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MANAGEMENT OF INDIAN SYSTEM OF MEDICINE AND DYNAMICS OF LIFE STYLE

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ABSTRACT

All countries in the South East Asia Region have a heritage of traditional systems of medicine. There are large numbers of traditional medicine practitioners who provide help and service to the ill and the needy. The human race has developed a wide variety of technologies with due regard to nature and the ecosystem. Exploration of medicinal properties of plants, extracts of animal and marine life had created a vast heritage of knowledge and expertise in different cultures and civilizations. Most of such indigenous knowledge was handed down by oral tradition. We have yet to explore fully the vast storehouse of indigenous, tribal and traditional systems of medicine. India has a rich, centuries old heritage of medicinal and health sciences. India has the unique distinction of having six recognized systems of medicine under Indian Systems of Medicine and Homoeopathy. The Indian Systems are Ayurveda, Siddha, Unani, Yoga, and Naturopathy. Homoeopathy is also covered within the ambit. This system has got completely assimilated, accepted and enriched like any other Indian system of medicine. Importantly, changing life style of man has crated problems of health and well being. The chronic diseases have no remedy in modern system of medicine, however, scope of remedy of such diseases is vast in Indian System of Medicine. These systems of medicine also prevent human from illness and chronic diseases. The paper attempts to analyse the emerging potential, status and prospects of Indian Systems of Medicine.

It is well recognized that improvement in the health status of population is an important means of increasing productivity and economic growth as well as an end in itself. The importance of improvement in health is also acknowledged in the Millennium Development Goals of the UNDP, which call for a dramatic reduction in poverty and improvements in health, specially of the poor. The Millennium Development Goals (MDGs) have become the most widely accepted yardstick of development efforts by the government and non-government organizations since their launch in September 2000. They are a set of time-bound targets related to key achievements in human development which include halving poverty and hunger, achieving universal primary education and gender equality, reducing infant, child and maternal mortality, reversing the spread of HIV/

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AIDS and other communicable diseases, and halving the proportion of people without access to safe drinking water. These targets are to be achieved by 2015. The attainment of these goals in India will remain challenging specially in the poor states because of wide disparity both in terms of regional and gender development and social change across the states and regions.

The health of a nation is crucial for overall development and social change. The health of Indian population has improved dramatically over the last decades. However, IMR, crude birth rate and total fertility rate are still higher leading to population explosion. Maternal mortality remains very high. More than one lakh women die each year due to pregnancy related complications. Communicable diseases such as malaria, kalaajar, tuberculosis, HIV infection and others remain the major causes of illness. Diarrhea is another cause of illness and mortality among the children. The health care services are available to only rich and the poor have very little access to government-run health services. The socio-economic vulnerability has also affected the access to it by the marginalized and disadvantaged communities.

Improvement in the health status has been one of the major thrust areas for the social development programmes of the country. This may be achieved by improving the access and utilization of the health services with special focus on underserved and underprivileged segments of the population. Over the decades, India has built up a vast health infrastructure and manpower at primary, secondary and tertiary health care in government and private sectors. However, the extent of access and its utilization vary substantially amongst states, districts and different segments of the society. As country is undergoing demographic and epidemiological transition, larger investments in health are required to maintain the current health impetus and combating the dreaded communicable diseases. Moreover, curative and preventive health care system is the need of hour where both traditional other indigenous health care practices and systems need to be promoted on a priority basis.

Importance of optimal nutrition for health and physical as well as mental development is well recognized. The changing food habits and chronic energy deficiency due to poverty, malnutrition, backwardness and poor educational levels, lead to increased morbidity and mortality rates among the children specially of the backward areas. In view of malnutrition, energy deficiency and under-nutrition, access to nutritional services has to be improved to upgrade the status of nutrition of population particularly of disadvantaged communities by launching of programmes for food security and livelihood promotion. The problem of chronic micro and macronutrient

under-nutrition cannot be addressed simply by increasing food production or the storage of larger food buffer stocks. The public distribution system has to be revamped and only targeted nutrition programmes can alleviate the malnutrition and nutrient deficiency.

The Indian Systems of Medicine consisting of *Ayurveda, Siddha, Unani and Homoeopathy,* and the therapies such as *yoga* and naturopathy are gaining world-wide recognition and acceptance. In Africa upto 80 per cent of the population use traditional medicines to help meet their health care needs. Even in China, traditional medicine accounts for around 40 per cent of all health care services. In some developing countries, traditional medicine is much more widely available than allopathic medicines. In Malaysia, for example, an estimated $500 million is spent annually on traditional medicines compared to about $300 million on allopathic medicines. However, countries like Pakistan and India are yet to make such substantial endeavours. Though, India has drafted a National Policy on Indian Systems of Medicines in 2001, however, Indian Traditional Medicine Systems remained disorganized and unregulated despite of the system dating back to centuries. Traditional medicine industry has a huge market turnover of Rs. 4205 crore every year but the approach towards it is outdated. Its practitioners are secretive as they feel scared about some one else challenging their knowledge. They have joined the commercial bandwagon but are not very forthcoming to scientific changes. Moreover, much of the ancient traditional medicine systems have loss their originality and authenticity due to lack of interest among its practitioners. These practitioners overexploit medicinal plant resources which has led to the virtual decimation of several species. Government is expending huge amount on allopathic medicines but the same is lacking for traditional medicines.

Potential of ISM & H:

Indian System of Medicine comprises of six different systems: *Ayurveda, Siddha,* Unani, *Yoga,* Naturopathy and Homoeopathy. Homoeopathy is a German origin, however, it has wide acceptance in India. Similarly, Unani is of Greece origin and came to India in medieval time. Naturopathy has some elements of non-Indian origin. However, *Ayurveda, Siddha* and *Yoga* are indigenous systems of medicine. These systems have the potential to make a significant contribution to the health care of the common people but their true potential is still largely unrealized, despite a large and well-dispersed infrastructure. While there are significant differences among the Indian Systems of Medicine, but some important commonalities exist in basic approaches and fundamentals between *Ayurveda, Siddha*, Unani, *Yoga* and Naturopathy. The underlying similarities are as follows:

- All the systems adopt a holistic approach, attempting to treat the patients as a whole rather than the affected organs.
- The systems are more life-oriented than the disease oriented.
- All of them emphasize promotive and preventive aspects.
- All of them believe that disease is a consequence of disharmony between man and nature that disturbed the balance between bio factors/humours.
- All systems are natural substances, predominantly herbal preparations used as nutritional supplements rather than drugs.
- All systems emphasize appropriate diet.
- *Ayurveda, Siddha* and Unani rely to a great extent on pulse reading for diagnosis.

Ayurveda is more popular in Kerala, Himachal Pradesh, Gujarat, Karnataka, Madhya Pradesh, Rajasthan and Orissa. Unani has a greater following in Andhra Pradesh, Karnataka, Tamil Nadu, Bihar, Maharashtra, Madhya Pradesh, Uttar Pradesh, Delhi and Rajasthan. Homoeopathy is widely practised in Uttar Pradesh, Kerala, West Bengal, Orissa, Andhra Pradesh, Maharashtra, Punjab, Tamil Nadu, Bihar, Gujarat and North Eastern States. Indian Systems of Medicine can make a major contribution to health care in the following areas:

- In the changing demographic and epidemiological scenario longevity has increased and people are more vulnerable to chronic ailments requiring long-term and expensive therapies unaffordable by poor communities. ISM can fill this critical gap and may provide safe and cost-effective treatment to the common man.
- The epidemiological transition has increased the burden of non-communicable diseases thus, promotive and preventive health care systems need to be promoted to deal with this new challenge.
- ISM may contribute significantly to the public health care facilities particularly in the backward areas and marginalized and deprived communities.
- ISM may provide leads to the discovery of safer and more effective drugs to support the human battle against diseases like cancer, HIV/AIDS, cardiovascular, respiratory diseases and diabetes, etc.
- ISM provide a wide range of rich cultural heritage and a wide range of remedies which may attract foreign tourists provided that well being tourism is supported and promoted by government.

- ISM could provide a growing market for exports with the rising demand for complementary alternative medicines and herbal products to the pharmaceutical industry of the globe.

Infrastructure of ISM & H

There is a vast infrastructure of hospitals, dispensaries, teaching institutions and registered practitioners under different systems of ISM. Table 1 shows the summary of medical care, medical manpower and medical education facilities available under Indian Systems of Medicine and Homoeopathy. There are more than 1355 hospitals and 11205 dispensaries with the registered practitioners of more than 6 lakh. There are 549 colleges with annual intake of above 27000 students for imparting education in Indian Systems of Medicine and Homoeopathy.

Table 1
Infrastructure of ISM & H

Sl. No.	*Facilities*	*Ayur-veda*	*Unani*	*Siddha*	*Yoga*	*Naturo-pathy*	*Homoeo-pathy*	*Total*
1.	Hospital	753	74	276	7	21	223	1355
2.	Beds	35182	3774	2386	105	622	11205	53296
3.	Dispensaries	15193	1153	644	71	55	5634	22635
4.	Registered Practitioners	438721	43578	1756	—	541	217460	717860
5.	(i) Under Graduate Colleges	219	37	6	—	10	178	450
	(ii) Admission Capacity	9865	1525	320	—	385	12785	24880
6.	(i) Post Graduate Colleges	57	8	3	—	—	31	99
	(ii) Admission capacity	905	73	110	—	—	1040	2128

Source: Annual Report, 2005, Department of ISM&H,. Ministry of Health, Govt. of India, Delhi.

State-wise number of registered ISM and Homoeopathic practitioners are shown in Table 2. Most of the practitioners are in the field of *Ayurveda* and Homoeopathy. While practitioners in the field of Naturopathy and *Siddha* are nominal. However, Tamil Nadu is the largest abode of *Siddha* practitioners in India. Naturopathy is concentrated in Andhra Pradesh, Karnataka and Tamil Nadu only. While there is no presence of registered practitioners of Unani medicine in the north-east states.

State-wise doctors and registered practitioners are shown in Table 3. Per 10000 population, the availability of doctors has been reported to be high in

Table 2
State-wise Number of Registered ISM & Homoeopathic Practitioners

Sl. No.	*States/U.T's*	*Ayurveda*	*Unani*	*Siddha*	*Naturo-pathy*	*Homoeo-pathy*	*Total*
1.	Andhra Pradesh	14621	4614	—	298	8411	27944
2.	Arunachal Pradesh	—	—	—	—	—	—
3.	Assam	250	NA	—	—	464	714
4.	Bihar	75711	3250	—	—	25669	104630
5.	Delhi	5952	2112	—	—	2586	10650
6.	Goa	—	—	—	—	—	—
7.	Gujarat	16223	234	—	—	3768	20225
8.	Haryana	18553	1656	—	—	5664	25873
9.	Himachal Pradesh	6798	454	—	—	1076	8328
10.	Jammu & Kashmir	343	162	—	—	—	505
11.	Karnataka	10555	679	1	67	5871	17173
12.	Kerala	13080	55	1345	—	7760	22240
13.	Madhya Pradesh	47130	427	—	2	6794	54353
14.	Maharashtra	46519	2298	—	—	27911	76728
15.	Manipur	—	—	—	—	—	—
16.	Meghalaya	—	—	—	—	229	229
17.	Mizoram	—	—	—	—	—	—
18.	Nagaland	—	—	—	—	—	—
19.	Orissa	3653	15	—	—	4733	8401
20.	Punjab	19924	5610	—	—	7256	32790
21.	Rajasthan	26056	1849	—	—	3975	31880
22.	Sikkim	—	—	—	—	—	—
23.	Tamil Nadu	3366	916	11569	21	16060	31932
24.	Tripura	—	—	—	—	—	—
25.	Uttar Pradesh	55921	11963	—	—	24711	92595
26.	West Bengal	2873	4927	—	—	36107	43907
27.	A & N Islands	—	—	—	—	—	—
28.	Chandigarh	—	—	—	—	316	316
29.	D & N Haveli	—	—	—	—	—	—
30.	Daman & Diu	—	—	—	—	—	—
31.	Lakshadweep	—	—	—	—	—	—
32.	Pondicherry	—	—	—	—	—	—
	Total	367528	41221	12915	388	189361	611413

Source: Annual Report, 2001, Deptt. Of ISM&H,. Ministry of Health, Govt. of India, Delhi.

Punjab, Himachal Pradesh, Haryana, Delhi and Bihar while it was reported least in Assam, Jammu & Kashmir and Meghalaya. The country has 6.77 *AYUSH* doctors for every 10,000 people, which is comparatively higher than the availability of modern doctors.

Table 3
State-wise Doctors and Registered Practitioners of ISM

Sl. No.	*States/U.T.'s*	*Total Population (as per 1991 census)*	*ISM & H Doctors Registered Practitioners, IQ+NIQ*	*ISM & H Doctors per 10000*
1.	Andhra Pradesh	66508008	27944	4.2
2.	Arunachal Pradesh	864558	—	—
3.	Assam	22414322	714	0.3
4.	Bihar	86374465	104630	12.1
5.	Delhi	9420644	10650	11.3
6.	Goa	1169793	—	—
7.	Gujarat	41309582	20225	4.8
8.	Haryana	16463648	25873	15.7
9.	Himachal Pradesh	5170877	8328	16.1
10.	Jammu & Kashmir	7718700	505	0.6
11.	Karnataka	44977201	17173	3.8
12.	Kerala	29098518	22240	7.6
13.	Madhya Pradesh	66181170	54353	8.2
14.	Maharashtra	78937187	76728	9.7
15.	Manipur	1837149	—	—
16.	Meghalaya	1774778	229	1.3
17.	Mizoram	689756	—	—
18.	Nagaland	1209546	—	—
19.	Orissa	31659736	8401	2.7
20.	Punjab	20281969	32790	16.1
21.	Rajasthan	44005990	31880	7.2
22.	Sikkim	406457	—	—
23.	Tamil Nadu	55858946	31932	5.7
24.	Tripura	2757205	—	—
25.	Uttar Pradesh	139112287	92595	6.7
26.	West Bengal	68077965	43907	6.4
27.	A & N Islands	280661	—	—
28.	Chandigarh	642015	316	4.9
29.	D & N Haveli	138477	—	—
30.	Daman & Diu	101586	—	—
31.	Lakshadweep	51707	—	—
32.	Pondicherry	807785	—	—
	Total	846302688	611413	7.2

Source: Annual Report, 2001, Deptt. Of ISM&H,. Ministry of Health, Govt. of India, Delhi.

State-wise number of hospitals and their bed strength is shown in Table 4. Most of the hospitals are in the field of *Ayurveda* discipline while in *Siddha* discipline they were reported to be high and concentrated mainly in Tamil Nadu state. Unani hospitals are mainly concentrated in Uttar Pradesh while

Naturopathy hospitals are concentrated in Karnataka. However, Ayurveda hospitals are widely scattered all over the country. The largest number of them being reported in Uttar Pradesh.

Table 4
State-wise Number of Hospitals With Their Bed Strength Under ISM & H

Sl. No.	*States/UTs*	*Ayur-veda*	*Unani*	*Siddha*	*Yoga*	*Naturo-pathy*	*Amchi*	*Homoeo-pathy*
1.	Andhra Pradesh	8 (444)	7 (390)	—	—	1 (135)	—	6 (280)
2.	Arunachal Pradesh	1 (15)	—	—	—	—	—	—
3.	Assam	2 (130)	—	—	1 (25)	—	—	3 (105)
4.	Bihar	9 (871)	4 (414)	—	—	—	—	1 (100)
5.	Delhi	9 (771)	43 (311)	—	1 (50)	—	—	3 (190)
6.	Goa	6 (245)	—	—	—	—	—	—
7.	Gujarat	45 (1745)	—	—	1(1)	—	—	9 (730)
8.	Haryana	9 (840)	1 (10)	—	—	—	—	—
9.	Himachal Pradesh	16 (330)	—	—	—	1 (10)	1 (15)	—
10.	Jammu & Kashmir	1 (250)	2 (200)	—	—	1 (10)	—	—
11.	Karnataka	124 (6132)	11 (202)	1 (10)	5 (25)	12 (451)	—	25 (1480)
12.	Kerala	109 (2561)	—	—	—	1 (30)	—	72 (1440)
13.	Madhya Pradesh	34 (1160)	1 (60)	—	—	—	-	12 (590)
14.	Maharashtra	73 (11713)	10 (1400)	—	—	—	—	77 (5505)
15.	Manipur	—	—	—	—	2 (65)	—	1 (10)
16.	Meghalaya	—	—	—	—	—	—	—
17.	Mizoram	—	—	—	—	—	—	—
18.	Nagaland	—	—	—	—	—	—	—
19.	Orissa	8 (323)	—	—	—	—	—	5 (10)
20.	Punjab	11 (771)	—	—	—	—	—	6 (185)
21.	Rajasthan	90 (1179)	5 (270)	—	—	2 (22)	—	5 (160)
22.	Sikkim	—	—	—	—	—	—	—
23.	Tamil Nadu	4 (267)	1 (54)	221 (1716)	—	—	—	3 (150)
24.	Tripura	1 (10)	—	—	—	—	—	1 (20)
25.	Uttar Pradesh	1671 (9911)	136 (1186)	—	—	—	—	36 (399)
26.	West Bengal	3 (215)	2 (110)	—	—	—	—	14 (682)
27.	A & N Islands	—	—	—	—	1 (10)	—	—
28.	Chandigarh	1 (150)	—	—	—	—	—	1 (25)
29.	D & N Haveli	1 (-)	—	—	—	—	—	1 (-)
30.	Daman & Diu	1 (5)	—	—	—	—	—	—
31.	Lakshadweep	—	—	—	—	—	—	—
32.	Pondicherry	—	—	—	—	—	—	—
33.	C.G.H.S.	1 (250)	—	—	—	—	—	—
34.	Central Research Councils	20 (475)	12 (265)	2 (85)	—	—	—	5 (105)
	Total	2258 (40313)	196 (4872)	224 (1811)	8 (101)	21 (733)	1 (15)	297 (12836)

Source: Annual Report, 2001, Deptt. Of ISM&H,. Ministry of Health, Govt. of India, Delhi.

Table 5
State-wise Number of Dispensaries Under ISM & H

Sl. No.	*States/UTs*	*Ayur-veda*	*Unani*	*Siddha*	*Yoga*	*Naturo-pathy*	*Amchi*	*Homoeo-pathy*
1.	Andhra Pradesh	1437	207	—	—	—	—	286
2.	Arunachal Pradesh	4	1	—	—	—	—	41
3.	Assam	329	1	—	2	2	—	75
4.	Bihar	522	128	—	—	—	—	181
5.	Delhi	122	19	—	—	—	—	95
6.	Goa	59	—	—	—	—	—	56
7.	Gujarat	539	—	—	2	8	—	34
8.	Haryana	414	20	—	—	—	—	20
9.	Himachal Pradesh	1064	3	—	—	—	—	14
10.	Jammu & Kashmir	247	171	—	—	—	25	2
11.	Karnataka	561	45	—	—	11	—	25
12.	Kerala	759	1	9	—	—	—	2754
13.	Madhya Pradesh	2105	56	—	—	—	—	202
14.	Maharashtra	463	23	—	—	—	—	—
15.	Manipur	—	—	—	—	1	—	9
16.	Meghalaya	—	—	—	—	—	—	—
17.	Mizoram	1	—	—	—	—	—	1
18.	Nagaland	—	—	—	—	—	—	2
19.	Orissa	527	9	—	35	30	—	503
20.	Punjab	489	35	—	—	—	—	105
21.	Rajasthan	3486	79	—	—	3	—	121
22.	Sikkim	—	—	—	—	—	1	1
23.	Tamil Nadu	10	6	338	—	1	—	41
24.	Tripura	30	—	—	—	—	—	66
25.	Uttar Pradesh	713	148	—	—	—	—	66
26.	West Bengal	254	2(110)	—	—	—	—	899
27.	A & N Islands	—	—	—	—	—	—	7
28.	Chandigarh	5	—	—	—	—	—	4
29.	D & N Haveli	1	—	—	—	—	—	1
30.	Daman & Diu	1	—	—	—	—	—	—
31.	Lakshadweep	4	—	—	—	—	—	2
32.	Pondicherry	12	—	8	—	—	—	1
33.	C.G.H.S.	31	9	2	3	—	—	34
34.	Central Research Councils	32	8	4	—	—	—	41
35.	M/o Railways	38	—	—	—	—	—	124
36.	M/o Labour	129	1	2	—	—	—	25
37.	M/o Coal	28	—	—	—	—	—	—
	Total	14416	970	363	42	56	26	7155

Source: Annual Report, 2001, Deptt. Of ISM & H,. Ministry of Health, Govt. of India, Delhi.

Number of dispensaries under ISM & H are shown in Table 5. The dispensaries are also reported to be mainly belonging to *Ayurveda* and Unani medicine and were found to be concentrated in the state of Rajasthan,

Madhya Pradesh, Andhra Pradesh, Himachal Pradesh, Kerala and Uttar Pradesh.

There has been a progressive increase in the number of practitioners graduating from ISM & H educational institutions during the last 5 decades. Currently there are 458 colleges in ISM & H., but the quality of training these colleges impart is poor. The colleges lack the required number of departments, teachers, hospitals beds and adequate diagnostic equipments. Most of the students who joined ISM & H institutions through a common entrance examination are those who do not get admission in modern system of medicine. The quality of teachers is also poor while teaching aids are in short supply. Thus, the morale of ISM & H teachers and students is low. The syllabus and curriculum are also inadequate and outdated in the context of changing environment. Indian Medicines Central Council Act, 1970 was enacted for the constitution of Central Council of Indian Medicines, maintenance of a central register of *Ayurveda, Siddha* and Unani and related matters. The Central Council of Indian Medicines and The Central Council of Homoeopathy constituted in 1970 and 1973 respectively are responsible for laying down and maintaining uniform standards of education for ISM & H courses, prescribing standards of professional conduct and code of ethics for practitioners; and advising the Central Government on matters relating to the recognition of appropriate qualifications. A large number of colleges are being opened predominantly in the private sector after obtaining permission from State governments and getting affiliation to universities. The mushrooming of colleges has adversely affected the quality education. There are no arrangements for providing a degree or diploma in ISM & H pharmacy nor it is included as one of the options in the general pharmacist course. Similarly, there is no training for nursing in ISM & H. However, there are national institutes funded by Central Government, which are located at Jaipur, Bangalore, Calcutta, Pune, Delhi and Chennai.

Traditional Systems of Healing

The era of Rudyard Kipling–'East is East and West is West and never the twin shall meet'–is over. The West is embracing East. Testimony to this is the World Health Organization's recently launched global strategy aimed at bringing complementary or alternative medicines and traditional medicines into the ambit of mainstream health services. Traditional medicine have got official recognition in many nations, however, there is no policy to regulate it. In Afrca, upto 80 per cent of the population uses traditional medicines to help meet their health needs. Even in China, traditional medicine accounts for around 40 per cent of all health care services delivered. Traditional Chinese medicinal system is a system with rich cultural heritage, natural drug,

massage, acupuncture, and meditation. Strict quality control for raw materials and standard methods of preparation augment the growth and promotion of system along with popularity. Global market for traditional Chinese medicines was reported to be $ 23.2 million in 2002. However, India, Pakistan and several other Asian countries yet to make such substantial endeavours. India has rich biodiversity and has quite good relevence in the present context of changing pattern of diseases and resistant strains, side effects of modern drugs and emergence of changing lifestyle induced and disorders diseases. However, rural people in India uses traditional medicines only for 6 per cent of illness, despite renewed interest and approved infrastructure. Uses of traditional medicines are higher in states like Kerala, Maharashtra and Haryana. Medicinal and aromatic plants derived medicines, essential oils and products worth of $ 72 billion worldwide. According to WHO's estimates, the projected demand for medicinal plants alone by the year 2050 would be $ 5 trillion. However, the domestic market of Indian Systems of Medicine and Homoeopathy is of the order of Rs. 4000 crores of which *Ayurveda* drug market alone is about Rs. 3500 crores. India's total exports earnings from crude drugs, herbal extracts and finished products stand at meagre Rs. 800 crores. Though, medicinal and aromatic plants have been known and used since ancient times to heal and cure diseases, recently technological achievements and validation of traditional knowledge and uses are leading to consumers inclination towards naturals and high market and value for these crops. Such crops in India now covering an area of nearly about 0.4 million hectares, though the country has rich biodiversity and 16 climatic zones suitable for different species of medicinal and aromatic plants.

Origin & Growth of ISM & H

The term Indian Systems of Medicine & Homoeopathy covers both the systems which originated in India and outside but got adopted and adapted in India in due course of time. The systems are *Ayurveda, Siddha,* Unani, *Yoga* and Naturopathy. Homoeopathy originated in Germany and came to India in early 18th century. Unani is the Greece origin while other systems of medicines are indigenous. *Ayurveda* system of medicine takes an integral view of the physical, mental, spiritual and social aspects of human beings. The philosophy of *Ayurveda* is based on the theory of *Panchmahabhutas* (five element theory). The combinations of these five elements are represented in the form of *Tridosha–Vata, Pitta and Kaph*. These are known as three humours. The mental and spiritual attributes are described as *Satva, Rajas* and *Tamas*. *Ayurveda* considers the human being as a combination of *tridoshas,* five elements, seven body tissues and five senses with sensory and motor functions, mind, intellect and soul. The diagnosis in *Ayurveda* is based on

examining of pulse, urine, and faces, tongue, eyes, visual and sensual. *Ayurveda* believes in preventive measures as well as curative measures of ailments. There are eight branches with specialization in internal medicine, pediatrics, psychiatrics, eye & ENT, surgery, toxicology, geriatrics, and science of virility. The *Siddha* system is one of the oldest systems of medicine in India. The diagnosis of disease involves identification of its causes through examining pulse, urine, eyes, study of voice, colour of body, tongue and the status of digestive system. The system has worked out its colour, smell, density, quantity and oil drop spreading pattern. The system is effective in treating chronic causes of lever, skin diseases specially Psoriasis, rheumatic problems, anaemia, prostate enlargement, bleeding piles and peptic ulcer. Unani system of medicine is based on herbal medicine and provides remedies in a systematic manner specially in the cure of rheumatic arthritis, jaundice, filariasis, eczema, sinusitis and bronchial asthma. Homoeopathy is a system of medicine, which believes in a specialized method of treatment system of curing natural diseases by administration of potential drugs, which have been experimentally proved to posses the power of producing similar artificial symptoms on healthy human beings. *Yoga* and Naturopathy are primarily based on promotive and preventive methods of healing. They are basically the systems of relieving stress.

Ayurveda means the science of life in Sanskrit. It is one of the oldest and the best documented among the ancient systems of medicine. The documentation of *Ayurveda* is referred to in the Vedas (1500 BC–500 BC). It derives its basic principles from *Charak Samhita* (600 BC) and the *Susruta Samhita* (500 BC). The approach is philosophic, holistic, and humanistic. It emphasizes life and health more than disease and treatment. It encompasses total health–physical, mental and spiritual in a holistic way. The system is based on the laws of nature. The individual and the universe are both essentially are made up of the five basic physical factors or elements (space, air, water, fire and earth). The individual and the universe remain in constant interaction with each other, and as long as this interaction is wholesome and optimal, the human being enjoys good health. Any disharmony in this interaction is the basic cause of disease, and treatments in *Ayurveda* attempts to restore this harmony. The five physical attributes of *Pancha Mahabhuta's* constitute three major biological components of living body called *tridosha* i.e. *vata, pitta, and kapha*. All ailments arise out of the imbalance of the three *dosas* or humours, and the role of medicine is to assist the natural healing powers of the body. The system is promotive, preventive and curative with eight major clinical specialties. The medicinal preparations are mainly herbal base and make extensive use of minerals and ashed metals. *Yoga* is not a system of medicine, however, it is the most essential and effective approach of traditional medicinal system. The changes in lifestyles and its negative

implications on health may be adversed through *Yoga* only. Its objectives are self-realization and spiritual union with all pervasive divine cosmic power. But certain intermediary practices and yogic attitudes have proved beneficial for reducing stress, preventing many lifestyle related diseases, and promoting general health and well being. It has also proved useful in the treatment of many chronic and intractable ailments. *Yoga* is devoted to the integration of the physical, mental, intellectual and spiritual dimensions of one's being. The methods of Yoga are based on *Pantanjali's Yoga Sutra* (200 BC) with ultimate goal of attaining *Samadhi* or union with the cosmic force. Meditation is an essential ingredient of *Yoga*. However, it is associated with certain postures (*asana*) and breathing exercises (*Pranayama*), which have wide and varied beneficial influences on both physical and mental health. The *Yoga* is gaining importance in India and a large number of spiritual teachers (*Guru's*) advocate *yoga* and naturopathy for chronic diseases as well as addressing the side effects of modern life styles. These *gurus* or *yogis* have their own T.V. channels, *Ashrams,* trusts, centres of yogic activities, etc. and earn a lot of money from public through charging them in terms of registration fees, selling cassettes, CD's records, video films etc. It is estimated that the size of such music cassettes and CD's is above Rs. 600 crores annually. The *Ashtha*, *Sanskar* and *Jagran* channels provide platforms to present and advocate spiritualism to many spiritual *gurus* and *yogis*. The public faith and trust to these spiritual *gurus* is rapidly increasing since people get immediate relief from stress, tension, fatigue and cure from chronic ailments. The meditation, yogic activities/exercises and naturopathic treatment give great relief to the ailing persons. Therefore, *yoga* is being included in the syllabus of schools and colleges since it provides basis for physical exercise and meditation.

Unani system of medicine originated in the fourth and fifth century BC in Greece under the patronage of Hippocrates (460 BCC–377 BC) and Galen. It gradually absorbed the exercise and wisdom of many ancient cultures. In India, Arabs introduced Unani system of medicine and it took its roots in the soil. The *Mughal* emperors, *Nawabs* and *Sultans* gave patronagism to it. However, during the British rule, Unani medicine suffered a setback and its development was hampered. Hakim Ajmal Khan (1868–1927) is called the champion for the cause of the system in India. However, Government of India established in 1969 a Central Council for Research in Indian Medicine and Homoeopathy to develop scientific research in different branches of Indian Systems of Medicine viz. Unani, *Ayurveda, Siddha, Yoga,* Naturopathy and Homoeopathy. The Unani medicine is based on the principles put forward by Hippocrates. The system believes that the humoral theory presupposes the presence of four humors–*Dam* (blood), *Balgham* (phlegm), *Safra* (yellow bits) and *Sauda* (black bits) in the body. Every person is

supposed to have a unique humoral constitution, which represents his healthy state and to maintain the correct humoral balance there is a power of self-preservation or adjustment. The imbalance in the humoral composition is bound to occur which causes disease. The diagnosis under this system is based on examination of pulse, fingers, urine, stool etc. The medicine, single drugs or their combinations in raw form are preferred over compound formulations. Most of the common plants, herbs, and medicinal plants are used for preparation of drugs. Unani drugs are very effective in the treatment of malaria, filaria, infective hepatitis, infantile diarrhea, vitorigs, arthritis, etc. The system of medicine is quite popular among the masses. There are 35,350 registered Unani practitioners in the country of them, 13116 are institutionally qualified. Besides, a large number of unregistered practitioners are dispersed all over the country who practice Unani medicine on hereditary basis.

Siddha system is one of the oldest systems of medicine in India. It means achievement through practice of *Yoga*. Eighteen *Siddhars* seem to have contributed towards the development of this medical system. Its literature is in Tamil and is practiced predominantly in Tamil speaking parts of India. The system is also known as *Agasthyar* system after the name of famous sage *Agasthya*. This system developed within the Dravidian culture, which is of the pre-vedic period. The system is largely therapeutic in nature. The principles and doctrines of this system, both fundamental and applied, have a close similarly to *Ayurveda,* with specialization in lotro-chemistry, like *Ayurveda,* the system believes that all objects in the universe including human body are composed of five basic elements namely, earth, water, fire, air and sky. The system also considers the human body as a conglomeration of three humours, seven basic tissues and waste products of the body such as feces, urine and sweat. The food is considered to be basic building material of human body, which gets processed into humours, body tissues and wastes. The equilibrium of humours is considered as health and its disturbance or imbalance leads to disease or sickness. The system deals with the concept of salvation in life. The exponents of the system consider this achievement only by medicines and meditation. There are 25 varieties of water-soluble inorganic compounds called *'uppu'* beside different types of alkalies and salts. There are also 64 varieties of mineral drugs that do not dissolve in water but emit, vapours when put in fire. Thirty-two of these are natural and remaining are artificial. There are seven drugs that do not dissolve in water but emit vapour on heating. The distinctive features of *Siddha* are its reliance on minerals and metallic compounds, and its emphasis on rejuvenating therapies.

Homoeopathy is fundamentally different from other Indian systems. It is based on a specialized method of treating diseases–administering potentized

drugs in very high dilutions, which have been empirically established to have power of relieving the very symptoms, which they normally cause in healthy human beings when administered in their gross form. It was discovered by German physician Dr. Hahnemann in the 17th century. It came to India in 1810 when some German physicians and missionaries came to Bengal and started distributing homoeopathic remedies. Dr. Honigberger was the first person who is recognized to have brought homoeopathy to India. It continued to spread and Indians found in its philosophy and principles, a reflection of their belief and culture. The popularity of the system led a mushroom growth of quacks practising homoeopathy. In 1948, a Homoeopathic Enquiry Committee was set up to evolve a suitable arrangement to regulate teaching and practice of homoeopathy in India. The Government of India on the recommendations of this committee enacted the Central Act, 1973 for recognizing the system of medicine appointed a Homoeopathic Advisory Committee in 1952. In 1978, separate Council for Research in Homoeopathy was established. At present, there are 186 homoeopathic medical colleges in India with about 0.25 million homoeopaths with an annual increase of about 10,000 in their number. The masses has strong belief in the system since chronic ailments are treated on cost effective manner.

Lifestyle Related Diseases

Communicable and infectious diseases constitute a major cause of premature deaths in India, killing over 2.5 million children below the age of 5 years and an equal number of young adults every year. Despite significant progress achieved in the overall quality of life, and a reduction in absolute poverty, the proportion of total deaths on account of communicable diseases, maternal and prenatal conditions and nutritional deficiencies continues to be unacceptably high at 42 per cent. HIV/AIDS crisis is result of change in life style. India's AIDS crisis is huge and growing but the government and society have yet to acknowledge the gravity of the problem. It is expected that the number of Indians infected with HIV and AIDS would top 20 million by 2010. India has 5.13 million HIV/AIDS sufferers, while the UN's estimate is upto 8.5 million. The Naz Foundation is of the view that the real figure may be closer to 15 million. The growing epidemic is concentrated among certain groups, which are at higher risk of contracting and transmitting the HIV infection. These groups include commercial sex workers and their clients, injecting drug users, and men who have sex with men (MSM). The AIDS epidemic in India is at a critical juncture. As the country experiences rapid economic growth, the social landscape is changing. Risky behaviours continue and bridging populations carry HIV from the eye of the 'cyclone' into the wider community. Stigma and social taboos prohibit discussion of

sex and sexuality. As a result, India's current and future workforce–its youth–is at greatest threat from the epidemic. Half of India's parents marry off their daughters before they are 18 years with very little sex education. The parents do not accept sex education even in schools. In Indian cities, millions of men have long secretly visited brothels, and many have also discovered wife swapping rings and networks of high class prostitutes while middle class housewives or so called *'auntiees'* entertain teenage boys. Thus, the possibility of HIV infection increases as the population adopt unsafe sex behaviour.

Health transition is principally due to a combination of demographic and lifestyle changes resulting from socio-economic development. Demographic transition is characterized by changes in population age structure with decline infertility and an aging populating. Urbanization, industrialization, and globalization are often accompanied by undesirable lifestyle alternations: a diet rich in saturated fat, salt and excess calories, decreased physical activity, addition of tobacco, alcohol, and drugs augmentation of psycho-social stress. Thus, both the dose and duration of exposure the risk factors increase, resulting in larger number of manifesting lifestyle related diseases and their consequences. Non-communicable diseases are emerging, and cardiovascular diseases; cancers, diabetes, neuro-psychiatric ailments and other chronic diseases are becoming major contributor to the burden of disease. In 1990, India accounted for 16 per cent of all non-communicable disease deaths, and 17 per cent of all cardiovascular diseases deaths in the world. Cardiovascular diseases in India alone accounted for around 2.4 million deaths, in contrast to nearly 3.2 million such deaths in all the industrialized countries together. Diabetes has a high prevalence in urban and migrant Indians. As the quality of dietary habits and physical activity decreases and obesity increases, diabetes becomes a greater contributor to non-communicable diseases. In 1998, India reported 2 million cases of cancers, 83 million cases of cardiovascular diseases, 65 million of respiratory diseases, and 13 million cases of diabetes. The rising levels of hypertension, diabetes, obesity, tobacco consumption, and blood liquids in Indian population groups also portend a major rise in non-communicable diseases burden in India. There has been phenomenon growth in demand of narcotic drugs. It is estimated that there are about 73.2 million drug addicts in India, including 8.7 million cannabis users, 2.0 million opiteat, and 62 million alcoholics. The alcoholics and addicts are also vulnerable to HIV infection since they share drinks, syringes of injections and even sometimes sex partners. In this changing environment, the responsibility of delivering chronic care must devolve downwards, closer to the community and away from more expensive and less accessible health care stations. This shift should be set in motion by strengthening the capacity for care by self, family,

community, paramedic or traditional healer, encouraging guideline based practice and promoting a rational referral follow up pattern.

Stress is a handmaiden of modern life. The number of stress related cases is increasing gradually in India. Stress is an agitated mind, state that's caused by unfulfilled desire. It occurs when one is incapable of handling a given situation. Stress affects the body's ability to handle various kinds of foods, because it causes a sudden constriction of blood vessels. This raises blood pressure and reduces the amount of blood flowing to the stomach and intestines. The flow of enzymes is slowed as well so that food is poorly digested. It causes gas and distention. The causes of stress are myriad. We could categorise these into common and uncommon stress. Common stress comprises disease academic stress, marital discord, separation or divorce, career stress, bereavement and unemployment. The uncommon ones includes over-crowding, community, sleep deprivation, shifts, malnutrition, drug abuse, phobias, excessive exercise, noise pollution etc. Moreover, frustration, sexual deprivation, social or peer pressure, struggle for professional advancement, etc. are cause of stress. Stress has caused severe depression and even in some cases chronic ailments of cardiovascular disease and mental disorder. The cure of stress has been discovered in Indian System of Medicine only. Yogic exercises, use of essential oil's of plants for healing to improve physical and emotional well-being through head massage, body massage, reflexology (acupuncture), etc. are effective in addressing the stress.

Problems in ISM & H

Despite the efforts on part of government, academic institutions and NGOs, the Indian System of Medicines and Homoeopathy have not realized their full potential because of the following facts:

- Existing Indian Systems of Medicine and Homoeopathy primary, secondary and tertiary health care institutions lack essential staff, infrastructure, diagnostic facilities and drugs.
- The potential of Indian System of Medicine and Homoeopathy drugs and therapeutic modalities has not been fully exploited.
- Lack of quality control and good manufacturing practices have resulted in the use of spurious and sub-standard drugs.
- The quality of training of Indian Systems of Medicine and Homoeopathy practitioners has been below par. Many colleges lack essential facilities, qualified teachers, and hospitals for practical training. There is no system of continuing medical education for periodic updating of knowledge and skills.

- The practitioners are not involved in natural disease control programmes or family welfare programmes.
- Medicinal plants have been overexploited and as a result, the cost of drugs have increased and spurious products are getting into the market.
- Diagnostic system is quite primitive.
- Knowledge for identification of drugs and full preparations is empirical.
- Therapeutics is based on careful observations and experiments but lacks scientific evidence regarding its efficacy.
- Non-availability of proper quality assurance system.
- Lack of applications of modern systems of standardization such as ISO 9000, good laboratory practices, good manufacturing practices and good clinical practices for production of drugs and medicinal preparation.
- No mechanism to know the adverse effects of prescribed formulations.
- Absence of an accepted pharmacopoeia for ISM i.e. non-availability of documented methods of testing.

Conclusion

The government is trying to integrate the best elements of *AYUSH* systems for promoting better health care to the people. These systems, besides offering time-tested treatment to ailments for common people, greatly rely on prevention of diseases and preservation of good health. However, the urgent need is felt that country's natural resources are properly tapped and resource base for Indian Systems of Medicine is broadened. The tobacco and opium growers may switchover to cultivation of medicinal and aromatic plants rather than damaging the health of the nation. India needs to harness the rich potential of traditional system of medicines for optimum use in the prevention of primary health care to the people. In the context of changed environment due to economic liberalization, globalization and changing lifestyles, *AYUSH* systems are in greater demand than ever before. The growing demand of medicines of *Ayurveda, Siddha,* Unani and Homoeopathy, both for domestic consumption and export, the aspects of supply and availability of sufficient quantity of medicinal plants is being addressed through conservation and cultivation related initiatives taken by the government. However, imaginative and innovative strategies would have to be evolved for nurturing, protecting, sustainable harvesting of medicinal plants and standardized and scientific preparations of medicines and drugs for treatment of ailments.

With the technological revolution in modern medicine, the development of vaccines, advances in surgery and quick recovery from disease though high doses of allopathic medicines, a complete system of allopathic medicine was developed and strengthened in all over the globe. It resulted in side effects of medicines and expensive health care services, which were supposed to be delivered by public sector. However, with the change of time and particularly in the era of globalization, economic liberalization and marketization, the role of public sector in delivering of health care services is gradually declining and access of poor to the health care services is gradually restricted. The people's attitude also has begun to change with the shift in the disease profile and realization of the limitations of modern medicines. The resistance power of drugs is also declining to heavy dose of modern medicines and emergence of microbes causing the emergence of deadly diseases like pneumonic plague in 1994. The harmful affects of the prolonged administration of the powerful drugs begin to be documented while the faster pace of life led to stress being recognized as a major factor in ill health, generating interest in traditional stress relieving techniques such as Yoga and meditation. Moreover, urbanization, globalization, consumerism and economic liberalization have led to change in lifestyle and the food habits of people are changing very rapidly leading to emergence of non-communicable diseases such as cardiovascular, cancer, diabetics, as well as change in sex behaviour has led to the panic of HIV/AIDS infection. In this changed context, the remedies of such chronic diseases are seen in Indian Systems of Medicine, particularly traditional healing systems.

Recommendations

- The quality of primary, secondary and tertiary medical and delivery care system should be improved.
- Networking, integration and mainstreaming of ISM&H institutions and practitioners with modern systems of medicine is required so that people have access to a complimentary system of care.
- In order to provide adequate training and giving confidence to students to practice their system and participate in national programmes, strengthening of ISM & H educational institutions is the need of hour.
- More investment in continuing medical education, infrastructure and quality control, research and development, and manufacturing of drugs should be ensured.
- Conservation, preservation, promotion, cultivation, collection and processing of medicinal and aromatic plants and herbs is required to meed growing demand of ISM & H drugs.

- Ensuring quality control of drugs and their sustainable availability at an affordable cost should be ensured.
- A complete pharmacopoeia of all the systems of ISM & H and drawing up a list of essential drugs and ensuring their availability is imperatively needed.
- Adequate investment in research and development for developing new drugs and formulations, clinical trials, and also patenting them is urgently called for.
- In order to mainstream the ISM & H system and utilize the services of their practitioners, clinics should be located in the primary, secondary and tertiary care institutions of modern medicine.
- More focus on the use of ISM & H therapeutic modalities for treatment of chronic life style related diseases should be given to reduce side effects of modern system of medicine ensure and preventive methods.
- Appropriate communication strategies should be evolved to promote ISM & H among the messes specially the poor and disadvantaged to improve information, education, communication, and counseling to increase utilization of services under national disease control and family welfare programmes.
- Adequate monitoring mechanism should be evolved to supervise the patients and their responses to the efforts of providing complementary system of health care services of ISM and H.
- An entrance examination for ISM & H undergraduate courses with appropriate eligibility criteria should be introduced to ensure potentially good and only interested students get admission in courses of their choice.
- The course syllabi and curriculum should be revised and updated keeping in mind the potential of employment in the industry growing and wake of LPG and ISM & H services.
- A system for accreditation for ISM and H should be developed so that the performance, benchmarking, and productivity of educational and academic institutions may be measured on a periodical basis.
- Norms, procedures, principles and models should be evolved in order to ensure uniform standards of education, training, research and practice of ISM & H. A concerted effort by the governments at the national, state and local level is required in this regard.
- NGO's CBO's and local bodies should be strengthened and extended financial support for increasing area under medicinal and aromatic

plantation, providing health education, drug distribution and improving environmental and sanitary conditions at the community level.

- More emphasis is required for conservation, preservation and sustainable harvesting of medicinal and aromatic plants, as well as encouraging NGO's to take up the task of improving awareness and increasing availability of quality plants, herbs, through promoting 'kitchen gardens' or 'garden of healing' in the community.
- Traditional knowledge digital library be established in each system of Indian medicine so that information and knowledge regarding identification, harvesting and sustainable use of medicinal plant resources as well as principles, fundamentals and systems of treatment may be preserved, retrieved and disseminated.
- The existing pharmacies, laboratories, dispensaries, hospitals and manufacturing houses should be modernized and strengthened to cope up with the changing environs and needs.
- High priority should be accorded to bio-medicinal research pertaining to drug development, preventive and promotive aspects of ISM particularly the life style related diseases.
- Widely accepted and acclaimed practices of traditional healing in rural and tribal areas need to be identified and promoted and advocated.
- Massive research and development efforts for establishing efficacy and safety of drugs of Indian systems of medicine should be envisaged and implemented.
- Strengthening of the Medicinal Plants Board with a view to provide instrumental role in the promotion and cultivation of medicinal plants should be ensured.
- Strengthening of pharmacopoeia laboratories is the need of the hour in order to ensure standardization of drugs used in Indian system of medicines. A due is taken in such process to balance the inter and intra regional environs and life styles.
- Quality control measures should be enforced strictly for maintenance of quality standards of herbal drugs and formulations.
- Development of National Centers of Excellence of *Ayurveda,* Unani, *Siddha* and Homeopathy may ensure creation of high class education and research facilities for meeting the requirements of medical advancement and updation.
- Implementation of national policy on the use of ISM is crucial for defining its role and ensuring that the legal and regulatory mechanisms

set up to maintain the quality as well as the proper usage for enhancing the overall health care delivery system in the country.

- National Rural Health Mission and other programmes need more investment for enhancing quality and quantity of healthcare services through AYUSH system of medicine. Accordingly, the governments need to allocate adequate funds for the purpose.
- There is urgent need for developing pharmacognostical parameters for the identification of substitutes of adulterants.
- In order to meet out the great demand of the herbs for producing standardized and quality herbal drugs/products and to promote the export of *Ayurvedic* medicine, it is essential to maintain the quality of herbs used for the preparation of these products.
- Identification of plant species, time of harvest, drying, storage, ets. are some of the important factors for producing quality herbal medicine having batch to batch consisting and desirable the specific effects. Concerted efforts of all concerned is required in this regard.
- In order to overcome the environmental factors related to contaminations from pesticides residues and heavy metals, there should be control measures to implement necessary standard operating procedures for good agricultural produces. Good Laboratory and Manufacturing Practices are also needed to produce good quality medicinal products.

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