



First professional Pharm D students' inspiration to join pharmacy as a career

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ABSTRACT

The present study was aimed to investigate the factors that influence student's decision to pursue a degree of pharmacy and their attitude and commitment towards the profession of pharmacy in Pakistan. A previously developed and validated questionnaire was administered to first professional pharmacy undergraduate students of different universities of Karachi. The questionnaire sought the demographics of the students, their attitude towards the selection of pharmacy as a career and the institute of pharmacy, their commitment and attitude to pharmacy profession and status of pharmacy as compared to other health care professions. Descriptive statistics on the sample characteristics and percentages were calculated. Student t-test was used to observe influence of gender and institution on their opinions. Desire to get the medical degree, interest in science at school, good career opportunities, and family encouragement were the considerable motivating factors for choosing pharmacy as a career. Most of the respondents felt proud to tell others that they are studying pharmacy and strongly committed to the values and ideas of pharmacy profession. Majority of the students put general physicians having higher status than pharmacy while comparing with other allied health sciences. There is a further need of awareness through campaigns among the students of secondary schools and colleges regarding the benefits to be a pharmacist and increasing their awareness towards the pharmacy.

INTRODUCTION

Decision for choosing a career path is definitely a multifarious task, involving different considerations of behavioral, environmental and humanistic aspects. According to social cognitive career theory self-efficacy beliefs, personal goals and outcome expectations are intermingled to make career decisions. [1] There are many factors which affect the career choices among youngsters after completion of F. Sc / O-Levels and other equivalent certificate programs. Typically three basic factors influence the career choice of a student's life, namely: personality, environment and opportunity. Most of the students after taking the inspiration from their parents or a role model in the society decide about their career. Some of the inherent characteristics of an individual can also be determinant factors in the career choice. [2] The personality of an individual is important in choosing the right career for future. An individual having mechanical skills shows their inspiration towards the technological occupations. Secondly environment can also be helpful in selecting a career for a student. It is observed that

children belonging to business families prefer to join their family business under the influence of their surrounding environment. Availability of opportunities is the third factor and it is crucial for depriving students of third world countries. [3] Pakistan is a third world country where a limited job opportunity for youngsters is also an important factor to make decision about their career choice. Many students that have a passion to serve the society and a true aspiration to work with patients; a career in pharmacy seems to be the ideal choice. Among different occupations that offer a broad spectrum of opportunities to serve the humanity, pharmacy is one of the leading professions that offer the optimal blend of providing services to the humanity, ensuring career stability and professional development. Other benefits include financial rewards, opportunity to work with patients, flexible working hours etc.

It is important to identify student's inspiration for deciding pharmacy as their academic key subject as there is limited information available about what influences students to pursue a career in pharmacy [4,5]. Previous studies have shown that skills

in science; to enter in a highly paid profession, get a well respected profession, job security are the major attributing factors for the students to pursue a degree of pharmacy. While some individuals can be influenced by their parents or friends to select this profession. Lack of ability to get the admission in medical colleges could also be the influential factor for studying pharmacy [6-8]

In third world countries like Pakistan students are unaware of the importance of pharmacy degree prior to be admitted in pharmacy institution. There is a trend in our society that the students usually prefer to get the admission in medical colleges after passing their intermediate [9] Almost all the youngsters have a dream to be a doctor since their childhood. Pharmacy is typically considered to be the second choice after medicine. Unfortunately the students get aware of the scope of the pharmacy when they get enrolled in pharmacy program.

Several researchers have conducted studies to evaluate the student's preference towards pharmacy as a career selection abroad but none has conducted in Pakistan. Therefore the present study was conducted with the aim to investigate the factors influence a students' decision to study pharmacy and the prevalence of these factors.

MATERIALS AND METHOD

Study design and study period

This cross sectional study was conducted from Jan to Jun'2013.

Study population

First professional pharmacy undergraduate students were selected randomly as the study population for the study. This study was conducted in one private and three public sector universities of Karachi. The questionnaires were distributed in class rooms and tutorials. One of the investigator was there on hand to explain items and answer the queries as needed. Students were encouraged to respond to the given questionnaire on spot, after which data was collected for further analysis.

Ethical approval

Before conducting the study ethical approval was taken from each institution's head of department. Each student participating

in the study was informed about the purpose of the study and their consent was taken verbally. The participation of students was voluntary and identity of each student was anonymous. The participants were assured that their personal information and responses will be kept confidential. All of the selected students were enrolled in First professional Doctor of pharmacy (Pharm. D) program and were willing to participate in the study.

Data Collection

A pretested questionnaire previously used in another research was adopted and modified [5]. In addition to the demographic data, the questionnaire comprised of eight sections. First four sections were regarding the influence of students for the selection of pharmacy subject and the selection of the particular institute of pharmacy. Likert scale was used to assess the response of the participants ranging from 1 = "Very strong" to 4 = "Not at all strong." In section five responses of the participants were collected regarding their attitude and commitment towards the pharmacy profession following the Likert scale ranging from 1 = "Strongly agree" to 4 = "Strongly disagree". In section six responses were taken regarding the selection of major subject. Section seven covers the participant's future career ambitions. The respondents were asked that pharmacy was their first choice. Section eight explores perception of students regarding the status of pharmacy profession when compared to other healthcare professions using Likert scale ranging from 1 = "Higher status than pharmacy", 2 = "Lower status than pharmacy", 3 = "Same status than pharmacy" and 4 = "Don't know".

Data analysis

The filled questionnaires were entered into Statistical Package for Social Sciences (SPSS 20.0) for analysis. Descriptive statistics were used to illustrate participants' characteristics and their response to the questionnaire items. Student t test was used at 0.05 level of significance to observe influence of gender and institutions on their responses.

RESULTS

The present study comprised of three hundred and sixteen first professional under graduate pharmacy student from different private and public sector universities of Karachi provided consent to show their responses for research purposes. The demographic data are shown in Fig 1. In this study approximately one fourth of

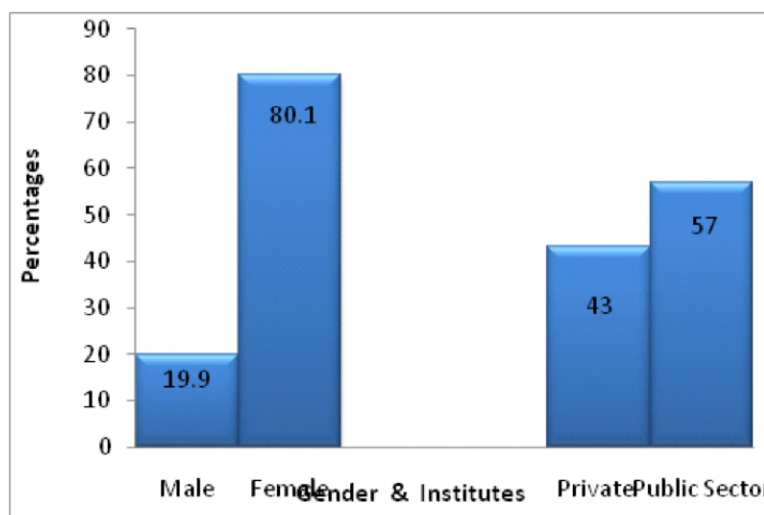


Fig 1: Characteristics of the study population

Table 1: Reasons for selecting pharmacy as a profession

S.No	Social reasons	Important	Less important	Uncertain	Not important
1	A subject teacher at school/college	109 (34.49)	49 (15.50)	52 (16.45)	106 (33.54)
2	A career teacher at school/college	121 (38.29)	46 (14.55)	61 (19.30)	88 (27.84)
3	A visit to a career fair /conference	107 (33.86)	61 (19.30)	72 (22.78)	76 (24.05)
4	A visit to university	106 (33.54)	65 (20.56)	64 (20.25)	81 (25.63)
5	Career leaflet or booklet	95 (30.06)	61 (19.30)	84 (26.58)	76 (24.05)
6	A visit to hospital	164 (51.89)	37 (11.70)	54 (17.08)	61 (19.30)
S.No	Personal Reason	Important	Less important	Uncertain	Not important
1	Family encouragement	148 (46.83)	59 (18.67)	54 (17.08)	55 (17.40)
2	Pharmacist was my role model	58 (18.35)	32 (10.12)	87 (27.53)	139 (43.98)
3	My friends influenced me	32 (10.12)	32 (10.12)	80 (25.31)	172 (54.43)
4	Personal interest	120 (37.97)	66 (20.88)	69 (21.83)	61 (19.30)
5	To get medical professional degree	251 (79.43)	31 (9.81)	23 (7.27)	11 (3.48)
S.No	Academic Reason	Important	Less important	Uncertain	Not important
1	I like /was good in science at school	213 (67.40)	39 (12.34)	45 (14.24)	19 (6.01)
2	I wanted to do a science based course	220 (69.62)	34 (10.75)	45 (14.24)	17 (5.37)
3	I wanted a job with good career opportunities	221 (69.93)	36 (11.39)	44 (13.92)	15 (4.74)
4	I wanted to work with patients	159 (50.31)	58 (18.35)	64 (20.25)	35 (11.07)
5	I was attracted by financial rewards	100 (31.64)	58 (18.35)	75 (23.73)	83 (26.26)
6	I wanted to work in a medical profession	247 (78.16)	27 (8.54)	34 (10.75)	8 (2.53)
7	I wanted to study medical related subject	216 (68.35)	42 (13.29)	43 (13.60)	14 (4.43)

Table 2: Reasons for selecting particular institute of pharmacy

S.No	Reason	Important	Less important	Uncertain	Not important
1	Nature of the course	103 (32.59)	57 (18.03)	85 (26.89)	71 (22.46)
2	Reputation of the university	221 (69.93)	37 (11.70)	30 (9.49)	28 (8.86)
3	University facilities	105 (33.22)	59 (18.67)	77 (24.36)	75 (23.73)
4	Personal interest	154 (48.73)	60 (18.98)	62 (19.62)	40 (12.65)
5	Friends at university	43 (13.60)	36 (11.39)	88 (27.84)	149 (47.15)
6	Parents influence	159 (50.31)	61 (19.30)	48 (15.18)	48 (15.18)
7	Matching entrance grades	126 (39.87)	77 (24.36)	61 (19.30)	52 (16.45)

Table 3: Attitude and commitment of students with profession of pharmacy

S.No	Opinion	Strongly agree	Tends to agree	Tends to disagree	Strongly disagree
1	Desire to study pharmacy when started pharmacy institute	106 (33.54)	126 (39.87)	60 (18.98)	24 (7.59)
2	Desire to be a pharmacist when started pharmacy institute	164 (51.89)	99 (31.32)	39 (12.34)	14 (4.43)
3	I am proud to tell others that I am studying pharmacy	210 (66.45)	85 (26.89)	17 (5.37)	4 (1.26)
4	I am strongly committed to the values and ideas of pharmacy profession	193 (61.07)	104 (32.91)	15 (4.74)	4 (1.26)
5	Being a pharmacist is an important part of who I want to be	174 (55.06)	112 (35.44)	22 (6.96)	8 (2.53)
6	If I could pick a different occupation which paid the same amount , I would probably change the degree	48 (15.18)	46 (14.55)	59 (18.67)	163 (51.58)
7	If I could do it all over again , I would choose to study for the same profession	92 (29.11)	91 (28.79)	64 (20.25)	69 (21.83)
8	Pharmacy is an ideal profession for the career of my life	88 (27.84)	128 (40.50)	63 (19.93)	37 (11.70)
9	I regret that I enter in pharmacy institute	41 (12.97)	64 (20.25)	64 (20.25)	147 (46.51)
10	I intend to undertake a second degree after completing pharmacy	127 (40.18)	99 (31.32)	40 (12.65)	50 (15.82)

Table 4: Student's perception towards the status of pharmacy with other health care professions

S.No	Profession compared	Higher status than pharmacy	Same status than pharmacy	Lower status than pharmacy	Don't know
1	General physician	242 (76.58)	31 (9.81)	33 (10.44)	10 (3.16)
2	Dentistry	187 (59.17)	66 (20.88)	48 (15.18)	15 (4.74)
3	Health service manager	90 (28.48)	107 (33.86)	79 (25)	40 (12.65)
4	Nursing	27 (8.54)	26 (8.22)	238 (75.31)	25 (7.91)
5	Occupational Therapy	32 (10.12)	74 (23.41)	161 (50.94)	49 (15.50)
6	Ophthalmologist	211 (66.77)	30 (9.49)	56 (17.72)	19 (6.01)
7	Physiotherapist	56 (17.72)	68 (21.51)	174 (55.06)	18 (5.69)
8	Medical technologist	30 (9.49)	72 (22.78)	196 (62.02)	18 (5.69)
9	Sonologist	48 (15.18)	46 (14.55)	183 (57.91)	39 (12.34)

the students were male.43% of the respondents were enrolled in private and 57 % were enrolled in public sector institutes. Responses to the questionnaire items exploring the social, personal and academic reasons for selecting pharmacy as profession was recorded in percentage are given in table 1. 79.4% of the students decided to join pharmacy as a career because of their desire to get the medical degree. 51.8% select pharmacy because of the impressive role of the pharmacist in hospitals. Interest in science at school (67.4%), good career opportunities (69.9%), and family encouragement (46.83%) were also the considerable factors for deciding pharmacy as a career. On the

other hand leaflet or booklet related to career counseling, influence of friend and financial rewards were found least important factor.

Responses of the students regarding the selection of the institute of pharmacy are shown in table 2. 69.9% of the respondents agreed that reputation of the institute was the major factor for deciding the particular institute of pharmacy. Responses of the participants that explored the attitude and commitment of students with pharmacy are shown in table 3.

Expected future working place of students is mentioned in

Table 5: Statistically significant association of gender and institution with their responses

S.No	Opinion	t	Sig
1	Gender Vs Pharmacist was my role model	-2.538	0.012
2	Gender Vs My friend influence me	-2.15	0.0332
3	Gender Vs I wanted to work with patients	3.756	0.0001
4	Gender Vs I was attracted by financial rewards	-2.403	0.017
5	Gender Vs I wanted to work in medical profession	2.054	0.041
6	Gender Vs I wanted to study medical related subject	2.72	0.007
7	Gender Vs Friend at university	-2.323	0.021
8	Gender Vs I regret that I enter in pharmacy institute	-5.269	0.0001
9	Institution Vs A subject teacher at school/college	-2.367	0.019
10	Institution Vs A career teacher at school/college	-2.296	0.022
11	Institution Vs A visit to career fair/conference	-3.084	0.002
12	Institution Vs A visit to university	-2.044	0.042
13	Institution Vs Family encouragement	2.566	0.011
14	Institution Vs Pharmacist was my role model	-3.041	0.003
15	Institution Vs My parents decision	2.087	0.038
16	Institution Vs I am proud to tell others that I am studying pharmacy	-2.384	0.018
17	Institution Vs I would choose to study for the same profession if I would get the chance	-3.266	0.001

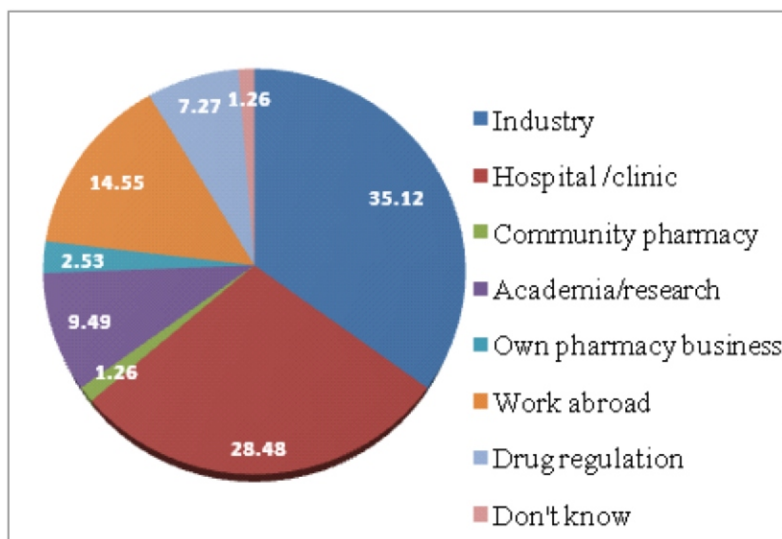
**Fig 2:** Students future career ambitions

Figure 2. It shows that the leading career choice of students was to work in industry followed by working in hospital/clinic and then to work abroad. Students' perception regarding the status of pharmacy in comparison with other health care professions is shown in table 4. More than 75% respondents consider general physicians have higher status than pharmacy. To observe the influence of gender and institution on the responses of students towards the factors that influence their decision to pursue a degree of pharmacy and their attitude and commitment towards the profession of pharmacy, student t-test was adopted using 0.05 level of significance. Table 5 summarizes the influence of gender and institution on their response.

DISCUSSION

Pharmacist is an integral part of health care system in order to ensure safe and effective use of drugs and improving the status of public health in any part of the world. But unfortunately in third world countries like Pakistan the youngsters are oblivious towards the scope of pharmacy profession. It is a culture of our society that students with premedical groups in their previous classes have two major choices for their career i.e. either they join MBBS or Pharm-D program. Students are motivated towards Pharm-D program next to MBBS or BDS because of the professional status of Pharm-D in the society.

A study conducted on 422 participants including both junior and senior pharmacy students showed that expected job security, opportunities of professional growth, respectable profession and financial rewards were the motivating factors for selecting pharmacy as a major subject. [7]

Another study conducted on 250 pharmacy students showed that the desire of students to work in health field, opportunity to earn a high salary, well respected job, desire to help people and job security were the major reasons that influenced the students' decision in choosing pharmacy as a career. Parents, other relatives and personal friends were also the influencing factors for career selection. [10] Similar trend was observed in this present study that family encouragement, desire to acquire medicine related degree, job with good career opportunities, interest in science subject at school and impressive role of pharmacist in hospitals were the top influencing factors of pharmacy students for the selection of pharmacy as their career. Whereas career leaflet or booklet was least important factor as it does not reveal the true picture of pharmacy profession. Financial rewards or reimbursement system for pharmacist is also not impressive in Pakistan; therefore students did not consider it as motivational factor for selecting pharmacy. It was observed that 66.4% of the respondents feel proud to tell others that they are studying pharmacy and they are strongly committed to the values and ideas of pharmacy profession. Being a pharmacist was an important part of what the students want to be in the future. 51.5% of the students were agreed that they would not change their degree, if they are provided with an opportunity to pick a different occupation which paid the same amount. Desire to be a pharmacist was more prevalent in students as compared to the desire of studying pharmacy in majority of the students when they entered in pharmacy institute. More than 80% of the students responded that pharmacy was not their first and only choice. 64% of the students considered medicine/dentistry as their first choice while 15% of the students showed other science subject as their first choice. According to an Indian author pharmacy is no longer a second choice [11] but the students of Pakistan still considered pharmacy as their second choice. When evaluating the attitude and commitment of students towards the pharmacy profession, interesting behavior was observed. More than 50% of the students agreed that they are proud to be a future pharmacist and only 13% of the participants regret to enter pharmacy. While making a comparison of pharmacy with other health care professions majority of the students considered pharmacy on the top position with respect to status among all vocations. Least number of students considered the profession of nursing higher in status than pharmacy which indicates awareness of future pharmacist about the profession of pharmacy.

CONCLUSION

First year students showed their positive attitude and commitment to the profession of pharmacy. Factors that positively influenced pharmacy students' career destination include their desire to get the medical degree. There is a further need of providing awareness through campaigns and career counseling among the students regarding the benefits to join pharmacy as a career. These campaigns should be organized at school and college level. In future these strategies will help college students, to choose pharmacy as a first choice according to their capabilities so that proving them as better pharmacists.

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