Traditional medicine-Prevention,Treatment and Source of Innovation

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Traditional medicine

- Traditional medicine is widely used around the world and valued for a number of reasons.

- "Traditional medicines, of proven quality, safety, and efficacy, contribute to the goal of ensuring that all people have access to care."

  2013, WHO Director - General, International Conference on Traditional Medicine for SEA Countries

Traditional medicine cont'd

- Traditional medicine (TM) is an important and often underestimated part of health services. In some countries, traditional medicine or non-conventional medicine may be termed complementary medicine (CM).
- TM has a long history of use in
  - health maintenance and in disease prevention
  - treatment, particularly for chronic disease.

Public health strategies

Two main types of approaches have been advocated in tackling major public health problems.

- The whole population strategy.

- The high risk strategy on the other hand aims to identify individuals most at risk for a disease or outcome and then target preventive efforts at that group. (Geoffrey Rose, 1985).

Preventive medicine & TM

- In promoting the use of medicinal plants **in disease prevention**, the whole-population strategy will have the global community as the target, whereas the high-risk strategy may focus on rural communities, especially in the developing countries.

TM & Modern medicine

- It may also on the other hand wish to focus on refining medicinal plants for use in specific disease conditions that presently defy or complete conventional treatment, such as cancer, chronic inflammatory diseases, HIV infection and AIDS, Hepatitis C, Malaria, Tuberculosis, Malaria (Artemisia) and much more.
- Over 90% of traditional medicine recipes/remedies contain herbal plants.

WHO TM Strategy

- WHO Traditional Medicine Strategy 2014–2023
  - Building the knowledge base and formulating national policies
  - Strengthening safety, quality and effectiveness through regulation
  - Promoting universal health coverage by integrating T&CM services and self-health care into national health systems.

Reverse pharmacology & NCEs

- Reverse pharmacology is the science of integrating documented clinical/experiential hits, into leads by transdisciplinary exploratory studies and further developing these into drug candidates by experimental and clinical research.

Reverse pharmacology & NCEs

- Trans-discipline:
  - A golden triangle consisting of traditional medicine, modern medicine and science will converge to form a real discovery engine that can result in newer, safer, cheaper and effective therapies.

Artemisin story

- The herb *Artemisia annua* has been used for many centuries in Chinese traditional medicine as a treatment for fever and malaria.

- Discovery of Artimisin for malaria is a result of scientific work based knowledge from Traditional Chinese Medicine (TCM) and presents best case for reverse pharmacology approach.

Microbiome

- It is known that human gut thus harbours a complex microbial ecosystem, which consists of hundreds of species, collectively termed the gut microbiota.

- Human microbiome play a significant role in host human immune control and development of diseases.

Microbiome/Immunity and TM

- Scientific evidence - health gut microbiome and traditional medicine and herbal supplements.

- Ex.: *G. lucidum* expected be prebiotic agent to prevent gut dysbiosis and obesity-related metabolic disorders in obese individuals. *(C.J.Chang, Nat. Communication)*

Conclusion

- Global pharmaceutical industry is looking for innovative solutions to their existing impasse on innovation deficit to re-activate and re-energize discovery pipeline.
- Natural product drug discovery, ethnopharmacology, traditional, complementary and alternative medicines are re-emerging as new strategic options.
- The World Health Organization's Commission on Intellectual Property and Innovation in Public Health also has duly recognized the promise and role of traditional medicine in drug development for affordable health solutions.

Conclusion con’td

- Safe and effective use of herbal medicinal plants and integration into national, regional and local health policies.

- Collection of data and coordinated research - Institutes of preventive medicine would be beneficial. (Asia, Africa, South America)