An Insight into Traditional and Integrative Medicine



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1 Introduction

Ever since the dawn of human civilization the herbs and plants play a major component as medicines. According to history there were about 350,000 species (which includes plants, herbs, bryophytes and fungi) which were used as traditional medicine. Traditional system of medicine is considered to be the progenitor of modern medicine as it play a significant role in curing various chronic diseases. There are different ways of interactions between the herbal and modern drug, one such is few drugs originate from the plant sources. Every single traditional medicine will have a long history with considerable progress. The World Health Organization supports the Member States for developing their own traditional medicine constraints and limitations.

According to the reference of World Health Organization (WHO), a conventional medicine is characterized as the aggregate of information, expertise and practice in view of the hypothesis, conviction and experience to various societies, regardless of whether reasonable, utilized in the support of wellbeing as well as in the counteraction, diagnosis, improvement or treatment of physical and psychological

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maladjustment. Traditional medicine comprises the knowledge systems that were developed over years by the ancestors before the introduction of modern medicine. When a traditional medicine is adopted from another country it will be named as an alternative or complementary method of traditional medicine [1].

WHO has stated that about 80% of people started using traditional medicine because of its traditional healing beliefs and the affordable cost compared to conventional medicine. Traditional medicine follow health practices based on knowledge, and beliefs by incorporating plant, animal and mineral based medicines, spiritual therapies, and other manual techniques to prevent ailments and maintain wellbeing [2].

Since traditional medicine was developed based on the society, culture and habitat of the place, it has various types which are shown in Fig 1. They are

- Indian traditional medicine
- Chinese traditional medicine
- African traditional medicine
- European traditional medicine
- Korean traditional medicine
- Arabic traditional Medicine



Fig 1 Types of traditional medicine

2 Indian Traditional Medicine

Indian traditional medicines are well known for meeting global healthcare needs. The system of Indian traditional medicine represents a healthy way of living with established principles and concepts based on medical philosophies to prevent diseases and promote natural health. The Indian medical system includes mainly Ayurveda, Yoga, Unani, Siddha, and Homeopathy, which is represented by an acronym AYUSH.

2.1 Ayurveda

Ayurveda is one of the oldest and well-defined theoretical framework which is befitting throughout the ages, and it is found to be more effective than modern therapies in a few cases. Unlike modern therapies, it first determines the physiological framework and then the therapeutic practice which is a classic feature in the medical field. Ayurveda precisely means the "science of human life" [3]. Atharvaveda, Sushruta Samhita, and Astanga-Hridaya were the major treatises of Ayurveda. These three were popularly known as "Brihat Trayess" (the big or major three). These three treatises covered all forms of complications of a vast body of literature which had information from more than 1500 years.

The treatments are of different types:

- Shodhana therapy (purification treatment)
- Shamana therapy (palliative treatment)
- Pathya Vyavastha (appropriate diet activity)
- Nidan Parivarjan (avoids situations leading to disease aggravation)
- Satvajaya (psychotherapy)
- Rasayan (immunomodulators, anti-stress, and rejuvenation drugs)
- Dipan (digestion)
- Pachan (assimilation)

Ayurveda lays incredible emphasis on the eating routine guideline. As per Ayurveda ideas, food has incredible impact over physical, fickle, and mental advancement of a person. The food is the essential material for the development of the body- and life-supporting indispensable matter known as rasa. The rasa is changed over to body parts and supports a wide range of life exercises. It also gives importance to maintaining harmony with nature [4, 5].

2.2 Yoga

Yoga is a mindful practice which helps in improving strength and physical balance and provides strength with flexibility. It helps us relax and get better sleep. Yoga is considered to be a physical practice which is helpful with mental health like reducing aggression, depression, and anxiety.

2.3 Medical Yoga

Clinical yoga is described as the usage of yoga practices for the evasion and anticipated treatment of diseases. Clinical yoga helps in appropriate breathing systems, care, thought, and self-reflection/study to achieve the most outrageous benefits. Medical yoga is not only individualized for the patient but also for his family as a treatment plan.

Yoga tunes the autonomic sensory system into a good arrangement by invigorating the parasympathetic sensory system. It is initiated when our body feels undermined or worried. This results in vasoconstriction, causing diminished blood flow. One's heartbeat and circulatory strain increase, the circulatory system configuration changes, inciting lessened stomach-related structure development and diminished pee yield. The parasympathetic system has a profound influence on circulation to the stomach-related structure, frontal cortex, uttermost focuses, and sexual organs. Yogic practices work by reducing physiologic fervour and quieting down this consistent play of the autonomic structure. The therapeutic effect of yoga has positive effects on pregnancy, prenatal and postpartum depression, stress, etc. [6].

2.4 Unani

Unani medicine had its birth and source from Greece. It is believed that Unani was established by the great physician Hippocrates (460–377 BC). Galen (130–201 AD) contributed to its further turn of events. Aristotle (384–322 BC) set down the establishment of anatomy and physiology. Dioscorides – the eminent doctor of the first century AD – has made huge contributions in improving pharmacology, especially plant origin drugs. The following period of advancement occurred in Egypt and Persia (Iran). The Egyptians had all around developed drug storage pharmacies.

It is theoretically said that six essentials are the basic requirement for maintaining a healthy state. They are

- Air
- Food and drink
- · Bodily movements and reaction
- · Psychic development and rest

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- · Sleep and alertness
- Evacuation and maintenance

Unani system of medicine believes that the body is composed of four basic elements. It has a simple and complex organ system with varying temperatures [7]. In Unani, we diagnose a disease through examination of pulse rate, and it is treated by employing four types of therapies as follows:

- *Regimental therapy* It usually consists of drug-less therapy like exercise, massage, bath, etc.
- Diet therapy It is based on a patient-specific dietary regimen.
- *Pharmacotherapy* It involves the contribution of drugs to correct the cause of the disease.
- Surgery It takes place in case of failure of parts of the patient.

The Unani system was introduced in India in the early eighth century, and it has been recognized by the Indian Government for clinical practice and research. The products like ointment, herbal powders, oils, and tinctures were synthesized from plant-based formulations.

2.5 Siddha

The word Siddha is a Sanskrit word meaning attainment of perfection or fulfilment. Siddha medication is quite possibly one of the most ancient clinical frameworks of India and very similar to Ayurveda. Siddha is the mother medication of antiquated Tamils/Dravidians of peninsular South India. The word Siddha implies truth. The people who were related with building up such thoughts were known as Siddhars. They recorded their spiritualist discoveries in medication, yoga, and astrology in Tamil. Five elements (Aimpootham) and three forces/faults (Mukkuttram) are regarded as the major principles in the system of Siddha medicine. Siddha also follows and utilizes the eight methods of examination (Envakai Thervukal) to decide analysis, aetiology, treatment, and anticipation. Several lines of evidences suggest that Siddha medicine can treat a lot more extremely normal and uncommon infections. Siddha medicine system focuses on safely grown herbal and herbo mineral treatment for various skin disorders namely psoriasis, skin inflammation, alopecia, diabetic ulcer, vitiligo, pemphigus, and pompholyx. Siddha system also includes an individual's physical, physiological, and psychological well-being as well as the patient's surroundings. Minerals, metals, and to some extent some medicinal plants in their original form are formulated through various procedures and are used in the treatment of diseases [8, 9].

2.6 Homeopathy

Homeopathy depends on the organization of cures where dynamic constituents are weakened so that no distinguishable trace of them remains in the eventual outcome. However, it is viewed as a dubious treatment and is generally polished to treat different infections [2].

The main five principles of homeopathy are described as follows:

- *Principle of similia*: This is the fundamental law in homeopathy. It is also referred to as treat like by likes. Treating sufferings in the patient by administration of homeopathic remedies will have the potency to cause small sufferings in a relatively healthy person.
- *Principle of individualization*: Principle of individualization states that each remedy is tailored as per the needs of the individual.
- *Principle of using single remedy or minimum dose*: According to this principle, a patient should be treated using simple as well as a single remedy at a shot. Homeopathic medicine is prepared by a process called dilution method where only trace amount of the active constituent is found in the medicine given to the patient.
- *Principle of potentialization*: Greater the dilution, greater the potency. It is believed that side effects and harmful reactions of the medicine could be reduced if quantitative reduction and qualitative enhancement are followed.
- *Principle of healing by nature*: Homeopathic treatments are generally safe and serious adverse side effects are believed to be negligible. As per the homeopathic treatment, the milder illness should not be progressed to major or severe illness.

3 Chinese Traditional Medicine

Like conventional Indian medication, customary Chinese medication is additionally one of the most antiquated in this living tradition. As per the arrangement of Chinese conventional medication, man is viewed as a radio wire among space and natural components. In the antiquated Chinese way of thinking, the world is viewed as a solitary unit and its development leads to two fundamental contradictory angles, yin and yang [3]. The term yin and yang allude to positive and negative individually, together it is intended to be "opposite". Yin and yang ought to be controlled for the ordinary working of the human body. Chinese savants trust that the four real humours (qi, blood, dampness, and substance) and inside organ frameworks (zang fu) assume a significant part in keeping up with the equilibrium between yin and yang in the body. Moreover, it is also believed that when "yin reduces, yang raises, or yin raises, yang reduces". Dysregulation and awkwardness of these energies lead to the improvement of infections. This standard is considered by the doctors for treating patients. Restorative plants and medications have the property to adjust yin and yang in the body [10, 11].

3.1 Acupuncture

Acupuncture is a form of treatment which involves inserting thin needles through a person's skin at specific points on the body, to varying differential depths. This form of treatment benefits in curing several neurological problems.

3.2 Tai Chi

Tai chi is a combination of gentle movements, mental focus, breathing, and relaxation. This method helps in improving the balance and stability and improves the quality of life in people with heart failure and claims to manage mental stress in a gentle way [12].

3.3 Chinese Herbalism

Chinese herbal products are still considered to be unique as they focus mainly on homeostasis of the body. It involves the use of plant products that are used to treat certain medical problems like stroke, heart disease, mental health issues, migraine, insomnia, neurodegenerative diseases, and respiratory diseases significantly with limited side effects [13].

4 African Traditional Medicine

In Africa, the customary medication framework is of incredibly helpful potential. The customary clinical specialists and healers have a fundamental influence on its social history. African clinical professionals dominate in more than one practice. Regardless of the impact of Western development, more noteworthy populace in Africa utilizes home-grown solutions for their essential medical care. In the event of any genuine or ongoing sickness, independent of the societal position held or the religion followed by the individual, they even look for otherworldly treatments as one of their mending rehearses. Africa's multi-layered customary information in medication joins numerous worldwide and nearby components. Customary medication in Africa, made for the most part out of therapeutic plants, has been contended to be connected to social and financial reasons [14, 15].

The traditional medicine system in Africa includes a diverse range of health practices. They are as follows:

- *Psychotherapists*: Traditional healers of Africa are good psychotherapists. Psychological basis of an illness is diagnosed and treated before prescribing herbal medicines to treat the symptoms.
- *Herbalism*: In herbal medicines, whole herbs, herbal decoctions, and their preparations that contain active constituents of the herbs are used.
- *Spiritualism*: Spiritualism is considered to be one of the holistic approaches in the African traditional system. Consulting the spiritual world by diviners, invocation, incantation, and animal sacrifices to God supreme force/deity are part of their spiritual belief.
- *Therapeutic occultism*: It is a prevalent thought in the African community that diseases could be due to supernatural causes like ancestors' curse, evil/angered spirits, or witchcraft. In such cases, the practice of exorcism, magic, and magic spells to heal illness is also practiced to heal the diseases. The objects like talisman, amulets, and stones engraved with figures or symbols are believed to cast miracles and break spells [16].

5 Korean Traditional Medicine

The standard Korean medicine possibly has its establishments in Chinese and Japanese drugs. There is verification of the importation of Chinese aesthetic sciences into Korea around the tenth 100 years. The portrayal of Korean prescriptions was known since the twelfth 100 years. Over the most recent 700 years, Korean medication fostered its restorative regimens – primarily entire, individual-driven Sasang-protected grouping and Saam needle therapy techniques. By the seventeenth century, conventional Chinese and Korean medications were underdeveloped as Saam needle therapy rehearsals were being used.

Sasang constitution types depend on physical qualities, disposition, and different attributes of a person.

Each individual can be classified into any of the four sacred sorts:

- Tae-Eum
- So-Yang
- So-Eum
- Tae-Yang

Every constitution type is explicit for appearance, character qualities, illness inclination, drug reactions, and physiological characteristics of the person. Treatment depends on constitution type, rather than manifestations. The Buddhist priest, Saam propounded needle therapy which usually depends on the five components – earth, metal, water, wood, and fire, and six kinds of qi (energy). He proposed that the five components have either supporting or smothering connections. The Saam strategy depends on 12 meridians, addressing every one of the physiological cycles. Every organ has a prevailing component and energy type [17, 18].

Korean needle therapy also referred to as Korean acupuncture is considered to be one of the natural needle therpaies. In this needle therapy, professionals utilized home-grown herbal concentrates or diluted honey bee toxin to treat various skin diseases, inflammation, autoimmune disorders, neurological disorders, etc. Although the Korean medication has been established in Chinese medicine, today it is an autonomous clinical framework with its own standards, theory, and practices. One more contributing variable to the development of Korean medicine is the acknowledgment of ideal models and variety. Korean medicine specialists reviewed their traditional medicine systematically and scientifically, which helped in the improvement of numerous clinical disciplines [19, 20].

6 European Traditional Medicine

In the dawn of Western Roman Empire, knowledge based on medicine and health was surviving based on Greek and a Roman text which was preserved.

Hippocratic Medicine The main component of Hippocratic philosophy based on the literature is "healthy mind in a healthy body". According to Hippocratic medicine, conventional medicine should be based on thorough observation, reasoning skills, and experiential knowledge for diagnosis and treatment [21].

Temple Healing The Greeks believed in numerous folk-healing practices and medicines including temple healing through visions, dreams, and incantations. The concept of temple healing in Europe can be traced back to second century BC. The temple of Asclepius at Epidaurus, believed to be the God of medicine in Greek, was worshipped by thousands of people for mental and physical health [22].

Pagan and Folk Medicine Most of the medical practice in the Middle Ages reflects the context of pagan practices in which it is rooted. Pagan folkloric traditions are based on the faith in practicing magic with the assistance of most powerful entities other than humans [23].

Monasteries Monasteries were considered to be spiritual centres for the sick and downtrodden. It was built in a secluded place and developed not only for spiritual healing, but also for intellectual studies and medical practices. Many sick people believed monasteries to be the place for both spiritual and conventional healing practices [24].

Medieval Medicine Medieval medicine and surgery trace back to the Greek tradition. According to its tradition, the elements fire, water, earth, and air control four humours of the body: yellow bile, phlegm, black bile, and blood. It is believed that an imbalance of these four body humours causes diseases and other ailments. The practitioners of medieval medicine focussed on balanced diet in the treatment of diseases. Medieval medicine and surgery strongly believed in the quote of Hippocrates, "Let food be thy medicine and medicine be thy food."

Medieval Surgery Medieval surgeons were considered to be expertise in external surgery like treating external injuries and wounds and cataracts but were not able to perform surgery in the internal organs, as surgery was regarded as a practice of dangerous procedure. But later, the surgeons were taught that the knowledge of human physiology and balanced diet is important to treat the patients. In this way, surgery gained its importance and was no longer considered as a dangerous act.

7 Arabic Traditional Medicine

Arabic traditional medicine, which especially involves herbal medicine, can be seen throughout the Middle East countries for culinary and medicinal purposes. Literature studies report that around 250 plants and their species are still in use in traditional Arab medicine. Spiritual healing which is practiced till now is based on the Islamic religious texts and their worship [25].

The development of hospitals in the Arab world was regarded as one of the most important innovations in medical practice. Pharmacy has started its professional existence with the Arabs due to the advancements in Arabic chemistry and arrival of abundance of precious drugs from Middle East countries. The achievements and developments in pharmacy and medicine by the Arabic science were translated and exchanged with other nations. This paved the way for a greater interest and further accomplishments in surgery. Arab scholars translated Greek texts into their language and made significant scientific investigations. They also made original scientific and technological advances which made a breakthrough in the field of medicine. They introduced many features like medical charts and protocols, use of alcohol as an antiseptic, and techniques such as distillation and crystallization that we make use of even now for drug synthesis [26, 27].

8 Osteopathic Medicine

The beginning of osteopathic medication traces back to over 130 years. Osteopathic medication focuses on the whole body, not restricted to explicit parts or harmed portions of the body. This medication depends on the way that our natural framework is interrelated. The guideline behind osteopathic medication is that the body can recuperate itself with the right change in the real stances/spine or joint control and in this manner assists with reinforcing the outer muscle structure of the body without the utilization of medications or prescriptions. As of now, osteopaths consent to rehearse their medication inside logical biomedical norms. Notwithstanding the absence of examination and solid randomized clinical preliminaries, osteopathy

has acquired public consideration. The significant parts of a treatment impact are the nature of the connection between the expert and patient along with a selfinfluenced consequence.

9 Alternative Medicine Versus Conventional Medicine

The alternative medicine interfering with the practice of conventional medicine has been reduced after the exhaustion of conventional treatments. Due to this, there is a strong belief among the patients that alternative medicine may help them in a better way than conventional medicine [28].

Regardless of whether a remedial treatment is Eastern or Western, flighty or standard, or includes mind-body procedure like yoga or contemplation or atomic hereditary qualities, authentic purposes and culture assume a huge part in the field of helpful cycle. Most of the modern medical professionals believe in the benefits of various types of integrative medicines. In the alternate manner, numerous elective prescriptions are denied by specialists rehearsing ordinary arrangements of medication because of the absence of twofold visually impaired randomized preliminaries [29]. Although traditional and integrative medicine is more prevalent nowadays, always there is a prerequisite for more convincing data on its prosperity and medicinal ampleness in a more imperative level.

10 Conclusion

Medical care is amidst a thrilling season of revelation, when a proof-based way to deal with medical care conveyance brings openings for the fusion of the most ideal choices from all wellsprings of care, be it customary medication or CAM. The test is to stay away from parochial inclination and to move toward every chance with a proper level of wariness or conviction. At that time will it be really feasible to guarantee that educated, contemplated and information-based choices are being made?

References

- 1. World Health Organization. WHO traditional medicine strategy: 2014–2023. World Health Organization; 2013.
- Gureje O, Nortje G, Makanjuola V, Oladeji BD, Seedat S, Jenkins R. The role of global traditional and complementary systems of medicine in the treatment of mental health disorders. Lancet Psychiatry. 2015;2(2):168–77.
- Subhose V, Srinivas P, Narayana A. Basic principles of pharmaceutical science in Ayurvěda. Bull Indian Inst Hist Med (Hyderabad). 2005;35(2):83–92.

- 4. Kumar S, Dobos GJ, Rampp T. The significance of ayurvedic medicinal plants. J Evid Based Complement Altern Med. 2017;22(3):494–501.
- Jaiswal YS, Williams LL. A glimpse of Ayurveda–the forgotten history and principles of Indian traditional medicine. J Tradit Complement Med. 2017;7(1):50–3.
- 6. Hoyez AC. The 'world of yoga': the production and reproduction of therapeutic landscapes. Soc Sci Med. 2007;65(1):112–24.
- 7. Ravishankar B, Shukla VJ. Indian systems of medicine: a brief profile. Afr J Tradit Complement Altern Med. 2007;4(3):319–37.
- 8. Mukherjee PK. Evaluation of Indian traditional medicine. Drug Inf J. 2001;35(2):623-32.
- 9. Adhikari PP, Paul SB. History of Indian traditional medicine: a medical inheritance. History. 2018;11(1):421.
- Gibert-Tisseuil F. Reflections on traditional Chinese medicine and its pharmacopoeia. Ann Pharm Fr. 1998;56(6):282–5.
- 11. Cheng JT. Drug therapy in Chinese traditional medicine. J Clin Pharmacol. 2000;40(5):445-50.
- Libby P, Bonow RO, Mann DL, Tomaselli GF, Bhatt D, Solomon SD, Braunwald E. Braunwald's heart disease-E-book: a textbook of cardiovascular medicine. Elsevier Health Sciences; 2021.
- Howes MJ, Houghton PJ. Plants used in Chinese and Indian traditional medicine for improvement of memory and cognitive function. Pharmacol Biochem Behav. 2003;75(3):513–27.
- 14. Fokunang CN, Ndikum V, Tabi OY, Jiofack RB, Ngameni B, Guedje NM, Tembe-Fokunang EA, Tomkins P, Barkwan S, Kechia F, Asongalem E. Traditional medicine: past, present and future research and development prospects and integration in the National Health System of Cameroon. Afr J Tradit Complement Altern Med. 2011;8(3):284.
- Tabuti JR, Hassen IE, Pateh UU, Mahomoodally MF. Recent advances towards validating efficacy and safety of African traditional medicines. Evid Based Complement Altern Med. 2014; https://doi.org/10.1155/2014/260567.
- Obijiofor C. Integrating African ethnomedicine into primary healthcare: a framework for Southeastern Nigeria. Adv Phytomed. 2002;1:71–9. Elsevier
- Ko SH, Choi SW, Ye SK, Yoo S, Kim HS, Chung MH. Comparison of anti-oxidant activities of seventy herbs that have been used in Korean traditional medicine. Nutr Res Pract. 2008;2(3):143–51.
- Cho SY, Yoo WJ, Ahn SW, Kim NI. The formation of Sogal concept and classification in Korean Traditional Medicine. Korean J Orient Med. 2007;13(2):1–4.
- Pemberton RW. Insects and other arthropods used as drugs in Korean traditional medicine. J Ethnopharmacol. 1999;65(3):207–16.
- 20. Yuan H, Ma Q, Ye L, Piao G. The traditional medicine and modern medicine from natural products. Molecules. 2016;21(5):559.
- Grammaticos PC, Diamantis A. Useful known and unknown views of the father of modern medicine, Hippocrates and his teacher Democritus. Hell J Nucl Med. 2008;11(1):2–4.
- 22. Ch O. The therapeutic use of seclusion in a psychiatric clinic. Nosileftiki. 2006;45(1):68-77.
- 23. Davies O. Paganism: a very short introduction. OUP Oxford; 2011.
- 24. Hajar R. The air of history (part II) medicine in the middle ages. Heart Views. 2012;13(4):158.
- 25. AlRawi SN, Khidir A, Elnashar MS, Abdelrahim HA, Killawi AK, Hammoud MM, Fetters MD. Traditional Arabic & Islamic medicine: validation and empirical assessment of a conceptual model in Qatar. BMC Complement Altern Med. 2017;17(1):1.
- 26. Masic I. The classics of Arabic medicine. Med Arch. 2010;64(4):253.
- 27. Shetty P. Arabic roots of modern medicine. Lancet. 2011;378(9785):19-20.
- Tabish SA. Complementary and alternative healthcare: is it evidence-based? Int J Health Sci. 2008;2(1):V–IX.
- 29. Fontanarosa PB, Lundberg GD. Alternative medicine meets science. JAMA. 1998;280(18):1618–9.