International Standard Serial Number : 0976-1381

Deccan J. Natural Products 2(1): Jan-March 2011

DECCAN PHARMA JOURNAL SERIES

ARMS Online Publications

www.deccanpharmajournals.com

(Survey Article)

Received; accepted

STUDENT'S OPINION ON THE PREVAILING TEACHING METHODS IN PHARMACOGNOSY AND CHANGES RECOMMENDED

Killedar S. G.*, Sangle S. B., Kope K.I., Navgire S. D.

Bharati Vidyapeeth College of Pharmacy, Kolhapur, Maharashtra- 416013, India.

Keywords:
Pharmacognosy, Students opinion, teaching methods, syllabus

For Correspondence:

Killedar S.G.

Dept. of Pharmacognosy,

Bharati Vidyapeeth College of Pharmacy, Kolhapur, Maharashtra- 416013, India.

E-mail:
sureshgk_64@rediffmail.com

ABSTRACT

Pharmacognosy today became multifaceted discipline widening its horizons of different subjects. Four basic disciplines of pharmacy include pharmaceutical chemistry, pharmaceutics, pharmacology and Pharmacognosy. All these branches except Pharmacognosy have developed with the pace of science and technology. Though most of the research work published in scientific journals (45%) based on natural substances still in academics this subject is ill treated at all levels.The present work has been focused on to find out the drawbacks and solutions to solve the problems of subject. The student's opinion about content of syllabus, chances of improvement and suggestions was the main intention. To understand the present regional scenario, we have conducted a survey in different pharmacy colleges under Shivaji University Kolhapur, Maharashtra. In this survey we have asked 37 questions to 300 students of final year B. Pharm from eight colleges for three consecutive years (2005-2007). Twenty six questions were objective type with options (2-13) and 10 questions with specific reasons and last question for students opinion about the subject. 95% students rated the subject is interesting, 92.66% students offered for field work studies, 88.78 % wants changes in syllabus, 80.88 % gave opinion for development of practical skills, 70.54% students suggested addition of industry based syllabus. More than 80% students agreed for improper distribution of workload and equally agreed for full four year representation of subject. Only 35% students preferred Pharmacognosy as a carrier oriented.

This study reveals the need for changes in syllabus content, addition of industry base syllabus, field work, industrial projects which are essential to regain the proper identity of the subject.

Introduction:

Pharmacy education in our country is expanding its horizon to meet the international standards[1]. Pharmacognosy is most neglected branch in the field of this profession, needs to upgrade because now it became applicable science rather than botanical. Emerging branches such as Marine Pharmacognosy, Neutraceuticals, Cosmeceuticals, Complementary Alternative Medicines, Herbal Technology, Ayurvedic formulations and standardization needs to introduce for better prospective. Since man power working in academics is negligible as compare to other subjects and hence contribution also limited. To exploit our vast flora and fauna systematically it requires producing the experts for which the subject needs to address at degree level for all the four year to keep the pace and expose the students. Since this subject is new to students and hence from basic to drug discovery knowledge can not be delivered only in just 6h theory classes throughout the B.Pharm course. Also there are very good chances for students to become entrepreneurs by opting the subject at PG level.

Objectives:

The subject Pharmacognosy and the syllabus content under the purview of Shivaji University Kolhapur is still primitive and hence it was necessary to study the opinions of the students with respect to syllabus content, work load of the subject, current issues of curriculum development, prospects and future scope of the subject along with suggestions. This study makes the student aware about what they are learning and what they suppose to learn for their better prospects by knowing the applicability of this subject in the industry and in the society. So far the syllabus framing was made without representation of students and industry (Herbal/Ayurvedic). Always there was dominance of pharmaceutical chemistry and Pharmaceutics representation during the discussions on syllabus framing and everybody cares only for their department and workload and in democratic country like us majority talks more than the real facts.

Experimental methods[2]:

In the present study we have prepared the questionnaire consisting 37 different questions both subjective and objective type with options ranging from 2-13. The feedback from final year B. Pharm students of different pharmacy colleges under Shivaji University Kolhapur, Maharashtra was taken in the month of Feb-March between years 2005-2007. No compulsion was made on any student and only those students voluntarily participated are given the questionnaire for feedback response. All the participated students were asked to fill their own opinion separately without consulting the other participants. Feedback forms were collected from the students immediately. Verification of opinions was made in case of over writing, cancelling and left out options by consulting the respective student participant. Analysis of student's opinion was made question wise and data obtained was converted to % response for individual question.

Questionnaire[3-8]:

1. Did you know about Pharmacognosy before it was introduced to you in T. Y. B-Pharmacy?
   a) No b) Somewhat c) Yes many things.

2. What opinion did you gather from your senior regarding Pharmacognosy?
   a) Useless and cramming b) interesting but cramming c) Useful but boring d) useful and interesting e) Very useful, practical and important f) Vast.

3. What is your opinion now?
   a) Useless and cramming b) interesting but cramming c) Useful but boring d) useful and interesting e) Very useful, practical and important f) Vast.

4. Which topics did you find interesting?
   a) General Pharmacognosy.
   b) Cultivation, collection.
   c) Analytical Pharmacognosy.
   d) Morphological and microscopical study of crude drug.
   e) Phytochemistry of crude drugs.
   f) Adulterants, substituents.
   g) Alternative system of medicines.
   h) Study of mineral drugs and fibres.
   i) Plant allergens.
   j) Ayurvedic and herbal drugs.
   k) Phytochemical investigation and pharmacological screening.
   l) All.
   m) None.

5. Which Phyto constituent is more interesting?
   a) Alkaloids b) Glycosides c) Tannins d) Volatile oils and resins e) Fixed oils f) Carbohydrates g) Vitamins h) Mineral drugs i) All j) None.

6. Which topics do you thing will be useful in future?
   Specify:……

7. Which of the following is most interesting?
   a) Lectures b) Demonstrations c) Tutorials d) Student's seminars e) Practicals.

8. Which of the following, do you think is of no use?
   a) Lectures b) Demonstrations c) Tutorials d) Student's seminar e) Practicals.

9. Which part of practical do you feel most interesting?
   a) Quantitative microscopy b) Histology and powder characteristics c) Technique of evaluation d) Extraction e) Herbal and Ayurvedic formulations f) Standardization.

10. Would you like any of the following reform to be made?
    a) Decrease number of lectures b) Increase number of lectures c) Include more student's seminars d) Introduce live demonstration of medicinal plants e) Introduce group discussion f) Make use of audio, video aids/charts and models

g) Miscellaneous;
specify:……

11. Would you like following to be added as a part of regular teaching?
a) Group discussion b) Student's seminar c) Field study d) Guest lecture e) Audio/ video aids f) Model/charts g) Any other
b) specify;……

12. Did you find field study is useful?
a) Yes b) No c) Can't say.

13. From where did you prefer studying Pharmacognosy?
a) Lecture, notes only b) Lecture, notes only due to scarcity of reference books
c) Textbook only, as I don't take down notes d) Textbook only, as notes are not given e) Lecture, notes and textbooks combined f) Textbook only as I understand little in the class g) Own notes after referring lectures, notes, textbooks, senior's notes, etc

14. What is your pattern of studies in Pharmacognosy?
a) Regular; because of interest in it b) Regular; because of tests/ sessional/ viva/ tutorials c) Regular for gaining more knowledge d) Only during tests/ sessional/ viva/ tutorials e) Regular because it is volatile f) Study only for final exam.

15. Is sessional exams are necessary?
a) Yes; it helps in passing b) Yes; it helps for scoring c) Yes for regular studies
d) No; because chances of getting fail as a separate head e) No; since it in the hands of teachers f) No; since it may causes betray relations between staff and students aforesaid.

16. Does sessional pattern affect learning the subject?
a) Yes b) No c) Can't say.

17. How is your grasping power?
a) Good b) Can never learn c) Only cramming helps d) Difficult to judge.

18. How do you rate Pharmacognosy lectures?
a) Always boring b) Some interesting, some boring c) More interesting, some boring d) Always interesting e) More boring, few interesting.

19. What reforms would you like in lectures?
a) Use of OHP b) Practical examples c) More practical oriented d) Only important topics to be covered e) Good as they are f) Other;
specify……

20. Do you think following special topics should be discussed in lectures and practicals?
a) Adulterations and its detection (Y/N)
b) Marketed preparations and their doses (Y/N)
c) Pharmacognosy of crude drug (Y/N)
d) Ayurvedic formulations and their standardization (Y/N)
e) Authentication of drug samples (Y/N)
f) Industrial scenario and present status (Y/N)
g) Pharmacology of crude drugs (Y/N)

21. How do you rates Pharmacognosy compared to other subjects?
    a) Useless/ not important b) Above other in all respects c) At par with others. ☐

22. Are you satisfied with the content of syllabus and number of lectures prescribed?
    a) Linear b) Irrelevant c) Can't say d) Unmatched ☐

23. Do you think some more topics to be added?
    a) Yes b) No c) If yes specify …… ☐

24. Do you think it should carry more weightage in examination?
    a) Yes; more marks than others b) Less marks than others c) No; the present pattern is OK. ☐

25 Do you think the subject should be taught at?
    a) 1st to Final Year B-Pharm b) 3rd and Final c) 2nd, 3rd, Final d) Only Final year. ☐

26. Which scheme do you prefer?
    a) Annual b) Semester c) Carry forward d) Biannual e) Can't say. ☐

27. In which session do you prefer to learn the subject?
    a) Morning b) Afternoon c) Any time. ☐

28. Do you think there are any future prospects for the subject?
    a) Yes; Specify……
    b) No; Why?……

29. Does the teacher's knowledge or approach help in understanding Pharmacognosy?
    a) Most of the time b) Not necessarily c) Obviously d) Confused. ☐

30. What according to you should be the qualities of a good Pharmacognosy teacher?
    ……

31. Do you think your Pharmacognosy teacher has the above qualities?
    a) Yes b) No ☐

32. Do you think Pharmacognosists are respected as expert Phytochemist?
    a) Yes b) No c) Ought to have d) Don't know. ☐

33. Are you aware about future trends in the subject Pharmacognosy?
    a) Yes b) No c) Somewhat. ☐

34. Does your knowledge about Pharmacognosy help you in Society?
    a) Yes b) No c) Can't say. ☐

35. Does a Pharmacognosist easily employed in well-reputed Pharmaceutical companies?
    a) Yes b) No c) Can't say. ☐

36. Can a Pharmacognosist work in combination with Ayurveda?
    a) Yes b) No c) Can't say ☐

37. What do you feel about Pharmacognosy?

Table No.1 Most significant opinions of the students for selective questions

Q. No.	Option opted by no. of students out of 300													Not responded
	a	b	c	d	e	f	g	h	i	j	k	l	m	
1	38	242	--	--	--	--	--	--	--	--	--	--	--	20
2	12	29	53	85	109	8	--	--	--	--	--	--	--	04
3	03	07	04	**95**	**190**	01	--	--	--	--	--	--	--	--
4	38	19	53	14	47	07	30	11	10	33	32	05	01	--
5	84	68	52	31	20	12	08	06	16	01	--	--	--	02
6	75	62	50	41	08	37	07	04	14	02	--	--	--	--
7	101	64	09	08	118	--	--	--	--	--	--	--	--	--
9	60	36	42	30	45	48	--	--	--	--	--	--	--	--
10	06	112	16	76	10	78	--	--	--	--	--	--	--	--
12	278	32	08	--	--	--	--	--	--	--	--	--	--	--
14	106	31	67	18	71	20	--	--	--	--	--	--	--	--
15	90	59	64	42	34	25	--	--	--	--	--	--	--	--
16	204	80	16	--	--	--	--	--	--	--	--	--	--	--
18	15	73	83	114	13	--	--	--	--	--	--	--	--	02
19	69	60	65	57	49	--	--	--	--	--	--	--	--	--
20	66	80	18	65	23	48	--	--	--	--	--	--	--	--
21	26	45	217	--	--	--	--	--	--	--	--	--	--	12
22	28	185	10	77	--	--	--	--	--	--	--	--	--	--
25	251	13	35	01	--	--	--	--	--	--	--	--	--	--
26	237	41	15	05	02	--	--	--	--	--	--	--	--	
28	200	100	--	--	--	--	--	--	--	--	--	--	--	--
29	240	08	52	03	--	--	--	--	--	--	--	--	--	--
32	113	35	46	06	--	--	--	--	--	--	--	--	--	--
33	219	12	69	--	--	--	--	--	--	--	--	--	--	--
34	274	14	12	--	--	--	--	--	--	--	--	--	--	--
35	130	100	70	--	--	--	--	--	--	--	--	--	--	--
36	256	41	03	--	--	--	--	--	--	--	--	--	--	--
37	85%	Very important		10 %	Not useful			5%	Should be pplicable					--

Result and Discussion:

The response/ student opinion for respective question was analyzed and total % response was calculated question wise (Table No.1). It shows 95% students rated the subject is interesting, 92.68% students offered for field work studies, 88.78 % wants changes in syllabus, 80.88 % gave opinion for development of practical skills, 70.54% students suggested addition of industry based syllabus. More than 80% students agreed for improper distribution of workload and equally agreed for full four year representation of subject. Only 35% students preferred Pharmacognosy as a carrier oriented. 65% students did not agree for easy placement for pharmacognosist in industry. 90% students were unaware about future trends and applicability of the subject. 80.66% students says they know this subject some what before. Because of increasing popularity of herbal drugs and ayurvedic formulations due to lack of side effects compare to synthetic drugs maximum number of students found Pharmacognosy as interesting subject. They also recommended that the field work would help them for better understanding than text as live demonstration on plants. Some of them also felt that current syllabus was unable to fulfill their curiosity. Many of them suggested that industrial based practical skills such as isolation and characterization of plant moiety using different analytical tools, formulation development and standardization should get equal importance compare to theoretic part. Most of the students were unaware about carrier opportunities in Pharmacognosy field. Most of their ideas were limited to research work only. In the lights of pharmaceutics & chemistry, pharmacognosy gets usually neglected by students. These findings will help students to realize many opportunities in pharmacognosy field knocking their doors.

Conclusion:

This study reveals the need for changes in syllabus content, addition of industry base syllabus, field work, industrial projects which are essential to regain the proper identity of the subject. To improve students approach in pharmacognosy we have to change present teaching methods. It should be practical oriented. Teacher should encourage students for research work, participation in various competitions. As we all know, the importance of Ayurveda has started to grab attention of whole world. Even western countries have realized the importance of Ayurveda. From ancient time Ayurveda has played vital role in Indian medical field. To improve the awareness of Ayurveda in society, pharmacist should have sound knowledge of medicinal plants & their useful parts. Pharmacognosist with sound knowledge has a bright future in Ayurvedic field like herbal formulations & cosmetics. Hope our efforts will help to motivate students to bring back the golden era of our ancient treaty Ayurveda. Also it is necessary to involve the national decision making bodies to frame the uniform syllabus throughout the country and it should be mandatory for all the universities to implement the same. At present there is uniform syllabus for GATE (Pharmacy) and GPAT but students from different universities teaches different syllabus and hence students are suffering from not qualifying or low percentile scores. Hence this issue should be settle at the earliest for the interest of students and for the nation otherwise the sad days will have to face in future like ayurvedic doctors practicing allopathy.

References:

1. Bhupinder Singh and O.P. Kotare, Need of quality education for changing pharma world, IJPER, 43(2) Apr-June, 2009, 203-218.
2. S.K. Srivastava, A. Desai, Indian Journal of Pharmacology, 2004,36,5, 327-328.
3. What is ur opinion about pharmacognosy.....staff members want to know (IMPORTANT) in.facebook.com/topic.php?uid=3036 4362038&topic=11296&post=45997
4. PhD in Pharmacognosy. Are there opportunities in US ? http://forums. unities- in-US&s=a405fbfbe15d4f583b25da20e 914a20a
5. http://embase.com/info/pharmacology?utm_source=google&utm_medium=cpc&utm_campaign=ASIA_PAC
6. http://www.emagister.in/m_pharm_pharmacognosy_herbal_drug_technology_courses-ec2702092.htm
7. http://www.facebook.com/topic.php?uid=58730510134&topic=13030
8. Gunnar Samuelsson Drugs of Natural Origin: A Textbook of Pharmacognosy, Fourth Edition Sweedish Pharmaceutical Press, p.45-67.