

DRUG DISCOVERY FROM NATURAL PRODUCTS IN SRI LANKA A WAY FORWARD

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Potential resources for development / discovery of novel drugs would be Combinatorial chemistry, Structure-based drug design, In Silico drug development (SAR) and from Natural organisms. Since Sri Lanka processes well documented literature on curative potentials of plants and other natural sources in Deshiya Chikitsa and Ayurveda medical system, the exploring of medicinal plants for new drug entity would be the prime choice. This is again confirming by Sri Lanka being a hot spot in biodiversity in the Indian ocean. During the last half century, numerous work has been done towards the development of new drug entities from our medicinal plants without much direct successes. The isolation of natural products from endemic species in 1960s has been evolved during the period to testing compounds for various in vitro and in vivo assays, elucidation of many novel structures, even getting national and international patents. Many compounds with high and specific biological activity have been isolated by different groups but none of them could reach the clinical trials mainly due to the lack of collaboration and funding. Development of a new drug will cost nearly one billion US dollars. According to the WHO and UN Reports more than 80% of world population is still depending on Native Medicine (mainly Plant based) for their primary health care. During the last two decades, the importance of traditional and complementary medicine [T and CM] has been well recognised, and now T and CM is widely used around the world and valued for a number of reasons. At the International Conference on Traditional Medicine for South- East Asian Countries in February 2013, the WHO Director-General, Dr Margaret Chan, stated that “traditional medicines, of proven quality, safety, and efficacy, contribute to the goal of ensuring that all people have access to care. For many millions of people, herbal medicines, traditional treatments, and traditional practitioners are the main source of health care, and sometimes the only source of care. In Sri Lanka, there are handful of pharmaceutical companies formulating herbal remedies into tablets, capsules or syrups. These productions should be expanded into other remedies so that the native practitioners can have ready access to standardised drugs at ease. So, the researches working on natural products drug discovery can go through this detour and formulate crude drugs with better therapeutic index. Most of the cases when the activity guided fractionation continues either you lose the activity or the therapeutic index decreases (increase the toxicity) or you stuck with the purification. So rather than isolating single bioactive compounds scientists and pharmacists can get together and formulate crude drugs with known pharmacological activity with proper quality parameters. That will capture ever growing local and foreign market.