

Traditional Medicine (Ayurveda) Instruction in Indian Pharmacy Institutes

¹Saurabh Lakhanpal and ²Amritpal Singh

¹Head, Dep. of Ayurvedic Pharmaceutical Sciences, Lovely Professional University, Phagwara (Punjab)

²Senior Lecturer, Dept. of Ayurvedic Pharmaceutical Sciences, Lovely Professional University, Phagwara (Punjab)

Address for correspondence:

Dr Amritpal Singh

2101 Ph 7, Mohali

Dist: Mohali

Email: amritpal2101@yahoo.com

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ABSTRACT

Seventy-seven pharmacy colleges in India were surveyed to determine the extent and nature of traditional medicine instruction. As a component of this, Ayurvedic or phytopharmacy instruction was also surveyed. In a 78 percent response (60/77) response rate, it was noted that 74 percent (n=57) of the schools offered at least one course addressing traditional medicine, phytomedicine or phytopharmacy. Twenty-five schools indicated the topic was not addressed in the curriculum. Three schools indicated future strategies to introduce course addressing traditional medicine. Only five colleges were found to maintain traditional medicine or related courses. The average year of discontinuation of course was 1996 due to lack of qualified faculty and merger of the subject with pharmacognosy. Some of the colleges offered TM course as an elective subject and two institutions provided course by distance education mode. With renaissance of the traditional medicine, we need to introduce specialized course in the subject and this needs to be addressed in uniform manner in all colleges of pharmacy.

INTRODUCTION

Ayurveda is taught at two levels in Indian institutes:

- A. Undergraduate
- B. Postgraduate

Duration of undergraduate studies is five and half-years. It includes five years of intensive studies and six-month clinical internship program. For getting admission in Ayurvedic College, the student has to pass common entrance test after plus two. Before introduction of common entrance test, the Pre-Ayurveda course was available in colleges. Here study of subjects like Chemistry, Sanskrit, Botany and Zoology were integral part of Pre-Ayurveda curriculum. Degree awarded was Graduate of Ayurvedic Medicine and Surgery (G.A.M.S.).

After the introduction of the common entrance test, the name of the degree undergraduate of Ayurvedic Medicine and Surgery (G.A.M.S) was changed to Bachelor of Ayurvedic Medicine and Surgery (B.A.M.S). The graduates have to register themselves with state Ayurvedic and Unani Councils. Central Council of Indian Medicine (C.C.I.M) is apex body governing rules and regulations related to Ayurveda in India. Most of the practitioners of Ayurveda opt for allopathic practice after graduate studies.

A postgraduate study in Ayurveda is three-year course. After completion of postgraduate studies, Vaidya Vachaspati (equivalent to MD) is concerned discipline is awarded. Postgraduate studies are available in following disciplines:

1. Agadtantra (Toxicology)
2. Ayurved Siddhant & Darshana (Fundamental principles)
3. Bhaishjyakalpana (Ayurvedic pharmaceutics)
4. Dravyaguna (Medicinal Plant Pharmacology)
5. Kaumarbhrutta (Pediatrics)
6. Kayachikitsa (Internal Medicine)
7. Manas Roga (Psychiatry))
8. Panchkarma
9. Prasuti & Striropa (Obstetrics and Gynecology)
10. Rachna Sharir (Human Anatomy)
11. Ras-Shastra (Indiana alchemy or lattrochemistry)
12. Rog Nidan (Clinical-diagnosis)
13. Samhita (Ancient texts)
14. Shalakya (Ear, nose and throat)
15. Shalya (Surgery)
16. Swasthavritta (Hygiene)

Ayurvedic postgraduates opt for teaching profession or join industry as consultants. Some of them opt for clinical practice. These days subjects like Dravyaguna and Bhaishjyakalpana are in great demand particularly from industrial point of view. For postgraduates, further options are available for PhD studies. Person holding PhD in Ayurveda is known as Ayurvedavaridhi. A person trained in dispensing Ayurvedic medicine is known as upvaid. Now days the course is known as Compounder training course in Ayurveda.

With changing global trend for Ayurveda, we need to emphasize introduction of new courses in Ayurvedic curriculum. Subjects like phytochemistry, biochemistry, pharmacognosy and ethno pharmacology should be made integral part of graduate Ayurvedic syllabus. Ayurvedic/herbal studies have recently become interdisciplinary. For an herbal expert, knowledge of subjects like phytochemistry, biochemistry, pharmacology and pharmacognosy is a must. This is particularly significant for professionals working in industry or practicing pure Ayurveda/herbals.

Keeping in mind the growing demand for professionals for herbal drug industry several Indian universities have introduced courses related to Ayurveda, medicinal plants, cultivation and medicinal botany (see the table). The courses depicted in the following table are particularly useful for Ayurvedic professionals interested in joining the pharmaceutical industry.

MATERIALS AND METHODS

A three-page questionnaire was sent to each of the principles of the pharmacy colleges in India. The college authorities were requested to forward the questionnaire to faculty members having expertise in pharmaceutical sciences, particularly traditional medicine, for completion. Current traditional medicine instruction and Ayurvedic or phytopharmacy offerings within the present curriculum were the key areas of the questionnaire. The participants were requested not to disclose their names. A follow up mailing was sent after 30 days of the first mailing. The completed questionnaire was analyzed using software related to rational database.

RESULTS

30 pharmacy schools (39 percent) responded to the first mailing with additional 30 schools responding to the second communication (78 percent). Questionnaires were not consistently completed in full. Hence, response rates were not based on floating denominator with the denominator reflecting the number of

respondents for that particular item. Thirteen colleges indicated no course was offered that addressed traditional medicine in any fashion. Seven schools stated that a new course was to begin within the next year. Fifty-seven (74 percent) colleges offered one course averaging 2.78 credit hours (range 1-8 hours) with 35 percent (range 2-100 percent) of the content devoted to traditional medicine. In two-thirds of the responding colleges, traditional medicine course was offered as an elective. Sixteen (21 percent) of colleges offered two courses, three (four percent) colleges offered three courses and one (one percent) school offered four courses addressing traditional medicine to some extent in the course. Table I presents compete analysis of credit hours, percent traditional medicine content and required versus elective status for the schools who responded to the questionnaire.

Seven schools offered course which courses which were totally devoted to traditional medicine or allied subjects. The remaining colleges incorporated topics related to traditional medicine into such courses like Pharmacognosy, Natural Products, Dietary Supplements, Natural Drugs, Herbal Medicine, Ayurvedic pharmacy or Alternative Medicine.

Of the 46 colleges responding to the questionnaire, 43 (93 percent) indicated they engaged in didactic learning with 61 percent (25 of 41 respondents) indicating they required an average of 0.7 written reports (range: 1-5). Oral reports were required in nearly half of respondents (19 of 40; 48 percent) with only one college integrating chemo informatics approach for traditional medicine learning. One college incorporated herbal manufacturing unit visits during the first year study.

A total of 3,155 students were enrolled in these courses (Table 2). Most bachelor students took the course in their second or third years whereas diploma students enrolled in the course during first year of Pharmacy College. Of the 67 colleges responding to the questionnaire regarding the instructor's, academic degree, 36 (54 percent) indicated the course was taught by faculty with M Pharm or rarely PhD's. Faculty with B. Pharm, D. Pharm and M. Pharm degrees accounted for 19 percent (n=13), 16 percent (n=11), and six percent (n=4) of the faculty teaching poll, respectively.

Traditional medicine or allied courses continues to be offered as an active course in only nine (17 percent) of the responding schools with 44 (83 percent) indicating the course has been discontinued either due to lack of qualified faculty or non-responsiveness of the students. Of the eight colleges responding to the questionnaire related to credit course, an average of 4.25 (range 2-11) hours are offering Traditional medicine or allied courses with 5 (62 percent) indicating that the class is an elective course. On average, 71 (range: 20-170) students are enrolled in these courses.

The average year for discontinuation of Traditional medicine or Ayurvedic pharmacy from the pharmacy college curriculum was 1996 (range 1987-2004). The most striking reason was lack of practical approach toward development of traditional medicine courses. Another factor detected was students opting for other disciplines during second rounds of counseling. Even lack of propaganda for new Traditional medicine course started by leading institutes was recorded. Three colleges cited perceived irrelevance of Traditional medicine or allied courses to conventional medicine. One college indicated improper eligibility criteria for appearance in entrance tests or direct admission related to Traditional medicine as contributing factor for non-popularity among pharmacy students. Nearly half of the colleges (n=18; 48 percent) indicated interest in initiating traditional medicine as part time even full time course.

Standard text books and journals were lacking in majority of the colleges. Students participating in the course were dependent on notes given by instructors, papers downloaded from the internet and to some extent on journals available in the library. Traditional medicine books are mostly available in Hindi or Sanskrit or regional language and a standard text book addressing all aspects of traditional medicine and allied courses is must. *Pharmacographia Indica*, *Dravyaguna Vignana*, *Indian Materia Medica* and *Herbal Drug Industry* were commonly read books. A *Text Book of Pharmacognosy* was constant feature of all libraries of the pharmacy colleges.

DISCUSSION

Reasons to integrate traditional medicine or allied course in pharmacy schools curriculum include

1. Growing popularity of traditional, alternative and complementary medicine.
2. Need to extract facts from traditions.
3. Emergence of topic like drug resistance.
4. Revised pharmaceutical interested in traditional medicine.

Some institutes in India have taken initiative of introducing courses in Ayurvedic pharmacy at graduate and masters level. This can cater the need for the pharmaceutical industry for trained professionals in the Ayurvedic fraternity but constant efforts are required for lifting education standards Ayurvedic pharmacy courses. Same is true for students pursuing career in conventional pharmaceutical sciences. As pharmacists advance the notion of pharmaceutical care in to their practices, they need to integrate traditional or herbal knowledge along with modern drug information. A typical; Pharmaceutical curriculum includes study of synthetic as well as natural drugs; the pharmacist is a logical information source.

Several obstacles exist to effective implementation of pharmacist's role in establishing the credibility of traditional medicines. Traditional herbal products are commonly available in chemist shops and health food stores. Both the sources usually lack expert pharmacist conversant with practical herbal/traditional medicine knowledge. In addition to herbal drugs, several synthetic drugs are available as over the counter drugs (OTCs). Drug history, herbal or synthetic, is of prime importance keeping in mind the emerging issues of herbal-synthetic drug interactions. Pharmacists can play key role in providing solution to first obstacle by including questions regarding herbal medicinal in the drug history. Second obstacle, lack of education regarding traditional medicine, is not as easily overcome.

Herbal medicine has a rich tradition for providing the modern science with life-saving drugs. Pharmacognosy, the study of medicinal plants and their properties, is outcome of ancient traditional herbal knowledge, The Materia Medica. Traditional medicine was or is largely part of pharmacognosy courses taught in pharmacy colleges. Pharmacognosy once upon a time was integral part of pharmaceutical sciences and lately it has been merged with medicinal chemistry. To add to the problem, several colleges of pharmacy had discontinued pharmacognosy from the curriculum. As this study shows by 1979 most colleges had eliminated pharmacognosy. Lack of standardized curriculum and faculty for imparting education has been prime reasons for diminishing value of pharmacognosy and traditional medicine.

No standardization exists as far course content for traditional medicine is concerned. Majority of the course taught in conventional pharmacy institutes are available as elective or part time mode (63 percent). We are definitely falling short in reaching all the students who will need this body of knowledge in their careers and practices. In 2003-5, 636 first professional Ayurvedic pharmacy degrees were awarded. Considering the 410 students (318 Pharma B, and 92 Pharma D students) encompassed in the present study in a crude estimate, we have achieved only 40percent penetration into entry levels. Also in 2003-5, 144 Masters and 14 PhD degrees were given either in Ayurvedic pharmacy or medicinal plants.

In majority of the institutes (76 percent) traditional medicine courses are taught by Pharma D or rarely M Pharm. PhD faculty is occasionally met with. We suggest initiating PhD programs in the emerging discipline of traditional medicine and allied subjects.

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