

Evaluation of Career Goals among Iraqi Pharmacy Students

Fadia Thamir Ahmed¹, Abeer K. Jumaa²

¹ Lecturer / Clinical Pharmacy Department, College of Pharmacy, University of Baghdad

² Assistant Lecturer / Clinical Pharmacy Department, College of Pharmacy, University of
Baghdad

¹Fadia.Ahmed@copharm.uobaghdad.edu.iq

Abstract

Objective: To evaluate pharmacy students' inspiration to study pharmacy, their perspective regarding future jobs and the factors affecting their decisions.

Methods: Fifth and fourth year pharmacy students were administered the study survey consisting of 4 parts. Descriptive statistics for categorical variables, Man-Whitney test for continuous variables and Chi-square test to check the difference between the two groups were made.

Results: Total of 380 students included in the study. About two thirds of each group expressed their consideration for the university level, their interest in healthcare and pharmacy when they select to join the pharmacy college. Approximately 90 % of both groups stated that they have a desire for working in hospital or community pharmacies after graduation. They also tagged salary, work schedule, benefits and environment as the factors with the greater impact on their decisions. Overall, a non significant difference between the groups was found.

Conclusion: The appropriate university selection and students' interest in pharmacy and healthcare were the major reasons for choosing pharmacy as a career. Community pharmacy and hospital pharmacy were the most common future jobs to be considered after graduation. Salary was the factor with the greater impact from the students' perspectives.

Keywords: Career goals, pharmacy students, Iraq

1. INTRODUCTION:

Pharmacy is one of the health disciplines connecting health with chemical sciences in a way that ensure the efficient and safe utilization of medicines (1). As a result of the growth of pharmacy practice globally, the main function of the pharmacist in the society has varied significantly. It is presently aimed to supply medication information and care to the patient so instead of medication compounding and dispensing (2).

During the twentieth century, the duty of the pharmacist was concentrated on medication preparation or compounding. Nowadays, pharmacists work in a broad spectrum of professional contexts (3).

Conventionally, the pharmacists used to practice their profession in hospital or community pharmacies as typical choice for their career. Though, the job prospects for pharmacists have grown as health care has progressed (4). Pharmacists have been viewed as a readily available

provider of health care, highlighting the importance of pharmacists in providing patients with reliable knowledge about their prescription (5).

Numerous fields are involved in pharmacy profession including hospital, community pharmacy, industrial pharmacy, administrative pharmacy, postgraduate education and academia (6).

Students' career motivations, aspirations and preferences have a huge impact on future profession decisions (7). It is essential to consider and anticipate the future commitment of the pharmacist and the level of involvement in the healthcare system (6).

Professional commitment and educational qualifications have the greatest impact on student aspirations. The commitment was interlinked positively to career ambitions. Consequently, it is rational to interpret the pharmacy students who are more committed to their professions as future pharmacists would be more eager to undertake a position as a professional pharmacist for patient care (7,8).

A limited number of studies investigated information on career preferences and favorite fields of future practice among pharmacy students and the factors and reasons affecting their decision (9).

One study revealed that pharmacy students listed the working conditions as the most significant element in choosing career routes (10). Another study showed that comparable numbers of pharmacy graduates in the UK wanted to pursue their training in the hospital and community pharmacies (11). While from the US pharmacy students point of view, income, distance, personal satisfaction, and the chance to use one's expertise and education to assist patients were found to be significant considerations (12). In addition, pharmacy, medicine, and dentistry research have confirmed that gender is a variable that influenced career decision (13–15).

This decision is vital, since it is influential in determining the beginning of the professional life of the student and defines it. Hence it is crucial that every student possesses expert knowledge and understanding to empower them to take the right decisions (10).

This study aims to create a simple understanding of the career aspiration, commitment and anticipation of pharmacy students for the pharmacy practice and also their future career goals after graduation.

2. METHODS

Study design:

This is a descriptive, cross sectional, self-administered questionnaire-based study according to literature (4,16), to be conducted among fourth and fifth year pharmacy students in governmental school of pharmacy in Iraq at the University of Baghdad/College of Pharmacy between the months of November and December in the academic year 2019 -2020.

Owing to the minimal contact they have with pharmacists and pharmacies workers, the students of the first three pharmacy college years would be exempt from participating because they are not informed of all the choices available to pharmacists.

Upon illustrating the objective and nature of the study, each student who orally consented to engage in the study was administered the questionnaire in the college and their confidentiality and anonymity have been guaranteed.

Survey questionnaire:

There are both open and close-ended questions on demographic data, experience and future career plans in the survey. Student participation is voluntary and responses are anonymous.

The survey instrument consists of four parts. Part (A) investigated the demographic data of the participants which involved the age, the gender, the year of study, the social status (married or not) and previous experience in pharmacy practice. Part (B) assessed the students' inspiration to study pharmacy as a career option of first preference and if studying pharmacy was their primary option of study using 'yes or no'. Part (C) of the survey looked at prospective career ambitions of students, by requiring them to determine the area of pharmacy practice they would have a preference to work post graduation from a given list. Part (D) assessed the important points that the student look for in his career.

Ethics

All students participated in this study were older than 18 years of age and demonstrated voluntary consent to take part in this study when the questionnaire was retrieved. During the questionnaire administration, any individual identifier was lacking.

Statistics

To save and analyze the data, the Statistical Package for the Social Sciences version 20 (SPSS v. 20) software was utilized. Frequencies and percents were calculated to describe categorical variables; these include the frequency of responses for the reasons for choosing pharmacy and the preferred future job. Age was presented as mean and standard deviation (continuous variable). A Likert scale consisting of 5 points ranging from very low importance (1) to very high importance (5) was used to evaluate different factors that affected students' future career choices.

The Chi-square test was performed to test observed differences between the two groups, and to evaluate the frequencies of responses. Continuous variables (age) have been analyzed by Man-Whitney test for non-parametric distribution. P-values of less than 0.05 were regarded to be significant.

3. RESULTS

Total of 380 students completed and returned the questionnaires (out of 410 included in the analysis with a 92.7% response rate). The fifth year students comprise about 55% of the total number involved in the study (209 students), while the fourth year students percent was 45% (171 students).

Part (A): Demographic Data

The age range of the participants was between 22 and 26 in total, with the majority of them being single and had a previous pharmacy practice experience as shown in table (1):

Table 1: Demographic data

	Year of study	Fifth stage (n=209)	Fourth stage (n=171)	P-value	
1	Age (mean ±SD)	23±0.2	22±0.06	<0.0001	
2	Gender (n (%))	Female	162 (77.5%)	139 (81.3%)	0.367
		Male	47 (22.5%)	32 (18.7%)	
3	Marital status (n (%))	Married	27 (12.9%)	19 (11.1%)	0.590
		Single	182 (87.1%)	152 (88.9%)	
4	Pharmacy practice experience (n (%))	194 (92.8%)	156 (91.2%)	0.566	

Part (B): Reasons for choosing pharmacy as a career

The students were requested to state the most important reasons that inspired them to choose pharmacy as their future career. The most common reason was choosing a suitable university, followed by the interest in health care and personal interest in pharmacy. Friends and teacher advice were the least common reasons as shown in table (2).

Table (2): Reasons and influences for choosing pharmacy as a career

	Reasons	Fifth stage (n=209)	Fourth stage (n=171)	P-value
1	Personal interest in pharmacy	149 (71.3%)	126 (73.7%)	0.604
2	Family	112 (53.6%)	98 (57.3%)	0.468
3	Job opportunity	147(70.3%)	113(66.1%)	0.375
4	Income	135(64.6%)	102 (59.6%)	0.322
5	Interest in health care	158 (75.6%)	120 (70.2%)	0.235
6	No specific reasons	104 (49.8%)	83 (48.5%)	0.813
7	Suitable university	166 (79.4%)	131 (76.6%)	0.509
8	qualifications	146 (69.9%)	114 (66.7%)	0.506
9	friends	72 (34.5%)	48 (28.1%)	0.183
10	Job security	118 (56.5%)	93(54.4%)	0.686

11	challenging	92 (44%)	67 (39.2%)	0.341
12	Teacher advice	47 (22.5%)	28 (16.4%)	0.136

Part (C): Preferred future job upon graduation

Students' future career choice after graduation are presented in table (3). Notably community pharmacy came first followed by hospital pharmacy as the most preferred options. The least preferred future job was pharmaceutical industry.

Table (3): Preferred future jobs upon graduation

	Future job	Fifth stage (n=209)	Fourth stage (n=171)	P-value
1	Hospital pharmacy	193 (92.3%)	156 (91.2%)	0.156
2	Community pharmacy	184 (88%)	158 (92.4%)	0.159
3	Sales and marketing	156 (74.6%)	137 (80.1%)	0.206
4	Private health care	113(54.1%)	101 (59.1%)	0.328
5	Pharmaceutical companies	107(51.2%)	73 (42.7%)	0.098
6	Pharmacy management and regulatory affairs	62 (29.7%)	42 (24.6%)	0.267
7	Academic and clinical research	53 (25.4%)	28(16.4%)	0.033
8	Pharmaceutical industry	49 (23.4%)	27 (15.8%)	0.063
9	Free work	103 (49.3%)	64 (37.4%)	0.021
10	Not sure yet	42 (20.1%)	54 (31.6%)	0.010

Part (D): Influences of general job consideration on students' career choices

This study investigated career choices of the participants and consideration given to these work decisions they made. The highest Likert score was the salary, while the Advancement opportunities had the lowest score in the study as shown in table (4).

Table (4): Influences of general job consideration on students 'career choices

	Influences		Very low importance	Low importance	Neutral	High importance	Very high importance	Mean Likert	P-value
1	Salary	5 th	0(0%)	6(2.9%)	46(22%)	81(38.8%)	76(36.3%)	4.1	0.521
		4 th	0(0%)	5(2.9%)	28(16.4%)	62(36.3%)	76(44.4%)	4.2	
2	Flexible work schedule	5 th	4(1.9%)	15(7.2%)	58(27.8%)	65(31.1%)	67(32%)	3.8	0.152
		4 th	1(0.6%)	9(5.3%)	36(21%)	72(42.1%)	53(31%)	4	
3	Benefits	5 th	4(1.9%)	14(6.7%)	63(30.1%)	75(35.9%)	53(25.4%)	3.8	0.726
		4 th	3(1.8%)	8(4.7%)	45(26.3%)	63(36.8%)	52(30.4%)	3.9	
4	Geographical location	5 th	0(0%)	11(5.3%)	48(22.9%)	76(36.4%)	74(35.4%)	4	0.001
		4 th	1(0.6%)	8(4.7%)	56(32.7%)	77(45%)	29(17%)	3.7	
5	Advancement opportunities	5 th	8(3.8%)	12(5.7%)	53(25.4%)	81(38.8%)	55(26.3%)	3.8	0.015
		4 th	9(5.3%)	17(9.9%)	63(36.8%)	54(31.6%)	28(16.4%)	3.4	
6	Work environment	5 th	6(2.9%)	15(7.1%)	48(23%)	71(34%)	69(33%)	3.9	0.233
		4 th	4(2.3%)	19(11.1%)	49(28.7%)	58(33.9%)	41(24%)	3.7	

4. DISCUSSION

The present study assessed pharmacy students' future career choices and included students from fifth and fourth year of pharmacy colleges as they are the closest to graduation and to enter the practical fields of pharmacy. Overall, there was a non significant difference between the two groups regarding their future career goals and factors affecting their decisions.

Females constituted the majority of respondents; they represent about 80% in both fifth and fourth year students. This may be attributed to pharmacy career attractiveness from females' points of view as it provides more flexible and numerous job opportunities upon graduation than other healthcare disciplines as medicine. Also females' desires to be available for their children and families in the future are fulfilled by pharmacy field. This high pharmacy schools female to male ratio was seen in many studies (9,17,18). Most participants were single due their young ages and commitment to their education. More than (90%) of the students had a previous pharmacy practice experience owing to the fact that almost all the students had to undergo a summer training program in community pharmacies as a component of the pharmacy colleges' curriculum. Furthermore, in Iraq a considerable percent of the pharmacy students had jobs as medical representatives in medication companies or as assistants in pharmacies (19).

When investigating the reasons behind the students' choice of pharmacy as a future career, a variety of perspectives were expressed. The majority of participants in both groups remarked the appropriate university, their personal interest in pharmacy and job opportunity as the most important reasons. Selecting a classy university is an important determinant in choosing the field of the study. In Iraq, the admission to universities is highly dependent on high school degree with the colleges of healthcare fields in major Iraqi universities attracting the highest degrees. Since this study was conducted in the University of Baghdad, the mother university in Iraq, consequently it is predictable to find that the students' choice is primarily affected by choosing the right university to commence their graduate studies. While their inspiration and personal interest to study pharmacy can be caused by their desire to help people and improve their health and quality of life, and this finding broadly supports the work of other study in this area (20).

Emphasizing job opportunity as a major impact affecting students' choices can be attributed to the fact that the governmental employment in Iraq is automatically commenced for all pharmacy graduates as a residency program after completing pharmacy school (21).

The most common future job from the students' point of view for both groups was community pharmacies followed by hospital pharmacies sales and marketing. Most pharmacists in Iraq act to support hospitals and community pharmacies with drug therapy services for patients (22). This is mainly due to their ability to practice pharmacy as a career in community pharmacies and marketing directly after graduation as the first employments in their practical lives and to the fact that eventually they will be employed as interns in hospitals by the Ministry of Health on the other hand. Many studies showed analogous findings (1,9,17,23) in which the students' primary reason for considering hospital pharmacy as their potential field of practice was the desire to provide active healthcare services which might provide them the chance to make best use of their abilities. In the US, a survey found that about two thirds of the students have career ambitions that are focused on "direct patient care" (8).

The least chosen jobs were working in academia and research or in the field of pharmaceutical industry for both groups. The reasons for not preferring academia can be the scarce of pharmacy higher education when compared to the number of pharmacists graduate each year and the strong competition to get a place in postgraduate studies due to limited number of universities that have higher education studies (21). Though fifth year students indicated a higher desire to pursue postgraduate education with a significant difference between the two groups. While the reason behind not choosing pharmaceutical industry might be the fact that in Iraq, there is a limited medication industry and working in industry might separate them from pharmacy practice. These results are consistent with many studies that indicated low preference of pharmacy students for academia and pharmaceutical industry (20,24), but inconsistent with another study in which pharmaceutical industry has been selected by the majority of respondent (25).

When considering the factors affecting job choices, the students in both groups revealed that the factor that most impacts their decision is the salary followed by work schedule, benefits and environment.

Salary was found to have a critical impact on the students' choices in many studies, the causes varied from their desire to start their own pharmacy in the future as their highest ambitions in

one study (26), to the fact that the most significant reason for preferring pharmacy practice in the retail chain context in the future was found to be the significant monetary reward in others (9,25,27). Work schedule, environment and benefits were also tagged as important affecting factors. These findings are comparable to other studies in which the flexible work timing was a determinant issue especially for female students due their future family responsibilities (4,23), and it was found that work environment and benefits to be obtained like insurance, vacations and bonuses are crucially important (4,28).

When looking at the geographical location and advancement opportunities, they were also listed to be important determinants but with a significant difference between the two groups with the fifth year students having higher mean Likert scale. Likewise, geographical location especially in retail chain community pharmacies (4,9,28), and advancement opportunities (6,9) were found to have a strong impact on respondents' choices.

Limitations of this study are that it was conducted in one university and the survey was administered to the students at one time only. So our results cannot be generalized.

5. CONCLUSION

Taken as a whole, there was a non significant difference between fifth year and fourth year pharmacy students. Selecting the right university, interest in health care and personal interest in pharmacy were the main causes to choose pharmacy from the students' perspectives. Community pharmacy and hospital pharmacy were the most focused on goals by the students for their future career after graduation. Regarding future job consideration, the factors with the greater impact from the students' point of view were salary, work schedule, benefits and environment.

6. REFERENCES

- [1] Beedemariam G, Ebro M, Ageze H, Weldegerima B, Legesse B, Tilahun G. Pharmacy Students' Attitude and Future Career Choices: A survey of Four Public Schools of Pharmacy in Ethiopia. *Ethiop Pharm J.* 2014;30(1):57–63.
- [2] Sanii Y, Torkamandi H, Gholami K, Hadavand N, Javadi M. Role of pharmacist counseling in pharmacotherapy quality improvement. *J Res Pharm Pract.* 2016;5(2):132–7.
- [3] Harris JP, Bernene JL, Blumenthal D, Francis CK, Hamilton CR, Hickey ME, et al. Pharmacist Scope of Practice. *Ann Intern Med.* 2002;136(1):79–85.
- [4] Savage LM, Beall JW, Woolley TW. Factors that influence the career goals of pharmacy students. *Am J Pharm Educ.* 2009;73(2):2–6.
- [5] Poudel A, Khanal S, Alam K, Palaian S, Emirates UA. Perception Of Nepalese Community Pharmacists Towards Patient Counseling And Continuing Pharmacy Education Program: A Multicentric Study. *J Clin DIAGNOSTIC Res.* 2009;3(2):1408–13.
- [6] Chukwuemeka M. UBAKA, Uche M. OCHIE MOA. Student pharmacists' career choices: a survey of three Nigerian schools of pharmacy. *Pharm Pract (Granada).* 2013;11(3):149–55.

- [7] Capstick S, Green JA, Beresford R. Choosing a course of study and career in pharmacy - Student attitudes and intentions across three years at a New Zealand School of Pharmacy. *Pharm Educ.* 2007;7(4):359–73.
- [8] Siracuse M V., Schondelmeyer SW, Hadsall RS, Schommer JC. Assessing career aspirations of pharmacy students. *Am J Pharm Educ.* 2004;68(3):1–12.
- [9] Hasan SS, Chong DWK, Ahmadi K, Se WP, Hassali MA, Hata EM, et al. Influences on malaysian pharmacy students' career preferences. *Am J Pharm Educ.* 2010;74(9):1–7.
- [10] Silverthorne J, Price G, Hanning L, Scanlan J, Cantrill J. Factors that influence the career choices of pharmacy undergraduates. *Pharm Educ.* 2003;3(3):161–7.
- [11] Willis SC, Shann P, Hassell K. Graduate destinations - Choices made about preregistration training. *Pharm J.* 2006;277(7412):164–5.
- [12] Carvajal MJ, Hardigan P. First-job preferences and expectations of pharmacy students: intergender and interethnic comparisons. *J Am Pharm Assoc (Wash).* 1999;39(1):32–40.
- [13] Willis SC, Shann P, Hassell K. Who will be tomorrow's pharmacists and why did they study pharmacy? *Pharm J.* 2006;277(7410):107–8.
- [14] Borges NJ, Navarro AM, Grover A, Hoban JD. How, when, and why do physicians choose careers in academic medicine? A literature review. *Acad Med.* 2010;85(4):680–6.
- [15] Gallagher JE, Patel R, Donaldson N, Wilson NHF. The emerging dental workforce: Why dentistry? A quantitative study of final year dental students' views on their professional career. *BMC Oral Health.* 2007;7(7):1–16.
- [16] Eldalo A, Albarraq A, Sirag N, Ibrahim M, Yousif M. Pharmacy students' perception about education and future career. *Arch Pharm Pract.* 2014;5(2):72–7.
- [17] Nakagomi K, Hayashi Y, Komiyama T. Survey of attitudes towards career choice among pharmacy students: A pilot study at a private university in Japan. *Pharm Educ.* 2016;16(1):146–57.
- [18] Ahmed FT. The attitudes of final year medical and pharmacy students to interprofessional learning in Iraq. *Natl J Physiol Pharm Pharmacol.* 2017;8(1):1.
- [19] Ahmed FT, Mohammed Ali GY. Evaluation of self-medication among Iraqi pharmacy students. *J Ideas Heal.* 2019;2(2):108–12.
- [20] Hanna LA, Askin F, Hall M. First-year pharmacy students' views on their chosen professional career. *Am J Pharm Educ.* 2016;80(9).
- [21] Ahmed FT, Asaad S, Ali FZ. INTENTIONS AND PERCEPTIONS OF IRAQI PHARMACY STUDENTS TOWARD. *Int Res J Pharm.* 2018;9(9):99–104.
- [22] Mohammed SI, Dawood EB, Abaas IS. Perceptions and attitudes of community pharmacists' towards patient counseling and continuing pharmacy education programs in Iraq. *Iraqi J Pharm Sci.* 2019;28(2):30–6.
- [23] Shen G, Fois R, Saini B. Course experiences, satisfaction and career intent of final year pre-registration Australian pharmacy students. *Pharm Pract.* 2014;12(2):0–0.
- [24] Bin Saleh G, Rezk NL, Laika L, Ali A, El-Metwally A. Pharmacist, the pharmaceutical industry and pharmacy education in Saudi Arabia: A questionnaire-based study. *Saudi Pharm J.* 2015;23(5):573–80.
- [25] El-Hammadi M. Career preferences of Syrian students and their attitudes toward a number of practice areas: Will community pharmacy continue to dominate the

- profession? *Curr Pharm Teach Learn.* 2013;5(5):373–80.
- [26] Austin Z. Learning styles of pharmacists: Impact on career decisions, practice patterns and teaching method preferences. *Pharm Educ.* 2004;4(1):13–22.
- [27] Machado C, Zapantis A, Singh-Franco D, Marsh WA, Beckey C. Effect of faculty-mediated interventions on pharmacy students' pursuit of postgraduate training. *Am J Heal Pharm.* 2008;65(2):158–63.
- [28] Traynor AP, Sorensen TD. Student pharmacist perspectives of rural pharmacy practice. *J Am Pharm Assoc.* 2005;45(6):694–9.