the allocative efficiency at each level by maximizing the usability of the available funds for the health sector.

Dr. Thilina Wanigasekera
President / Section A – SLAAS
Year 2023

Editor's report

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What interventions have sustainable health outcomes? - 'Health Impact Assessment'

Health Impact Assessment [HIA] is increasingly recognized around the globe as a good governance tool to gauge the progress of health and social interventions addressing the wider determinants of health. However, it is still poorly recognized and practiced in many developing countries including Sri Lanka [SL] where its applicability is most appropriate considering the complexity of wider health determinants and inequalities. The importance of HIA in the resource poor settings is more prominent as yielding the maximum benefit for cost is essential.

Following recommendations were made by the WHO consultancy team appointed to strengthen HIA process in SEARO member countries as far back as year 2002.

- Developing at the country level healthy public policy that explicitly focuses on HIA as a tool to develop a more integrated approach to policies and programmes.
- Developing simplified tools and guidelines at the regional level for conducting HIA to facilitate the implementation of HIA at the country level.
- Developing regional databases for site-specific diseases associated with development projects for use by local researchers and policymakers.
- Building capacity within each member State to provide a critical mass of skilled people for undertaking research in HIA and promoting HIA in all sectors.
- Creating within the region and within member States, an enabling environment for enhancing inter-sectoral collaboration of researchers, practitioners and policymakers for the successful implementation of HIA.

While the context is equally applicable to the date, these recommendations are yet to gain momentum in the region. Hence it is high time that scientific organizations like SLASS rally and advocate for the implementation of impact assessment processes like HIA be incorporated to the existing systems to improve efficiency and effectiveness of the health-related interventions in the midst of this economic crisis.

Dr. Yasaswi Walpita
Editor- / Section A – SLAAS
Year 2023

Feature article

Sustainable Nutrition Systems through Food Security

The ability of food systems to provide sufficient energy and essential nutrients to maintain population health without jeopardizing future generations' ability to meet their nutritional needs is defined as sustainable nutrition. Food is also at the center of one of our time's most pressing challenges: how do we feed a growing population while controlling our planet's accelerating environmental degradation?

It is critical that everyone on the planet has the right to consume healthful, well-balanced meals. At the same time, we must make food consumption and production decisions that balance our planet's finite natural resources in order to feed everyone. We require ,long-term nutrition,.

According to a FAO Report in 2022, 3 billion people worldwide cannot afford the most affordable type of good food. Furthermore, 1.5 billion individuals cannot afford a nutrient-dense diet. The vast majority are found in Southern Asia and Sub-Saharan Africa. Non-staples rich in micronutrients (fruits and vegetables, dairy, and protein-rich meals) are the most expensive food types per day globally.

Food security is the availability of safe, nutritious food for all people at all times. It is a fundamental human right and essential for good health and well-being. Availability means there is enough food available to meet everyone's needs. Access means everyone could obtain food, either through production, purchase, or other means. Food insecurity can have several negative consequences for individuals and societies, including, undernourishment and famine, a rise in food prices, civil unrest, and environmental issues (soil erosion and water pollution). Food security is not just about having enough food today, but also about having enough food tomorrow and in the future.

All of the elements of a Sustainable Diet can thus be met by either producing or consuming sustainable and healthful food - ideally both. Kerry describes the dimensions of Sustainable Nutrition as health and nutrition, economic, environmental and socio/cultural. The first part of sustainable nutrition is providing all individuals with adequate food and nutrients. The World Health Organization urges governments and businesses to actively produce healthier and more nutritious food items in order to lower the risk of Non-communicable Diseases, malnutrition, and obesity.

Sustainable nutrition systems are those that ensure food security in a way that does not deplete natural resources or harm the environment. The nutrition field is concerned with the study of food and nutrition, and how they relate to human health and well-being. Sustainable nutrition systems are important for the nutrition field because they can help to ensure that everyone has access to safe, nutritious food that is produced in a sustainable way.

There are many challenges to achieving sustainable nutrition systems. One challenge is climate change. Climate change is already affecting food production, and it is expected to have an even greater impact in the future. Another challenge is population growth. The world's population is expected to reach 9.7 billion by 2050, and this will put a strain on food production.

Progress toward a sustainable food system can be made in two ways: replacing a less sustainable food with a more sustainable one, such as replacing meat with plant-based meals, or increasing sustainability practices for a specific crop. Soya, for example, despite being a ubiquitous plant-based protein, has been linked to deforestation and intensive farming. This is owing to the crop's high demand for human consumption and animal feed. Eggs are likewise a nutrient-dense source of protein, albeit they can be produced in large quantities. As a result, it is critical that each crop be grown in a sustainable and animal-friendly manner.

Thinking additively about food source and production is a practical technique to build a more sustainable food supply. In other words, attempt to include numerous parts of the above-mentioned dimensions of sustainable nutrition into your fundamental thought process, such as how you choose the foods you eat (as a consumer) or how you acquire resources or create new products (as a food producer).

This concept of sustainable nutrition is driving a global shift in food production systems. Many businesses are using additive thinking into their sustainability strategy and pledges. Many of the sustainability strategies and goals that firms are committing to around the world are based on the United Nations Sustainable Development Goals.

Achieving sustainable nutrition systems is a complex challenge, but it is one that we must address if we want to ensure food security for all in the future. By working together, we can create a food system that is healthy for people and the planet.

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Invited article

Promotion of herbal medicine as a sustainable development strategy

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Medicinal plant resources are directly related to many of these goals such as goals (No. 13) climate action and (No. 15) life on land aim to reduce the impacts of climate change, prevent biodiversity loss and promoting sustainable use of resources, etc. Similarly, the proper utilization of these resources can contribute to achieve various goals such as (No. 1) no poverty, (No. 2) zero hunger, (No. 3) good health and well-being and (No. 8) decent work and economic growth [1]. To realize these potentials, there is a need for an interdisciplinary education system and research collaborations among various specialties for the conservation, cultivation, commercialization, and sustainable utilization of medicinal resources in Sri Lanka.

The global demand for medicinal plants is substantial and growing. The global herbal medicine market size was valued at USD 151.91 billion in 2021 and is poised to grow from USD 168.86 billion in 2022 to USD 437.59 billion by 2030, growing at a Compound Annual Growth Rate (of 11.16% in the forecast period 2023-2030). Herbal medicine utilization has the potential to stimulate sustainable development and influence the livelihood of societies in diverse ways. This review will update and inform healthcare authorities and decision-makers about the value of herbal medicine in actualizing the sustainable development goals of an adequate healthcare system for all by 2030. The growing demand for herbal medicine today is significantly contributing to the growth of developing countries' economies while at the same time improving livelihoods. The increase in demand and value of herbal medicines today is closely connected with the rise in knowledge of therapeutics, phytochemical properties, availability, affordability, and inexpensiveness of herbal products as compared to modern drugs. Further herbal medicine sustainability is impeded by various factors ranging from uncontrolled deforestation, climate change, absence of policies on herbal medicine usage, anthropogenic activities, and limited collaboration between modern and herbal medicine practitioners. Herbal medicine plays a key and central role in the sustainable development of local communities through the strengthening of the healthcare system [2].

Sri Lankan as a case study

Sri Lanka's traditional knowledge of nutraceutical values of bioresources and health food provides an added advantage for the development of new products and a better market share in the global herbal and nutraceutical industry. Sri Lanka exported nutraceuticals and herbal products worth USD 36 million in 2022, with India, Netherlands, USA, Japan, and Australia being the primary export destinations. The import expenses amounted to USD 5.9 million, with Austria, India, Thailand, and Switzerland being the primary import sources for products including Herbal preparations for use as " Herbal teas", and "Nutraceutical" preparations, approved by the Director General of Health Services, Beverages put up for retail sales as "Energy Drinks" and Ayurveda / Herbal preparations: Schedule 01/02/03/04 preparations certified by the Commissioner of Ayurveda [3].

It has during the study become clear that herbal medicine production as a sustainable development strategy requires adequate value-chain development, that society would benefit from education on herbal medicinal use, and that local actors require much more capacity enhancement. Sri Lanka needs to adhere to the following strategic actions in the context of sustainable development of traditional systems of medicine (TM) related products and services. This is one of the tickets to achieving the country's holistic economic development [4].

1. Based on the most significant potential risks and/or benefits attributable to TM used in the country: a. Monitor the safety of TM; b. Identify sources of evidence, whether historical, traditional or scientific, which support or invalidate a particular therapy; c. Determine the risk/benefit profile, including cost-effectiveness.
2. Promote research and development, innovation, and knowledge management.
3. Encourage knowledge generation, translation, and dissemination by establishing a comprehensive and inclusive approach to TM research and development including quality and cost-effectiveness.
4. Develop a national research agenda that acknowledges and includes various types of research models where appropriate.
5. Develop and share appropriate methods and criteria for evaluating the safety, efficacy and quality of TM products and for assessing the value of TM practice (e.g., develop resources for research, develop appropriate research methodologies, and encourage investment).
6. Prevent the misappropriation of TM by implementing the relevant international instruments in line with the WHO global strategy and plan of action on public health, innovation and intellectual property, adopting or amending national intellectual property legislation, and enacting other defensive protection strategies.
7. Protect and conserve TM resources, in particular knowledge and natural resources.
8. Identify how TM information is communicated through practitioners, product advertising, practices and the media.
9. Foster dialogue and partnership between stakeholders. Where relevant to the national need, seek input from international partners with additional information especially concerning global trends and lessons learned.
10. Publish standard treatment guidelines for the use of TM, as well as a list of essential herbal medicines based on research evidence.
11. Promote live herbal pharmacies by growing herbal plants with good agriculture practices, develop herbal products related to traditional systems of medicine as a standard authentic product, and develop further novel standards herbal drugs for global health needs.

Unit of Research and Development of Natural Products (URDNP), Faculty of Indigenous Medicine, University of Colombo (FIM-UOC) (https://fim.cmb.ac.lk/)

The mission of FIM-UOC is to revive and promote the indigenous system of medicine that has served the people well in the past to continue its crucial role in ensuring good health and health standards of the people through the application of its medical practices and products. The avowed vision is the promotion of a healthy lifestyle for people taking maximum advantage of available natural products, effectively and efficiently, and preserving the natural environment to achieve these goals through systematic research and development teaching and training of physicians using this system of medicine. For the sustainable development of herbal medicine and related products and services, FIM-UOC developed a research and development (R&D) Unit aiming to build a strategic alliance of academics, relevant government authorities, pharmaceutical industry firms, and other interest groups to participate in research and development dialogue and evolve strategic development processes for research development and commercialization of natural products. The anticipated strategic alliance for the Unit can be based on a public-private partnership (PPP) mode for conducting R & D of relevant natural products and their commercialization. After identifying the specific areas of cooperation and integration in the anticipated R&D efforts a Memorandum of Understanding (MOU) can be created between FIM-UOC and interested private sector firms to strengthen the process.

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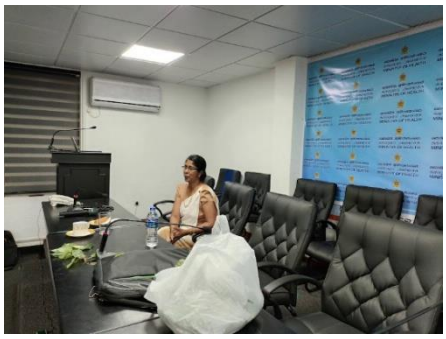
List of activities of SLAAS Section A from April to July 2023	
April	
20th April 2023	Interactive Lecture discussion was conducted on "How to reduce the Cost of Medicines to the people with upgrading the traditional Primary care Practices" for the employees of the Ministry of Health. Dr. Himali De Silva of Faculty of Indigenous Medicine (FIM), UOC contributed as the resource person and 80 participants were attended. This activity was organized and coordinated by Dr. Thilina Wanigasekera with the collaboration of SLAAS section A.
May	
08th May 2023	Lecture series on Research methodology for undergraduates was organized by Faculty of Indigenous Medicine (FIM), University of Colombo with the collaboration of SLAAS section A. Dr. Thilina Wanigasekera conducted the first lecture as the resource person on 08th May 2023 from 1.00 - 2.00 pm at FIM, UOC. 150 students participated for this and this activity was coordinated by Dr. Jeevani Dahanayake and Dr Kaumadi Karunagoda.
June	
9th June 2023	Dr Rasika Ekanayaka and Dr. Amirthavarshini Srikanthan moderated a symposium on "Integration and harmonization of oral health" on the 9th of June at the "International conference on medical sciences 2023" at the Faculty of Medical Sciences, University of Sri Jayewardenepura.
12th June 2023	Second and third lectures of Lecture series on Research methodology for undergraduates, organized by Faculty of Indigenous Medicine (FIM), UOC with the collaboration of SLAAS section A was conducted by Prof. Pathirage Kamal Perera and Ass. Prof. S. D. Hapuarachchi as the resource persons on 12th June 2023 from 1.00-3.00 pm at Faculty of Indigenous Medicine, University of Colombo. This activity was coordinated by Dr. Jeevani Dahanayake and Dr Kaumadi Karunagoda and 160 students participated.
14thJune 2023	A Nutrition Awareness Program for school children and their parents of Labbala Maha Vidyalaya, Labbala in Griulla Zonal Education, Kurunegala was conducted by the Department of Applied Nutrition, Wayamba University of Sri Lanka with the collaboration of SLAAS section A. The Department of Applied Nutrition conducted an awareness session with demonstrations of nutritious menu preparation on 14th of June 2023 from 9.00 am to 12.00 pm. Nearly 150 participants (school children and their parents) were participated for the activity coordinated by Mrs. Thakshila Adikari.
21st June 2023	An interactive dialogue on the Legislative issues of the Medical Ethics and Governance mechanisms of the medical services was conduct for all categories of employees at the Main Auditorium of the Ministry of Health on 21st of June 2013. 60 employees participated for this activity coordinated by Dr. Thilina Wanigasekera.

A glimpse of the activities of SLAAS -Section A during the period of April- July 2023



SLASS- Section A- Committee- 2023

Seated (L to R): Dr. Kaumadi Karunagoda (Past President), Dr. Dushyanthi Jayawardene (Vice President), Dr. Thilina Wanigasekara (President), Dr. Jeevani Dahanayake (Secretary), Dr. Yasaswi Walpita (Rapporteur)

Standing (L to R): Dr. Amirthavarshini Srikanthan, Dr. Rasika Ekanayake, Dr. Nirmala Senarathne, Mrs. Thakshila Adikari, Dr. Kasuni Akalanka (absent)

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