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Conceptual differences and similarities between public health related contents of syllabus of Ayurveda graduation (B.A.M.S.) with syllabi of M.B.B.S, M.P.H. and M.D. (social and preventive medicine) in India.

Jaideep Kumar*, Jayanti Dutta Roy**, Amarjeet Singh Minhans***

*Ph.D. Research Scholar, Centre for Public Health, Panjab University, Chandigarh **Deputy Director, Academic Staff College, Panjab University, Chandigarh *** Professor, School of Public Health, PGIMER, Chandigarh

ABSTRACT

Context: The concept and discipline of public health has seen a revival in the past decade. A gradual shift of focus from curative to preventive is being discernible. It is estimated that there will be a huge increase in need of public health professionals day by day. This would require human resources from diverse disciplines, fields and backgrounds. However, the enrolment of them in the public health education will ultimately decide whether they can be successfully integrated into the community health arena or not. **Objective:** To appraise the conceptual differences and similarities between public health related contents of syllabus of Ayurvedic graduation (B.A.M.S.) with syllabi of M.B.B.S., M.P.H. and M.D. (Social and Preventive Medicine). **Methodology:** A review based study was conducted during February 1st February- 15th March 2010. To appraise the conceptual differences and similarities, comparison of contents of syllabus of *Swasthavarita* subject of B.A.M.S. curriculum was done with syllabi of community medicine of M.B.B.S. as well as of entire syllabus of M.P.H. and M.D. (Social and Preventive Medicine). Standard syllabus of B.A.M.S. and M.B.B.S. degrees was taken from official website of Central Council of Indian Medicine (C.C.I.M), New Delhi and Medical Council of India (M.C.I.), New Delhi, respectively. Master in Public Health (M.P.H.) and M.D. (Social and Preventive Medicine) syllabi from official website of PGIMER, Chandigarh were considered as standards syllabi for study. The syllabi were divided in to the sub-categories and conceptual comparison was done. Frequencies and percentages were used to draw inferences. **Conclusions:** Conceptual similarities were found in the majority of the topics of the B.A.M.S. syllabus with the syllabi of community medicine of M.B.B.S.; M.P.H. P.G.I.M.E.R., Chandigarh and M.D. Community Medicine. Some topics like health financing, health planning, monitoring management and administration, knowledge of modern technology etc. were found lacking in B.A.M.S. syllabus.

Key-Words: Ayurvedic graduate, Public Health, Public Health Professional, Public Health Skills

Corresponding Author: Dr. Jaideep Kumar, Ph.D. Research Scholar, Centre for Public Health, 1st Floor, Aruna Ranjit Chandra Hall, Panjab University, Chandigarh.

E-mail :deep.1050@gmail.com

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INTRODUCTION:

World Health Organization define health as a state of complete physical, mental and social well- being and not merely absence of disease or infirmity i.e. health is not just the nonexistence of disease in the body but also a condition in which an individual is physically fit, mentally sound and socially active ¹.

It is being increasingly accepted by the global health community that the health is not merely the absence

of disease, but it is the complete wellbeing of a person. The mere absence of disease in a person does not bring happiness. Better health is expressed not in terms of a longer life but in terms of a better quality of life. Health is affected by socioeconomic determinants, moral, social and spiritual values. Health is also affected by one's moral, social and spiritual values. Holistic health has almost become a mantra in today's world given myriads of health problems that mankind is facing on account of modern stressed out lifestyles.

Health status of the individual and community, district, state, country, region and world at large can be known through certain indicators. At the individual level these indicators are Blood Pressure, BMI, Blood Sugar, Cholesterol, etc. With regards to community, state or country at large the health status can be measured using indicators like maternal mortality ratio, infant mortality rate, prevalence of diseases, etc.².

Despite concentrated efforts, India is one of the many developing countries, which faces a high level of morbidity, especially among the infants, children, women and the elderly. Also high incidences of infectious and communicable diseases are associated with low levels of sanitation, public hygiene and poor quality drinking water. In this changing scenario, the public health is emerged as the major discipline which shows us the way to gain optimum levels of health by promoting the preventive and promotive aspects of health. According to the concept of public health it is necessary to achieve better health; curative practices must be accompanied by preventive measures. It is not necessary to take a pill daily prescribed by a doctor for the maintenance of good health. However, a more balance in physical activity, rest and diet can lead us to proper states of health. Small change in behaviour can prevent major diseases. Prevention of disease is now being emphasized as more significant than treatment of disease whether we look at it from the angle of cost-effectiveness or economic expenditure of the state or from pain and suffering on the part of the citizen. Since the last decade, there has been an increase in the emphasis on Public health in India. Public health has emerged as one of the significant disciplines, which focus on the overall health i.e. preventing diseases, promoting health & prolonging healthy life³.

One thing that emerges from the above mentioned prescriptions is that the measures to improve health need to be executed by knowledgeable, skilled and competent public health workforce. However, this obvious and highly significant fact remains extremely neglected. The situation of skilled manpower to bring about a change in the state of the public health in the country still remains ominous. Moreover, the workforce, which is being utilized, is not an expertise in the realm of public health but specializes in some other field. This lacuna can be linked with; either the lack of professional expertise in personnel's employed in this sphere or with the shortage of manpower which mainly arises due to migration. Nevertheless, what lacks is the number of Public health professionals which is hampering the goal of

Health for all^{4,5}.

Due to this, on realizing the shortage of public health workforce in India and its importance in the health care system, the policy makers of India, has been also started to give appropriate importance to public health education along with the establishment of the health care delivery system in India. Health policy and Eleventh five-year plan has clear directions to increase the public health human resources in India. According to the framework of Eleventh Plan, efforts will be made to set up new public health schools within the existing medical colleges. This paved the way for beginning of public health courses like Masters in Public Health (M.P.H.) in the many premier institutes of India⁶.

Currently several institutions are engaged in imparting Public Health (Master in Public health) and related education in the country. Some of the institutes are- National Institute of Epidemiology (ICMR), Chennai; Sree Chitra Tirunal Institute for Medical Science and Technology, Thiruvananthapuram, Kerala; Jawaharlal Nehru University, New Delhi; Centre for Epidemiology, National Institute of Communicable Diseases (NICD), New Delhi; School of Public health, PGIMER, Chandigarh; Interdisciplinary School of Health Sciences, University of Pune; Panjab University, Chandigarh; Mahatma Gandhi University Gandhinagar, Kerala; Tata Institute of Social Sciences (TISS), Deonar, Mumbai; etc. These institutes offer: Structured, multidisciplinary educational programmes combining standards of excellence comparable to the best institutions in the world and course content relevant to India's needs; Shorter and longer term training of health and allied professionals drawn from people already engaged in occupations relevant to public health i.e. employed in government, academic institutions or nongovernmental organizations and people not currently employed who want to pursue a career in public health, such as potential health policy analysts and health managers; Research on the prioritized health problems of India, including knowledge generation and knowledge translation components⁷.

Some of these institutes provide opportunities of admission in MPH (Masters in Public health) to students with bachelor's degree in any discipline. On the other hand there are some institutes which are barring the entry of the students belonging to discipline like B.A.M.S. in the M.P.H. course. Ayurvedic graduates are presently being discriminated not only for admission to different Public health master programs but also for the

jobs/opportunities in this sector. When there are vacancies, in the field of public health, the candidates having the B.A.M.S. with M.P.H. qualification are given last preference or they are not considered eligible at all. Sometimes preference is even given to plain M.B.B.S. graduates over B.A.M.S. with M.P.H. qualification in public health jobs.

This fact is in contrast to plans of govt. itself as several health committees and health policy consultations have recommended that ISM practitioners and systems should be integrated within the health delivery system^{8, 9, 10, 11.}

Based on this background, a study was designed for M.P.H. dissertation as a part of M.P.H. curriculum to know the strengths and weakness of Ayurvedic graduates in relation to public health with the aim to explore the suitability of Ayurvedic graduates (B.A.M.S.) in public health work force of India. The present paper was taken out from a part of this study finding.

RESEARCH METHODOLOGY:

Study Type: Review based study

Study Duration: 1st February- 15th March 2010.

Methods: To appraise the conceptual differences and similarities, comparison of contents of syllabus of *Swasthavarita* subject of B.A.M.S. curriculum was done with syllabi of community medicine of M.B.B.S. as well as of entire syllabus of M.P.H. and M.D. (Social and Preventive Medicine). Standard syllabus of B.A.M.S. and M.B.B.S. degrees was taken from official website of Central Council of Indian Medicine (C.C.I.M), New Delhi and Medical Council of India (M.C.I.), New Delhi, respectively. Master in Public Health (M.P.H.) and M.D. (Social and Preventive Medicine) syllabi from official website of PGIMER, Chandigarh were considered as standards syllabi for study. The syllabi were divided in to the sub-categories and conceptual comparison was done.

Data Analysis: Frequencies and percentages were used to draw inferences.

Objective: To appraise the conceptual differences and similarities between public health related contents of syllabus of Ayurvedic graduation (B.A.M.S.) with syllabi of M.B.B.S., M.P.H. and M.D. (Social and Preventive Medicine).

RESULTS

PART: 1. Comparison of Syllabi of Community Medicine for MBBS and B.A.M.S.:-

There are 12 components are given under Community medicine and 6 components under Introduction to Humanities & Community Medicine in MBBS. There were total of 18 topics under this subject. The concepts under this subject were compared with B.A.M.S. syllabus. On comparison between the curricula of MBBS and B.A.M.S., the sub categories of 16 (88.88%) out of 18 topics were found matching.

The topics with conceptual similarities in both syllabi were:

Community Medicine - health care delivery system; national health programmes; epidemiological methods; bio-statistical methods and techniques; demographic pattern of the country; roles of the individual, family, community and socio-cultural milieu in health and disease; principles and components of primary health care; the national health policies; environmental and occupational hazards and their control; water and sanitation in human health.

Introduction to Humanities and Community Medicine - principles of sociology including demographic population dynamics; principles of practice of medicine in hospital and community setting; social factors related to health, disease and disability; impact of urbanization on health and disease; dynamics of community behavior; elements of normal psychology and social psychology.

The topics with conceptual dissimilarities in both syllabi were:

Contents about some topic of community medicine (health information systems, principles of health economics, health administration and health education in relation to community) were lacking in the B.A.M.S. syllabus.

PART: 2. Comparison of M.D. (Community Medicine) Syllabus with B.A.M.S.:-

Going through the syllabi of M.D. Community Medicine and B.A.M.S. it was analyzed that 85.5% out of 207 topics of the syllabus of M.D. Community

Medicine were found conceptually similar with B.A.M.S. syllabus.

The areas, which were found parallel in the both syllabi:

Health Systems in India and the World – Historical Perspective - history of health services in India; indigenous systems of medicines in India; bhore committee's and other "committee reports on health services; health care and health professional education in India; national health policy; an update of achievements of the country vis-à-vis the health for all indicators; application of sociology in health and development; influence of the various systems of medicine i.e. Chinese, Mesopotamian, Egyptian, Greek et, concepts in public health; disease control; health promotion; social engineering; health for all; concepts of primary health care; principles of primary health care; elements of primary health care; models of delivery of primary health care; current status of primary health care; health care system in India – structure and function (central level, state level, district level, taluka level, primary health centre level, village level, urban level).

Socio- Cultural Dimension in Health - concepts of sociology and behavioral sciences; influence of social and cultural factors on health and disease; social structures and social organization; principles of psychology; principles of behavioral sciences; principles of social anthropology; social problems in health and disease; use of sociology in addressing problems in health and disease.

Principles of Nutrition and Applied Nutrition - classification of foods; daily requirements of nutrients; balanced diet; nutritional profiles of major foods; nutritional requirements; protein energy malnutrition; vitamin deficiencies; mineral deficiencies; deficiencies of trace elements; assessment of an individual's nutritional status; assessment of community nutritional status; nutritional problems in India; programmes to combat these problems; nutritional surveillance; social problems in nutrition; food borne disease; food hygiene; food adulteration including PFA act.

Principles of Environmental Health - sources of water; water pollution; purification of water; water quality standards; water borne disease – epidemiology and control – investigation of outbreak of water borne disease and report including water testing; indices of thermal comfort; air pollution including monitoring; effects of air pollution and prevention and control ventilation; housing including domestic and industrial

housing standards; noise and noise pollution; radiation; meteorological environment including temperature; humidity and rainfall lighting; sources and classification of wastes; disposal of solid wastes; excreta disposal sewage disposal; health care and hospital waste management; sources of environmental pollution; monitoring of environmental pollution; prevention and management of environmental pollution; insect- mosquito, flies, lice, fleas and bugs; arachnida- ticks and mites; crustacean- cyclops, identification of the arthropods; diseases transmitted by arthropods, control of arthropods and disease borne by them; insecticides and insecticide resistance; rodents and anti-rodent measures; integrated vector control.

Maternal Health, Child Health and Family Welfare (RCH)- antenatal care; risk approach; antenatal visits; preventive services; intranetal care; postnatal care; care of the mother; child health problems; low birth weight; growth and development; childhood infections; care of the infant; common genetic problems; problems of maternal health in India; delivery of maternal and child health services; trends in the MCH services; MCH related programmes in India e.g. RCH; CSSM; ICDS; family planning; methods of family planning; indicators of MCH care; demographic cycle; trends in the world; demography related indicators; demographic trends in India; objectives of school health services; components of school health services; planning for school health services; care of handicapped children; behavioral and learning problems in children.

Principles and Application of Epidemiologic Methods in Health Research - research methodology; principles of epidemiology; epidemiologic studies (descriptive, analytical and experimental).

Biostatistics - collection/ organisation of data / measurement scales; presentation of data; measures of central tendency; measures of variability; sampling and planning of health survey; probability; normal distribution and inductive statistics; estimating population values; tests of significance (parametric/non-parametric including qualitative methods); analysis of variance, association, correlation and regression; vital statistics; evaluation of health and measurement of morbidity / mortality, life table and its uses; census.

Principles of Tropical Medicine - infectious and non infectious disease epidemiology; respiratory diseases such as small pox, chicken pox, measles, mumps, rubella, diphtheria, pertussis, influenza, tuberculosis, ARI etc.; intestinal infections such as poliomyelitis,

hepatitis, food poisoning, cholera, enteric fevers, amoebiasis, worm infestations etc.; arthropod borne infections such as malaria, filaria, dengue and others zoonotic diseases such as brucellosis; rickettsial diseases; parasitic surface infectious diseases of public health importance; non-infectious diseases of public health importance; cardiovascular diseases; diabetes; blindness; accidents; cancers; emerging and re-emerging disease; National Family Welfare Programme (NFWP); National Tuberculosis Control Programme; National Leprosy Eradication Programme; National Diarrhoeal Diseases Control Programme; National Malaria Eradication Programme; National Filariasis Control Programme; National Acute Respiratory Infections (ARI) Control Programme; National AIDS Control Programme; National Guinea Worm Eradication Programme; National Kala Azar Control Programme; National Japanese Encephalitis (JE) Control Programme; National Iodine Deficiency Disorders (IDD) Programme; National Programme for the Control of Blindness; National Cancer Control Programme; National Mental Health Programme; National Diabetes Control Programme; Child Survival and Safe Motherhood (CSSM); Reproductive Child Health (RCH); Universal Immunization Programme (UIP); National Water Supply and Sanitation Programme; Minimum Needs Programme; National Rural Health Mission; the implementation of NHPS at a programme level and in the community.

Community Mental Health - types, causes and warning signals of mental illness; preventive aspects of mental health; primary health care approach to mental health problems; mental health services in the country.

Occupational Health - occupational environment; occupational hazards; absenteeism; problems of industrialization; prevention of occupational disease; legislation in occupational health (factories act, employees state insurance act, workmen's compensation act, mines act, plantation labour act); basics of industrial toxicology.

Health Care of the Aged and the Disabled - implications of demographic changes in Indian population; health problems of the aged; preventive health services for the aged; problem of disabled in the country; types of disabilities and their management; rehabilitation of the disabled.

Voluntary Sector in Health - activities undertaken by voluntary organizations in the health sector; activities of specific voluntary organizations in health; innovative approaches in the voluntary effort in

health.

Recent Advances and Topics of Current Interest - rational drug policy; nutrition policy; health policy; population policy; agricultural medicine and plantation health; qualitative research and operational research; disaster management and public health emergencies; nosocomial infection and hospital infection control.

Topics and concepts, which were missing in B.A.M.S. syllabus:

Health Systems in India and the World-Historical Perspective - health care and health professional education in India; an update of achievements of the country vis-à-vis the health for all indicators; application of sociology in health and development.

Principles of Educational Science and Technology - curriculum planning; educational objectives; principles of learning; teaching/ learning methods; teaching skills including micro teaching; preparation and use of teaching aids and learning research materials; methods of evaluation.

Principles and practice of information, education and Communication - objectives of health education; content of health education; principles of communication; communication blocks; body language; the use of media for IEC; practice (methods) of IEC and its application in community health; evaluation of impact.

Maternal Health, Child Health and Family Welfare (RCH) - social paediatrics including juvenile delinquency, child abuse, child labour, street children, child guidance clinic, child marriage, child placement; management of genetic problems; preventive and social measures in genetics.

Occupational Health - principles of industrial psychology; basics of ergonomics.

Health Care of the Aged And the Disabled - Community Based Rehabilitation

Health Care of Tribal People

Health Care Administration and Health Management - principles of planning and evaluation (plan formulation, execution, evaluation, planning cycle); methods and techniques of health management; behavioral sciences in management; quantitative methods in health management; basics of health

systems research; basics of health economics; basics of health information systems.

Recent Advances and Topics of Current Interest - introduction to counseling; computers in health; community ophthalmology.

PART:-3. Comparison of M.P.H. Syllabus with B.A.M.S.:-

There are 8 core subjects (Epidemiology, Biostatistics, Environment and Occupational Health, Health Management and Administration, Population Science / Demography, Research Methodology, Social and Behavioral Science) in M.P.H. syllabus of PGIMER, Chandigarh. In addition to core subjects some and Optional/Elective subjects are also in the syllabus of M.P.H. There were total of 83 topics under these subjects. The topics and the concepts under these subjects were compared with B.A.M.S. syllabus. 56 (67.4%) of these topics were found matching in B.A.M.S. syllabus.

Topics with conceptual similarities in both syllabi were:

Epidemiology - definition, aim and uses of epidemiology; measurement of disease frequency; distribution of disease, time, place and person; determinants of diseases; natural history of diseases; screening; measure of association and potential impact; causal association; epidemiological study designs; epidemiological biases and their control; surveillance of diseases; investigation of outbreak; control of communicable and non-communicable diseases; levels of prevention.

Biostatistics - probability theory; level of measurement; central tendency and dispersion; sampling methods; sampling errors and confidence intervals; test of significance; sample size calculation; adjustments for confounding; introduction to multivariate analysis; correlation and regression; interaction.

Environment and Occupational Health - principles of environment health and human ecology; environment pollution; food sanitation and safety; vector and rodent control; waste disposal; occupational health; housing sanitation; current and emerging issues in environmental health (e.g. slum, healthy city, global warming, etc.).

Health Management and Administration - introduction to comparative health systems.

Population Science / Demography - factors affecting the size of the population; measures of fertility and mortality; population projection; demographic transition; implication of rapid population growth; life table; urbanization.

Research Methodology - literature search; choosing research topics; formulating research questions; study designs; measuring reliability and validity; sampling; instrument development; data collection and management; data analysis and report, communicating research findings; development of research proposal; scientific writing.

Social and Behavioral Science - social dimensions of health and ill health; cultural determinants of health and health seeking behavior; framework for individual and social change; social marketing; health promotion; qualitative study design.

Optional/Elective Subjects - health policy; international health; maternal and child health; community nutrition; reproductive health; public health laws and ethics; disaster preparedness; mental health; geriatric health; communicable disease control; non-communicable diseases; accelerated life style changes, etc.

Health Management and Administration - introduction to public health laws.

Topics and concepts, which were missing in B.A.M.S. syllabus:

Environment and Occupational Health - environment health policy.

Health Management and Administration - programme planning, implementation, monitoring and evaluation; strategic management; organizational behavior; logistic management; introduction to human resource management; quality management; continuous quality improvement; operations research; introduction to MIS; communication in organizations networking and advocacy.

Health Economics - introduction to macro and micro-economics; demand and supply; health financing; national and district health accounts; insurance (commercial, social security); user fees; resource mobilization and utilization; costing and budgeting; financial sustainability.

Social and Behavioral Science - medical anthropology; skills in health communication.

Optional/Elective Subjects - community-based rehabilitation; pharmaco-economics; gender and health; health technology.

DISCUSSION

According to the World Health Organization (WHO), almost all the countries in the Asia-pacific region are facing several common health workforce-related problems and challenges including workforce shortage, skill-mix imbalance, mal-distributions, poor work environment, and weak developing and managing capacities and knowledge bases. WHO has identified 2.28 per 1000 population as the "threshold" density of doctors, nurses and midwives with 2.02 to 2.54 allowing for uncertainty. Countries that fall down that threshold are very unlikely to achieve 80% coverage of measles immunization, skilled attendance at birth, and reducing maternal, infant and under-5 mortality rates and to meet the health related Millennium Development Goals. India can be considered in shortage based on the "threshold" density¹².

According to Eleventh five-year plan document, India is facing the problem of inadequate health infrastructure and deficiency of human health resources⁶.

The Census (2001) estimated 2,168,223 health workers in India by 2005, which translate into a density of approximately 20 health workers per 10,000 populations. Current scenario of India shows extreme deficiency of public health workforce (approx. 20%)⁵.

Meanwhile, it is estimated that there will be a huge increase in need of public health professionals day by day. This would require human resources from diverse disciplines, fields and backgrounds^{12, 13, 14, 15, 16}.

Thus, it is important to find out how effectively the already existing workforce of the rich heritage of Ayurveda can be utilized for tackling the public health challenges as this has been successfully achieved in the case of China where local medicine practitioners have been successfully integrated into the mainstream.

In India, we are very fortunate to have a wide array of knowledge systems related to health. While modern medical science and technology have gained dominance, practices generated outside its field of knowledge, both old and new, continue to co-exist. Both health care providers and the general people often resort to a combination of two or more systems.

In recent years, the frontiers of modern medical research have verified the significance of traditional practices for strengthening health care and several developed countries are incorporating them into their health systems as well. Mainstreaming of AYUSH is much more than merely placing AYUSH service providers at the PHCs and CHCs. The organization, training and practices of each form of health knowledge tend to change and become specific to the regional context as a result of the live presence of other forms. However, this interaction between forms of health knowledge has largely been at an informal level. We need to view all the forms of health knowledge as parts of a whole 'health service system'. It is a system that is dynamic internally as well as changes under influences from outside. If rational planning is to be done for the public health services, a holistic systemic view is required—that health care starts from the home and goes through the primary and secondary level services to the tertiary hospital, that it includes use of various knowledge systems, and that all these are valid parts of a continuum of care. Then we will be able to come up with realistic context-specific plans for strengthening the health services that are rational based on the criteria of effectiveness, safety, accessibility and affordability for all sections. Maternal and child health services, disease control programmes and clinical guidelines for patient care, all could benefit from inclusion of this continuum of care in a framework that rationally integrates the contributions of all systems of knowledge⁹.

Annual Report 2008-09 of health department of government of India has admitted that AYUSH drugs have the potential to tackle community health problems resulting from nutritional deficiencies, epidemics and vector-borne diseases¹⁷.

The government of India also formulated strategies to use Ayurveda in public health. The first in this series is use of *Ksharsutra* therapy for treatment of ano-rectal disorders. The technique not only stands duly validated by ICMR, but is being practiced by modern doctors in countries like Japan for over 20 years now. The second is "Ayurvedic and Siddha for Geriatric Care". The fact that the global population today is becoming increasingly grey is well documented. The chronic inflammatory and degenerative conditions that the elderly suffer from need special care, but with a health infrastructure already creaking under the burden of a growing population, care of the elderly is not a priority. Given this backdrop, Ayurvedic provides the ideal health option with its *Rasayana* therapy, which is a dedicated branch of Ayurvedic for the care of the elderly. This was one of

the 8 branches of Ayurvedic developed millennia ago, and today in the 21st century we are looking to it for solutions¹⁸.

NRHM advocates placement of Ayurvedic doctors in the rural and remote CHCs and PHCs where the Allopathic doctors are not working due to unwillingness and shortage. In reality only few states like Chhattisgarh, Himachal Pradesh and J&K etc. are following this strategy but majority of the states are not¹¹.

It is interesting that the WHO's integrated definition of health was actually articulated 2,000 years ago. Ayurvedic holds that Dharma (spiritual gains), Artha (monetary gains), Kama (sensual gains), and Moksha (liberation), the four primary objectives of human life, are possible only for a healthy human being. Healthy people are prerequisite to optimize human resource utilization. An ideal health care system as defined by Ayurvedic is one, which cures a disease without causing or precipitating other illness. Sushruta defined the health 2,000 years ago as a physiological balance added to a psycho-sensual happiness. The mere absence of disease in a person does not bring happiness. Better health is expressed not in terms of a longer life but in terms of a better quality of life. Health also has socioeconomic determinants. Curative practices must be accompanied by preventive measures. Sushruta goes further: health is also affected by one's moral, social and spiritual values^{19, 20, 21}.

In our study, on comparison we found that there is similarity in syllabus of B.A.M.S. with regard to syllabi of M.B.B.S., M.D. (S.P.M.), and M.P.H. (88.88%, 85.5%, and 67.4% respectively).

In addition to similarities, B.A.M.S. syllabus has its own strengths in the form of principles of daily activities (din charya), seasonal activities (ritu charya), concept of maintaining health through ahar, nidra, brahmcharaya, spiritual health, rasayan and vajikaran, description of use of natural remedies easily and cheaply available for maintenance of health and treatment of diseases and Yoga. Ayurvedic graduates (Bachelors of Ayurvedic Medicine and Surgery) are well versed in the preventive and social aspects of health as is evident from their syllabus prescribed by CCIM (Central Council of Indian Medicine). Moreover B.A.M.S. syllabus has been integrated with aspects of modern medicine like Anatomy, Physiology, Pathology, Medicine, Surgery, ENT, Gynaecology and Obstetrics, Paediatrics, Geriatric Care, Psychiatry etc. *Swasthavritta* is one of the subjects in 2nd professional of B.A.M.S. curriculum, which purely deals with concepts and

principles of preventive & Social Medicine / Public health. It includes training in all aspects of Public Health like Personal Hygiene, Nutrition, Epidemiology, School Health Services, Biostatistics, National Health Programmes, MCH care, Adolescent health, Occupational health etc. In addition to this, all clinical subjects of B.A.M.S. put particular attention on preventive aspects of the treatment before giving curative treatment, which is a well known aspect even to the lay man.

There are few areas of public health which are missing in B.A.M.S. curriculum like, health economics, health administration, health information system, principals of education and science and technology, principals and practice of information education and communication, social paediatrics, health care of tribal people, computers in health, medical anthropology, skills in health communication etc. these bottlenecks should be checked during formulation of syllabus. because if properly used in an organized way, B.A.M.S. graduates can be proved as an asset to the health care infrastructure of India for management of public health challenges.

No doubt, Ayurvedic graduates with a fairly large proportion in our country will also play a significant role in tackling the public health challenges⁹.

However, what is lacking is the willingness of concerned authorities to do so, making the situation more pathetic. For maximum utilization of capacity of Ayurvedic system to tackle the public health problems, there is a need of find out the role of Ayurvedic graduates (Ayurvedic service provider) in public health system.

CONCLUSION:

Conceptual similarities were found in the majority of the topics of the B.A.M.S. syllabus with the syllabi of community medicine of M.B.B.S.; M.P.H. P.G.I.M.E.R., Chandigarh and M.D. Community Medicine. Some topics like health financing, health planning, monitoring management and administration, knowledge of modern technology etc. were found lacking in B.A.M.S. syllabus. Health sector trends suggest that no single system of health care has the capacity to solve all of society's health needs. India can be a world leader in the era of integrative medicine because it has strong foundations in Western biomedical sciences and an immensely rich and mature indigenous medical heritage of its own. Therefore, there is a great need to explore the potential of Ayurvedic system including human resource to tackle public health problems. It also

provides the community based solution to the public health challenges in rural areas.

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