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Tradition of "Traditional Medicine" - Bangladesh Perspective

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Abstract

History of medicine has it's roots in ancient times dating before the birth of Christ. Medicine has since then undergone massive evolution, more so in the 20th and 21st centuries. Traditional medicine has now mostly been replaced by evidence-based Allopathic medicine. However, the need to align traditional medicine with modern day medicine is being recognized. Countries like Bangladesh, with rich history of traditional systems of medicine, can be in the forefront. For this further work including research, appropriate policy for pharmaceutical industries etc. is now time demanding.

Keywords: Traditional medicine; history; Bangladesh; policy for pharmaceutical industry

History of development of medicine

The history of medicine is a long and fascinating journey, evolving from ancient practices to modern science. Early medicine often involved herbal remedies, animal parts and minerals, with the earliest known medical texts dating back to 2500 BC in ancient Ebla. Key figures like Hippocrates, the 'father of medicine', emphasized on rational approach based on observation and logical reasoning, shifting the focus from superstition. Later, scholars like Galen, Leonardo da Vinci and William Harvey made significant contributions. The 20th century saw major advancements in understanding infectious diseases and developing remedies like antibiotics and vaccines [1]. The entire 20th and 21st century experienced unique developments of innovative therapies. However, most of these concepts and modalities have not served humanity adequately.

Bangladesh is a country of 170 million population. In this country there are thousands of plants endowed with medicinal properties. These plants are used in traditional medicine for centuries in Bangladesh and its neighboring countries [2]. Mostly, these herbs and plants are regarded as efficacious in various pathological conditions. However, these drugs, in most cases have not been properly evaluated for their safety, efficacy and proper indications.

A brief sketch of traditional medicine

Traditional medicine has a long history. It is the sum of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures, used for maintaining health and prevention, diagnosis and treatment of physical and mental illnesses.

For centuries, traditional and complementary medicine has been an integral resource for health in households and communities. One hundred seventy countries of the world use traditional medicine, with acupuncture being the most common form of practice in 113 countries. Many developed countries have also begun recognizing and integrating traditional medicine into their healthcare systems [3]. According to 2012 data, almost half the population in many industrialized countries uses some form of traditional and complementary medicine (*e.g*. USA 42%, Australia, 48%, France, 49%, Canada 70%).

The World Health Organization (WHO) traditional medicine strategy 2014-2023 was developed and launched in response to the World Health Assembly resolution on traditional medicine (WHA62.13). The strategy aims to support member states in developing proactive policies and implementing action plans that will strengthen the role traditional medicine plays in keeping populations healthy. Addressing the challenges, responding to the needs identified by member states and building on the work done under the WHO traditional medicine strategy 2002-2005, the updated strategy for the period 2014-2023 devotes more attention to prioritizing health services and systems, including traditional and complementary medicine products, practices and practitioners.

With the support of the Indian government, WHO founded the Traditional Medicine Centre (GTMC) in 2022 to meet this demand worldwide. The Division of Universal Health Coverage and Life Course, the GTMC is a WHO Headquarters department that is stationed in Jamnagar, Gujarat, India. In order to promote traditional wisdom and contemporary science for the health and well-being of people and the earth, the Centre works to advance research, facilitate knowledge exchange, conserve biodiversity, and build collaborations.

Traditional medicine in Bangladesh

Bangladesh possesses rich flora of medicinal plants. Continuous use of these plants as ingredients of traditional medicine in the treatment and management of various health problems for generation after generation has made the system an integral part of the culture of this country. Both the Unani and Ayurvedic systems of traditional medicine have firm roots in Bangladesh and are widely practiced all over the country [2-7]. The Unani-Tibb or Graeco-Arab system was developed by the Arab and Muslim scholars from the ancient Greek system, while the Ayurvedic system, which is the old Indian system is based on the Vedas, scriptures from the Aryan age.

Out of the estimated 5000 species of different plants growing in the country, more than 1000 are regarded as having medicinal properties. Use of these plants for therapeutic purposes has been in practice in this country since time immortal [8]. Now, in this age of highly advanced Allopathic medicine, vast majority of the population of this country still prefer traditional medicine in the treatment of most of their diseases even through modern medical facilities may be available in the neighborhood.

Importance of safety assessment in establishing a medicine

The formal monitoring of medicine safety, known as pharmacovigilance, began in the early 1950s, with the US Food and Drug Administration and academic medical centers taking the lead. This was largely in response to concerns about the safety of chloramphenicol, which was linked to aplastic anemia and other blood disorders. The 1962 Kefauver-Harris Amendments to the Federal Food, Drug, and Cosmetic Act further solidified this by requiring adverse event evaluation and reporting [9].

Prior to this, while there was some awareness of medication-related harms, it wasn't systematically monitored or regulated. The development of pharmacovigilance, including activities like clinical trial monitoring, post-market surveillance and adverse event reporting, has been a gradual process, with ongoing improvements and expansions in scope. The WHO Programme for International Drug Monitoring (WHO PIDM), established in 1968, also played a crucial role in coordinating international efforts to monitor medication safety.

The concept of drug safety, also called 'Medication Safety', is not new, especially in the developed countries in the field of health. For instance, USA has an experience for more than a century in the field of the safety of medications. In October 1937, the use of the antibiotic sulfanilamide caused the death of more than 100 people in the USA. These deaths were not due to the active ingredient itself, rather, they were caused by addition of diethylene glycol (DEG), the excipient used as a solvent for the active drug [10, 11]. DEG was supposed to be inert with no therapeutic benefits. However, it was this toxic substance that led to those fatal side effects. The company claimed they did not foresee these side effects, which was true, as they did not commit animal studies before they marketed the drug. Because of this incident, the US Food and Drug Administration (FDA) approved an act to ensure the safety of any drug by conducting non-clinical and clinical studies before the drugs are marketed for public use [12-21].

Compilation of the policy for pharmaceutical industries in Bangladesh and research directions

The pharmaceutical industry in Bangladesh is a well-developed sector, contributing significantly to the nation's economy and healthcare. It fulfills 98% of the country's medicine requirements and has also emerged as a prominent exporter, reaching over 160 countries.

The policy of the pharmaceutical industries of Bangladesh is to buy active ingredients and packing them as consumable drugs. There is lack of research and development (R&D) concept. Universities and medical institutions rarely undertake studies directed to drug development. In fact, the first step of drug development that requires animal study has neither been initiated nor formulated in this country in medical field. Thus, there is a need to have a strong collaboration among different institutions so that R&D may move to its target of drug development. Universities also lack proper manpower, instinct and direction for drug development.

Conclusion

Our pharmaceutical industries now enjoy patent exemption, which will disappear after 2033, by the time when Bangladesh completes is graduation from least developed to developing country status. This will likely result in a surge in drug prices. It is therefore time demanding that collaboration between universities to conduct research with available herbal drug of Bangladesh. The following features are important facts that were considered for fixing aims and objectives.

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