

ATTITUDE OF PHARM. D STUDENTS IN KERALA TOWARDS PHARMACY PROFESSION AND THEIR CAREER PREFERENCES

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ABSTRACT

Objective: To investigate the attitude of Pharm. D students towards pharmacy profession and reveal their career preferences. **Method:** First, second and third year undergraduate students enrolled in Pharm. D at a university in Kerala were surveyed. A predefined questionnaire sought students attitude towards the pharmacy profession and their choice of career and university course, factors that would influence their career and work place selection once graduated, their likely career preferences and if they regretted in joining the course or not. **Results:** The survey attained a response rate of 76.7%. Out of the total students, 79.7% of the students were found to be happy with the pharmacy profession. About half (52.2%) of the respondents agreed that they had

a good idea about the course and scope the career before they joined.92.7% of the students opined that the pharmacy education and practice affect the health care system, while 5.7% said that it doesn't affect health care system.73.9% of students are of the opinion that Indian syllabus, teaching procedure and hospital training at Indian institutions is not enough to prepare a perfect Pharm D graduate. Almost 90% of the Pharm D under graduates recommended that Pharm D can play a vital role in pharmacovigilance, TDM, drug information and toxic centers. Entire respondents uniformly suggested that, Pharm. D graduates are required in every hospital, both in government and private sector as well and after completion of course the majority (51.8%) wished to stick to hospital pharmacy. **Conclusion:** The study reveals that almost all students were happy with their choice of

pharmacy profession and believed that the professions could affect the health care system. Hospital pharmacy was the most preferred area of work, while a good number of students wished to fly abroad. The key influencing factor that drew the students towards the course was their personal interest.

INTRODUCTION

The word pharmacy originated from the Greek word "PHARMAKON". It was in 9th century the profession of pharmacy started acquiring shape. However in the 19th century it completely sorted out from medicine and started developing as a separate profession(1). This happened only when the role of pharmacist as a compounder of medicines were identified and differentiated from physician whose role was accepted as the therapist. The practice in those times was restricted to compounding, dispensing medication and manufacturing medicaments in bulk lots not for general sale. The 19th century witnessed various milestones being set in the field of pharmacy.

The inception of pharmacy profession in India was marked by the first class of the chemists and druggists. Pharmacy education pattern was based on the instructions provided by the pharmaceutical society of Great Britain.(2) The pharmacy profession marked its entry in India almost at the same time as in the United States back in the 18th century but did not register an impressive growth as that of others. A gradual and steady increase was observed in the number of Indian institutions offering various pharmacy courses including Diploma in Pharmacy, Bachelor in Pharmacy, Masters in Pharmacy as well as Doctorate in Pharmacy. The number of students opting for the above mentioned courses have also increased, especially the number of aspirants for higher education in pharmacy including M.pharm and Ph.D degrees have gone up impressively.(3) But the recent trends the field tells some other stories of gradual decrease in the number of students opting for this field. In this scenario, the introduction of Pharm.D course by PCI in 2008 has raised a host of questions. Throughout the country there is a debate whether this is an impulsive move or not.

With growing internationalization of Indian pharmaceutical industry, the standard pharmacy education needs to be world class. Pharmacy Council of India has been pressing for this change for years and the government has finally approved starting of much sought after six year Pharm. D course in India.(4)

To acquire a Pharm.D degree, Five years of class room based academics followed by an internship of a year. It is akin to MD and MDS. Pharm D is a clinical oriented study which is entirely different from the B.Pharm and M.Pharm. They mainly concentrates on patient centered treatment, which provide information to the patients regarding the dose to be taken, duration and frequency of drug administration, adverse effect and possible side effects, major cause of the disease and the possible complication if they are untreated. They also emphasis the life style modification required to assist the treatment. And they come out with the designation of a clinical pharmacist.

The main aim behind establishing such a course was to improve the standard of patient care and to make our system of education comparable with that of other countries. A Pharm D graduate could find jobs mostly related to the clinical force of India. With gradual amendments being made in the health care industry, the Pharm D graduate could play an active role in heading the Hospital Pharmacy Setting (Hospital Setting/ Hospital Pharmacy). Also with a large number of Pharmaceutical companies opting for clinical trials the industry is heading towards a business worth 1.4 billion by way of clinical trials. Meanwhile, a Pharm D. graduate could work at industries that deal with clinical trials.

Attitude of students towards the course is the main factor that determines the selection of the profession. The primary purpose of this study was to evaluate the most important factors that influence the attitude of pharmacy students. A secondary endpoint of this study was to investigate the actual career goals of students, since there is an expected growth and development process that occurs as a student advances through the pharmacy school curriculum. However, the second parameter that is the social status awarded to a profession, results from the long-term psychological conditioning. Social respect of a profession usually goes up when it is in a position to directly interact with society. The role of faculties and the campus atmosphere along with the other factors were also considered.

MATERIALS AND METHODS

A cross sectional study was conducted among the Pharm D students in a teaching hospital in Kerala. First, second and third year Pharm D students were recruited for the study .Written consent was taken from each student participating in the study after explaining the purpose of the study.Participation was made voluntary and the identity of each student was kept anonymous. A validated questionnaire was administered to 90 students. Questionnaire items were developed from a detailed review of literature. Different questions were asked regarding

demographics, attitude about the scope of pharmacy, career preferences and factors influencing their selection, impact of pharmacy profession on health care system, and research. The students were handed over the questionnaires by the study team and were asked to return the completed questionnaires within a stipulated time. The first section of the survey form dealt with the demographics of the sample and their level of satisfaction with their choice of career and university course. The second section dealt with students' opinion on factors that would influence their career and work place selection once they graduated. Finally students were asked to nominate their likely career destinations and work basis as well as the major aspect of pharmacy that excited them.

Data from all survey responses were pooled. Upon collection of the completed survey forms data were entered, stored and analyzed for framing the results.

RESULTS

The response rate of the total 90 questionnaires randomly distributed to first, second and third year Pharm D students was found to be 76.7%. 69 questionnaires were truly answered by students. Among the respondents 84.1% were female students while male students comprised only 15.9%. When 93.3% of second year Pharm D students responded to the questionnaire, 76.6% of the third year participated in the study, while only 60% of the first year responded to the questions provided. It was very much fortunate that 79.7% of the students were found to be happy with the pharmacy profession. 18.8% of the students did not know if they were comfortable with the profession. Only 1.4% answered that they were unhappy with the profession. 92.7% of the students opined that the pharmacy education and practice affect the health care system, while 5.7% said that it doesn't affect health care system. At the same time 1.4% was ignorant about the impact of pharmacy education. Nearly half of the students (48.5%) were of the suggestion that pharmacist can be authorized to write prescription upon completion of doctor of pharmacy. 52 respondents were ready to recommend pharmacy as a career to others considering it. While 11 of them wished not to recommend it to others.

Fortunately, three-fourth of the respondents do not wish to take up non-pharmacy career upon graduation, on the other hand 60.3% of the students were interested in proceeding with the research in the field of pharmacy. 80% of the students had opinion that the practical placements during the course have made them more interested in pharmacy as career. Further, interestingly 77.9% of the students did not regret in joining the course but 22.1% answered that they regret in joining the course.

About half (52.2%) of the respondents agreed that they had a good idea about the course and scope the career before they joined, but at the same time 46.4% disagreed with this. The same strength (52.2%) of the students were confident about their abilities to succeed in the career.

When students were asked if pharmacy profession is valued in the way it deserves in the current scenario only a quarter of the respondents agreed with this, half (52.2%) of the participants were of the opinion that the profession is not valued in the way it deserves. A slightly more than half (57.97%) of the students are of the expectation that pharmacy profession is a financially rewarding career. When pupil were asked to compare Indian Pharm Ds with that of Western, only 17.4% strongly agreed. 39.13% agreed, while 42.02% disagreed with the same. 73.9% of students are of the opinion that Indian syllabus, teaching procedure and hospital training at Indian institutions is not enough to prepare a perfect Pharm D graduate. Majority (65.2%) strongly agreed that there is need of specialization courses like cardiology, neurology, pediatrics for Pharm.Ds. 57.9% of students were confident enough to say that Pharm Ds should take care of complete therapy rather than a physician prescribing the medication and Pharm D fixing the dose and so on. A vast majority (86.95%) of the respondents strongly agreed that Pharm Ds deserve “Dr” designation before their name. Furthermore (97.1%) of the students said that there is need to increase the awareness about Pharm.D course in India.

Almost 90% of the Pharm D under graduates recommended that Pharm D can play a vital role in pharmacovigilance, TDM, drug information and toxic centers. The answers of the questionnaire reflected that the students were of the suggestion that Pharm D is essential as advisor for every pharmaceutical company, but at the same time an equal strength of the respondents said that M pharms could do better. (Fig- 1) Entire respondents uniformly suggested that we need Pharm D graduates in every hospital, both in government and private sector as well. After completion of regular course the majority (51.8) % wished to stick to hospital pharmacy, while 35.3% like various specializations and a very few aims academics and industry. (Fig-2)

For the question of behavior of senior pharmacist colleagues regarding future career selection 29 of them answered encouraging, on the other hand 4 pupils answered discouraging, at the same time 36 pupils answered neutral. There was a single whole suggestion that Pharm Ds play a vital role in improving medication adherence through patient counseling more that physicians could do. 66.2% of the respondents suggested that the faculty was adequate in

providing them clinical and non-clinical training, while the remaining 33.8% found the faculty inadequate. Figure 3, below shows various influencing factors answered by the students. Personal interest of the students was the major factor that drew them towards the course. It was surprising that 60.9% of students prefer to work outside India, while only 39.1% wish to remain in India.(Fig -4)

Table-1

Sl no.	QUESTIONS	YES	NO	DON'T KNOW
1	I am happy with my choice of pharmacy profession.	55 (79.7%)	1(1.4%)	13(18.8%)
2	Does pharmacy education and practice affect the health care system?	64(92.7%)	4(5.7%)	1(1.4%)
3	Is a pharmacist authorized to write prescription upon completion of doctor of pharmacy?	33(48.5%)	12(17.6%)	23(33.8%)
4	I would recommend Pharmacy as a career to others considering it.	52(75.3%)	11(15.9%)	6(8.6%)
5	Do you wish to undertake non-pharmacy career area upon graduation?	6(8.6%)	54(78.3%)	9(13.04%)
6	Do you wish to undertake research in the field of Pharmacy?	41(60.3%)	16(23.5%)	11(16.2%)
7	Are there any particular things that really turn you off from pharmacy profession?	25(36.8%)	34(50%)	9(13.04%)
8	The practical placements during the course have made me more interested in Pharmacy as a career.	56(80%)	7(10%)	7(10%)
9	Do you regret joining Pharm D course?	13(22%)	46(77.9%)	

Table-2

Sl no.	QUESTIONS	STRONGLY AGREE	AGREE	DISAGREE
1	I had a good idea about the course and scope of the career before I joined.	1(1.4%)	36(52.2%)	32(46.4%)
2	I am confident about my abilities to succeed in the career.	28(40.6%)	36(52.2%)	5(7.2%)
3	I think the Pharmacy profession is valued in the way it deserves in the current scenario.	14(20.3%)	19(27.5%)	36(52.2%)
4	The Pharm D curriculum is provided with a syllabus that it extends adequate training and clinical experiences.	4(5.8%)	30(43.5%)	35(50.8%)
5	I see Pharmacy as a financially rewarding career.	8(11.6%)	40(57.97%)	20(28.98%)
6	I think Indian Pharm D can work as efficiently as Western Pharm Ds do.	12(17.4%)	27(39.13%)	29(42.02%)

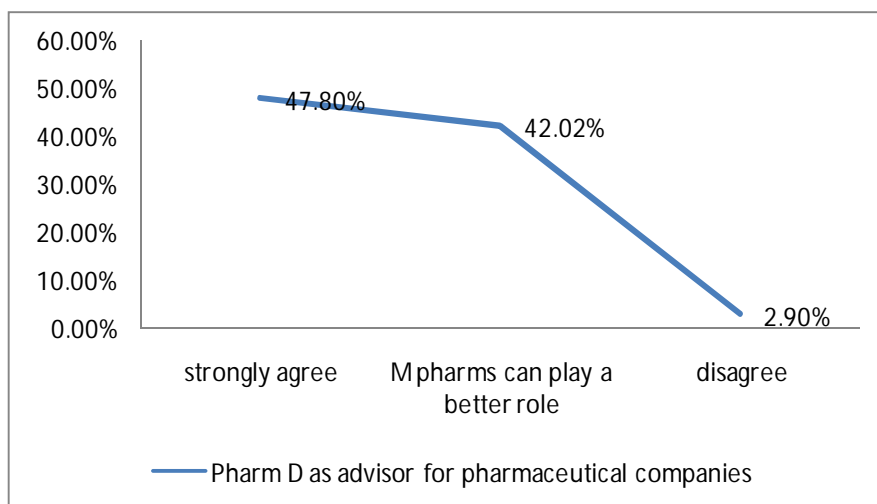


Fig- 1

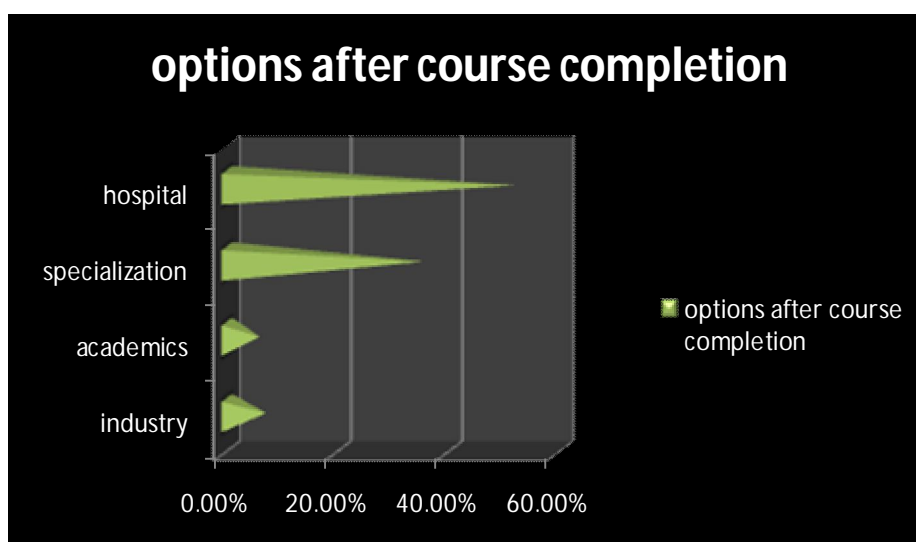


Fig-2

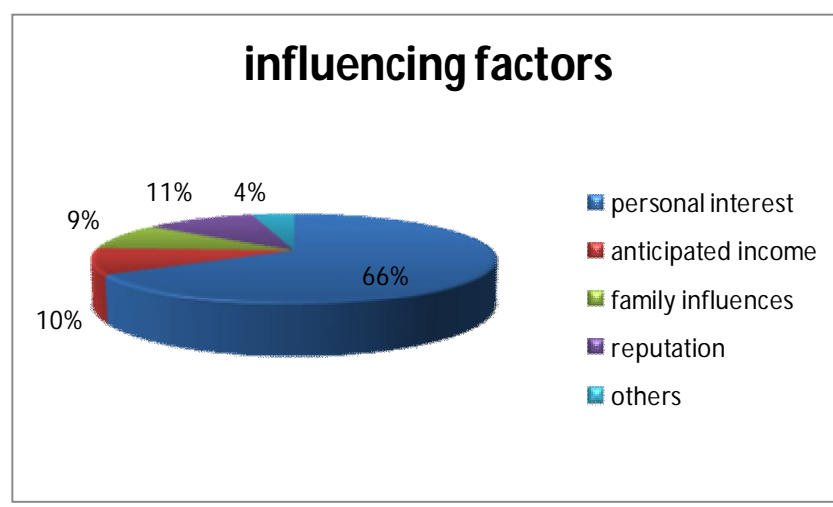
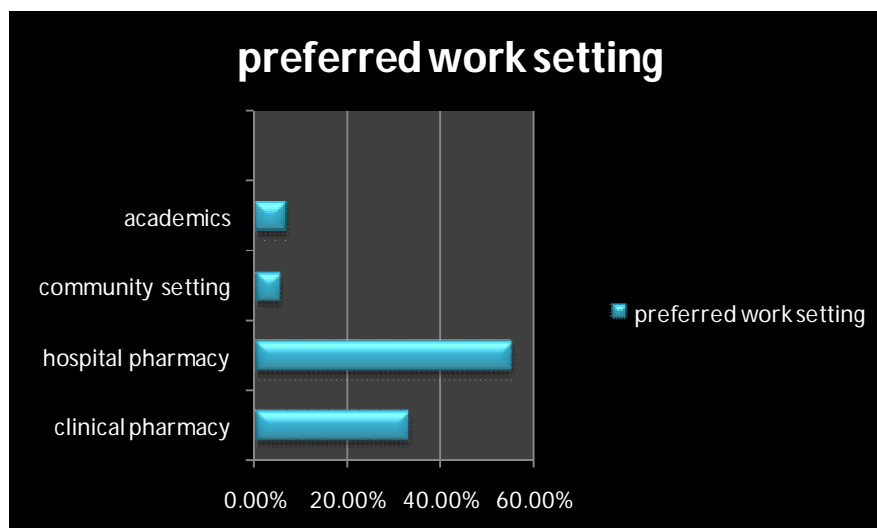


Fig. 3

**Fig-4****DISCUSSION**

Pharm D degree is a multidisciplinary and multifactorial program with the aim of producing a pharmacist equipped with better clinical skills who can provide pharmaceutical care to the patient. (5) It was surprising to note that females provided a greater response rate than male students. This could be interpreted as a positive finding showing the present dominance of females admitted to professional courses. A favorable response rate was observed from the students with more than three-fourth of them being happy with their choice of pharmacy profession and wished to recommend pharmacy as a career to others considering it; and most of the students were well aware about the course and the scope of the career before joining. When Salman Saad et al. (6) conducted a study on attitude of fourth year doctor of pharmacy students towards pharmacy profession and their career preferences at the University of Peshwar in Pakistan, describes that most of their students were unaware of the scope of pharmacy before admission to Pharm D. The study also discussed that majority of the Pak students believed that pharmacy education and practice affects the health care system. This was almost similar to our findings, yet a few pupils regretted in joining the course.

The practical placements during the course have made a vast majority of students more interested in the career. This can be attributed to the efficient clinical exposure that the students are provided with. Enthusiasms of the students were worth it and supplemented this as well. Very few students opined that they wished to pursue non-pharmacy careers upon graduation. This may be due to the pupil's uncertainty about their career opportunities. G.M.

Peterson et al's study on pharmacy students career aspirations and attitudes towards their chosen profession at the University of Tasmania reveals a similar result were they interpreted that switching over to a non-pharmacy career tend to indicate that wastage from profession is a serious issue.(7)

Substantial numbers of students were interested in research while some were unsure about their decision. It may be because students are at their budding state of career and yet to deal with advanced career prospects. In this study, different career areas (hospital, specialization, academics, industry) were selected at different ratios of which hospital pharmacy was the most preferred area of work, and personal interest was the most important influencing factor involved in the selection.

It was pleasing to know that students were aware of their role in pharmacovigilance, TDM and toxic centers. Apart from the concept of contemporary pharmacy, students have now begun to emphasize the deeper aspects of practice. It appears from the survey that a significant number of students preferred to work outside India. This may be because of combination of relatively low salaries for pharmacist and unavailability of other career options like clinical pharmacist, interventional pharmacist etc. This stands parallel to the students' suggestion that pharmacy profession is not valued in the way it deserves in the current scenario. Feedback from the emigrant pharmacists elsewhere in the world countries and their luxurious rehabilitations may be persuading that a good number of students preferred to work outside India. Pupils are of the opinion that their curriculum does not extend adequate training and clinical experiences which may be the reason for their wish to migrate. The curriculum which they find inadequate may be the key cause for the disagreement of majority of the students to work as efficiently as western Pharm Ds.

Study findings were discussed keeping all its limitations in mind. The non response bias is problematic because non-respondents might have significantly different views. Even from the respondents many questions were left unanswered. Since the study population comprised only of late teenagers, their career foresights are yet to grow. Beyond all limitations attitude of the students towards their career and commitment to the profession of pharmacy are greatly rewarding.

CONCLUSION

The study reveals that almost all students were happy with their choice of pharmacy profession and believed that the professions could affect the health care system. It was the practical placements during the course which made them more interesting. Hospital pharmacy was the most preferred area of work, while a good number of students wished to fly abroad. The key influencing factor that drew the students towards the course was their personal interest. Despite all its controversies and criticisms the Pharm D curriculum provides its students with great theoretical and practical information which is worth enough to mould up a good health care professional.

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