

Pharmaceutical Sales and Marketing as a Future Career for Pharmacy Students in Iraq: Perception and Barriers.

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Abstract

The exposure of pharmacy students to fieldwork experience throughout the early stages of their education would assist in preparing them for their future careers. Many students feel working in community pharmacies does not give a profitable wage when compared to other opportunities influences their perceptions and opinions and chooses the promotional pharmaceutical field. There is a lack of studies that focused on these points in Iraq. Therefore, the present study aims to assess students' perceptions of the pharmaceutical promotional sector as a potential future profession as well as the obstacles they might face. This is a cross-sectional study targeting students of pharmacy in Iraq through an online questionnaire to assess their perceptions and to determine the influencing factors. The majority of students work for improving their skills and for saving money for the future. regarding the barriers that students face in pursuing a career in pharmaceutical marketing, the existence of unethical actions, as well as a lack of the required skills and knowledge, were cited as barriers by the highest percentage of respondents. In conclusion, generally, there is a favorable view of working in this field and there is an apparent need for colleges to focus more on the aspects of this career.

Keywords: Pharmaceutical promotion, Pharmacy students, Pharmacy career, Student perception, pharmaceutical sales.

الإعلام الدوائي كمهنة مستقبلية لطلاب الصيدلة في العراق: التصور و العوائق

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الخلاصة

ان تعرض طلاب الصيدلة لتجربة العمل الميداني طوال المراحل الأولى من تعليمهم سيساعد في إعدادهم لمستقبلهم المهني. يشعر العديد من الطلاب أن العمل في الصيدليات الأهلية لا يكون مربحاً مقارنة بالفرص الأخرى مما قد يؤثر على اختيارهم. تهدف هذه الدراسة إلى معرفة تصورات الطلاب لقطاع الترويج الصيدلاني كمهنة مستقبلية محتملة بالإضافة إلى العقبات التي يواجهونها. هذه دراسة مقطعية تستهدف طلاب الصيدلة في العراق من خلال استبيان الكتروني لتقييم تصوراتهم ومعرفة العوامل المؤثرة. تعمل أكبر نسبة من الطلاب على تحسين المهارات وتوفير المال للمستقبل. فيما يتعلق بالعقبات التي يواجهها الطلاب في ممارسة المهنة ضمن مجال التسويق الصيدلاني، فإن وجود إجراءات غير أخلاقية، فضلاً عن الافتقار إلى المهارات والمعرفة اللازمة، هي أكثر العوائق المذكورة. بشكل عام، هناك وجهة نظر إيجابية للعمل في هذا المجال وهناك حاجة واضحة للكليات للتركيز أكثر على جوانب هذه المهنة.

الكلمات المفتاحية: الترويج الصيدلاني، طلاب الصيدلة، مهنة الصيدلة، ادراك الطلاب، التسويق الصيدلاني

Introduction

Around \$15.7 billion was spent on pharmaceutical promotion and marketing in the United States in 2000, representing approximately 20–30 % of total sales turnover, which is two to three times the amount spent on pharmaceutical research and development ⁽¹⁾. Pharmacists perform critical roles in the healthcare field, including clinical pharmacy services, drug discovery and research, community pharmacy, hospital pharmacy, pharmaceutical-related industrial employment, and others. The exposure of pharmacy students to fieldwork experience throughout the early stages of their education would assist prepare them for their

future careers and entry into the labor market once they graduate ⁽²⁾.

About three - quarters of the undergraduate students at Kuwait University claimed having experienced at least one pharmaceutical promotional activity⁽³⁾, whereas 95% of the students at the Universities of the United States⁽⁴⁾and Finland reported such occurrences⁽⁵⁾. An international survey has shown that even where the topic of drug promotion is addressed in formal classes, it is part of the core curriculum in 72% of cases, but it is rarely discussed in class for longer than a single two-hour lecture or small-group exercises, and often takes place through presentations. ⁽⁶⁾Some medical schools in the USA and abroad have made efforts to limit student

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interaction with drug detailers before they have gotten some basic training in ethical problems. The Harvard Medical School barred pharmaceutical representatives from contacting first and second-year students in 1991⁽⁷⁾ this is in contrast to Iraq's situation as there are no strong laws and standards to regulate student labor in the promotional area, and students' ethical and regulatory understanding is weak.

After 2003, the Iraqi government allowed multinational businesses to engage in the Iraqi private pharmaceutical industry, making it one of the Middle East's most promising and expanding industries. In August 2020, the Iraqi ministry of health (MOH) registered 4665 medications from both domestic and international manufacturers. It also registered approximately 1800 pharmaceutical firms⁽⁸⁾. Iraq's pharmaceutical promotion and marketing industry is dominated by male employees; approximately one-third of the workers are undergraduate students and the majority are the last years (fourth and fifth) pharmacy college students; the majority were medical representatives and earn less than \$1,000 per month⁽⁹⁾.

As in Saudi Arabia, the scenario in Iraq might become comparable to that seen in that country, which is problematic given the restricted job possibilities for pharmacists in hospitals as a result of the saturation of the ministry of health and governmental institutions. Consequently, the situation of pharmacists being out of work might deteriorate further, which has already been a major source of worry in the Kingdom of Saudi Arabia, in addition, many students feel working in community pharmacies does not give a profitable wage when compared to other opportunities in the pharmacy profession⁽¹⁰⁾ which resemble the Iraqi situation. These factors might strongly influence students to choose to work in the promotional pharmaceutical field. High earned salary, financial security, interest in the sciences, and the will to help people are among the important factors influencing students' decision to major in pharmacy^(11,12). This study aimed to determine the perceptions of pharmacy students toward the pharmaceutical promotional sector as a potential future profession and also to investigate the factors that influence their perceptions as well as the obstacles they face.

Method

Study design and sample size

This was a cross-sectional study conducted between 9th April to 26th May 2021, among undergraduate pharmacy students at different colleges in Iraq. Raosoft; an online calculator, was used to calculate the Sample size through. The required sample size was 384 to achieve a 5% margin of error (alpha) and 95% confidence interval. At the end of the period, 743 responses were collected, and eventually, 737 were considered (6

excluded: 2 were not pharmacy students, 2 duplicated responses, and 2 invalid responses).

Development of the questionnaire

The online questionnaire has been developed by authors and the face and content validity were reviewed by three experts with Ph.D. degrees before being circulated through various pharmacy college social media groups. A pilot study was performed and a sample of students was asked about their comments and the clarity of the questionnaire. All comments were considered and the items were edited before the distribution of the final version of the questionnaire. The first portion inquired about the students' demographics and characteristics, while the second section included 12 items to assess students' perceptions, questions on a five Likert scale

(1=strongly disagree, 2=disagree, 3=neutral, 4=agree, and 5= strongly agree). The perceptions were evaluated to determine what factors influenced them, such as gender, year of study, family income, university, and marital status. The remaining sections investigate the reasons for choosing this sector for employment and as a potential career, while the final section focuses on the obstacles to working in the promotional industry. The reliability test shows that all sections had Cronbach alpha of >0.8.

The study approval

This study was approved by the scientific committee of the college of the pharmacy – Al-Kafeel university. There was no intervention taken place and the survey was collected under the free will of the participant.

Statistics and analysis

Microsoft Excel 2019 was used to collect and arrange the data. Mean, standard deviation (SD), and percentages were used to construct descriptive statistics. Statistical Package for the Social Sciences (SPSS) version 25 was used to assess the significance of affecting factors such as gender, family income, study year, and marital status using parametric or non-parametric tests (Kruskal Wallis test or Mann Whitney U test) when applicable. The significance level was set at $P < 0.05$.

Results

As seen in Table 1, of the total of 737 respondents, males constituted 59.8 %, while females constituted 40.2 %. According to the survey results, the majority of respondents were in the Fifth year of pharmacy college, followed by their Fourth-year students (42.33 and 22.93 %, respectively). In addition, the majority of respondents' families had an income of 700- 1000 USD each month. The great majority of students were single (83.18 %), with married students accounting for 10.58 %. When comparing private colleges to public universities, 62.14 % of students were enrolled in private colleges, compared to 32.84 % in public universities. 5.02 % of students were enrolled in

public colleges, although they were required to pay for their education (parallel study). Najaf accounted for 45.7 % of the total, with Baghdad accounting for 16.6 %.

Table 1. Demographic characteristics of participants (n=737).

characteristics		No.	%
Gender	Male	441	59.8
	Female	296	40.2
Year of study	First	56	7.6
	Second	85	11.53
	Third	115	15.6
	Fourth	169	22.93
	Fifth	312	42.33
Estimated family income (USD)	<\$400	104	14.11
	\$400-\$700	172	23.34
	\$700-\$1000	186	25.24
	\$1000-\$1500	152	20.62
	>\$1500	123	16.69
Marital state	Single	613	83.18
	Married	78	10.58
	Engaged	43	5.83
	Divorced	3	0.41
Type of the university	Public	242	32.84
	Private	458	62.14
	Parallel	37	5.02
University	Al-Kafeel	191	26.3
	Kufa	128	17.7
	Al-Zahrawi	54	7.4
	Al-Safwa	42	5.8
	Baghdad	32	4.4
	Islamic	32	4.4
	others	246	33.9
Provenance	Najaf	335	45.7
	Baghdad	122	16.6
	Karbala	59	8.0
	Qadisiya	54	7.4
	Babil	52	7.1
	others	111	15.1

The experience of the respondents is shown in table 2. It was shown that 61.33 % of the students did not work in the promotional sector at all. Less than a quarter of respondents (21.03 %) currently work in this field. The bulk of the personnel (77.78 %) were medical representatives. 58.05 % of those polled had no prior experience in the promotional area. The majority of working students have less than a year of experience. 51.97 % stated that they have never obtained any type of training in this profession.

Only 25.64 % of those polled stated their college education addressed the ethical elements of the pharmaceutical promotional activity. It was found that there is a significant difference between the previous experience in this field with whether they paid for their college study, in which 66.3% of whom worked were paying for their study.

Table 1. Promotional field experience of the participants

Item		No.	%
Do/Did you work in pharmaceutical promotion N=737	No	452	61.33
	Yes	285	38.67
What is/was your position N=261	Medical representative	203	77.78
	Team leader	31	11.88
	supervisor	23	8.81
	others	4	1.53
Years of experience in the pharmacy business N=727	non	422	58.05
	< 1	161	22.15
	1-2	61	8.39
	2-3	27	3.71
	3-4	24	3.3
Did you receive any kind of training regarding working in the pharmaceutical promotion field? N=737	No	383	51.97
	Yes	354	48.03
Did your study in the college cover the ethical aspects of the promotional field N=737	Somewhat	293	39.76
	No	255	34.6
	Yes	189	25.64
Do you pay for your study?	Do/Did you work in pharmaceutical promotion		P-value
	No (%)	Yes (%)	
No	146 (32.3)	96 (33.7)	<0.001
Yes	306 (67.7)	189 (66.3)	

The students' perceptions of working in the pharmaceutical promotional area are summarized in need specific training and abilities and that respondents believe this profession enhances their social relationships, with mean (SD) values of 4.17 (0.78) and 4.1 (0.86), respectively. The greatest disagreement of the students was seen about their preference for pharmaceutical promotion work over community pharmacy employment, with a mean of 3.02, followed by their impression of continuing to work in the promotional area, with a mean of 3.2.

The significance of different variables such as level of study, gender, family income, and type of the university was examined over the perception items as shown in table 4. The adjusted significant (Bonferroni correction) was calculated and it was seen that first stage students encourage their colleagues to work during the study compared to students in the fifth stage. Third-year students see that pharmaceutical promotion might be their future career more than fifth-year students. While fourth-year students see this field improve their social relations more than second-stage students. It was

Table 3. The two areas of most agreement were that pharmaceutical promotions

seen that fourth-year students had higher concern than second-year students and the fifth year had more concern than first and third-year students regarding the ethical and religious aspects of the pharmaceutical promotion work. On the other hand, gender showed a significant difference in favor of males regarding choose of this field as a future career and increasing future opportunities, improving the skills and the social relations. Also seeing this job as difficult and requiring special training in addition to preferring it over community pharmacy showed significant differences with gender variables. Family income also showed some significant differences as demonstrated in the table while the type of the university showed insignificant differences across the perception items except in encouraging their colleagues to work after graduation were parallel studying students who pay for the study in the public universities showed higher score than public university students whom not pay for their study.

Table 2. Perception of the student toward working in pharmaceutical promotion n=736

NO.	Items	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean (S.D)
1	It would be better to study the pharmaceutical promotion aspects in the college	11 (1.5%)	33 (4.5%)	163 (22.1%)	293 (39.8%)	237 (32.2%)	3.96 (0.93)
2	I encourage my friends and colleagues to work in pharmaceutical promotion during my study	33 (4.5%)	92 (12.5%)	246 (33.4%)	261 (35.5%)	104 (14.1%)	3.42 (1.02)
3	I encourage my friends and colleagues to work in pharmaceutical promotion after graduation	19 (2.6%)	63 (8.6%)	181 (24.6%)	269 (36.5%)	204 (27.7%)	3.78 (1.03)
4	I see that pharmaceutical promotion might be my future career	48 (6.5%)	126 (17.1%)	206 (28.0%)	259 (35.2%)	97 (13.2%)	3.31 (1.1)
5	The pharmaceutical promotion is the job that improves my skills	12 (1.6%)	61 (8.3%)	178 (24.2%)	313 (42.5%)	172 (23.4%)	3.78 (0.95)
6	The pharmaceutical promotion is the job that improves my social relations	9 (1.2%)	27 (3.7%)	106 (14.4%)	337 (45.8%)	257 (34.9%)	4.1 (0.86)
7	The pharmaceutical promotion is the job that increases my future career opportunities	10 (1.4%)	26 (3.5%)	153 (20.8%)	350 (47.6%)	197 (26.8%)	3.95 (0.86)
8	Pharmaceutical promotion is the job that I will continue to work in	48 (6.5%)	144 (19.6%)	237 (32.2%)	220 (29.9%)	87 (11.8%)	3.2 (1.09)
9	I have some ethical/religious concerns about working in the pharmaceutical promotions	29 (3.9%)	77 (10.5%)	259 (35.2%)	275 (37.4%)	96 (13.0%)	3.45 (0.98)
10	The pharmaceutical promotions work is a difficult job	8 (1.1%)	38 (5.2%)	243 (33.0%)	307 (41.7%)	140 (19.0%)	3.72 (0.87)
11	The pharmaceutical promotions work needs special training and skills	4 (0.5%)	13 (1.8%)	104 (14.1%)	351 (47.7%)	264 (35.9%)	4.17 (0.78)
12	I prefer working in the pharmaceutical promotion field to working in the community pharmacy	81 (11.0%)	162 (22.0%)	227 (30.8%)	191 (26.0%)	75 (10.2%)	3.02 (1.15)

Table 3. Perception Items across different variables (expressed in P-values)

	Items	Level of study**	Gender*	Family income**	University type**
1	It would be better to study the pharmaceutical promotion aspects in the college	0.127	0.117	0.288	0.445
2	I encourage my friends and colleagues to work in pharmaceutical promotion during my study	0.008 § First>fifth (0.039)	0.118	0.419	0.418
3	I encourage my friends and colleagues to work in pharmaceutical promotion after graduation	0.141	0.555	0.209	0.047 § Parallel>public
4	I see that pharmaceutical promotion might be my future career	0.011 § Third>fifth (0.047)	0.012 §	0.095	0.086
5	The pharmaceutical promotion is the job that improves my skills	0.115	0.036 §	0.553	0.480
6	The pharmaceutical promotion is the job that improves my social relations	0.010 § Fourth>second (0.006)	<0.001 §	0.237	0.426
7	The pharmaceutical promotion is the job that increases my future career opportunities	0.143	0.019 §	0.106	0.064
8	Pharmaceutical promotion is the job that I will continue to work in	0.302	0.681	0.055 (<400\$)>(\$700-\$1000)	0.077
9	I have some ethical/religious concerns about working in the pharmaceutical promotions	0.000 § Fourth>second (0.001) Fifth>first (0.036) Fifth>third (0.002)	0.121	0.930	0.154
10	The pharmaceutical promotions work is a difficult job	0.139	0.008 §	0.001 § (>1500\$)>(<\$400) (\$1000-\$1500)>(<\$400) (\$400-\$700)>(<\$400)	0.395
11	The pharmaceutical promotions work needs special training and skills	0.136	0.006 §	0.000 § (<\$400)< other income	0.688
12	I prefer working in the pharmaceutical promotion field to working in the community pharmacy	0.431	0.010 §	0.257	0.919

*Mann-Whitney U test **One way ANOVA. § significant different

As shown in table 5, there are several reasons why students choose to work in this sector, with the greatest percentage being 21.5 % for

improving skills and 21.1 % for saving money for the future. Only 17% of people say they enjoy working in marketing.

Table 4. potential causes for the student to work in the promotional field.

Cause	NO.	%
Improve my skills	425	21.5%
To save some money for future	418	21.1%
Increase my knowledge	365	18.5%
I like to work in this field	337	17.0%
A new field that I want to explore	244	12.3%
To solve my current financial issues	195	9.9%

From table 6, less than one-third believe they will continue and grow in this area, whereas 26.9 % believe they may consider working in it. On the other hand, nearly one-fifth (19.8 %) said they would never consider working in the promotional area.

Table 5. promotional field as a feature career

Items	No.	%
I will continue to work in this field and grow	217	29.4%
I am thinking to work in this field in future	198	26.9%
I consider it, a short term business	176	23.9%
I never think to work in this field	146	19.8%

Concerning the barriers that students face in pursuing a career in pharmaceutical marketing, 18.5 % stated that they believe the job is tough. The existence of unethical actions, as well as a lack of needed skills and knowledge, were cited as barriers by a greater percentage of respondents (18.4 % and 18.3 % , respectively). Gender was also mentioned as a limitation to working in this area by 201 students, 84.6% of whom were female. (Table 7).

Table7. Potential barriers for students to work in the promotional field

Barriers	No.	%
Difficult job	256	18.5%
Non-ethical behaviors	254	18.4%
My skills and knowledge	253	18.3%
My gender	201	14.6%
Interact with religious beliefs	156	11.3%
My family and friends	153	11.1%
My look	105	7.6%
Living location	3	0.2%

Discussion

Even though Iraqi legislation only allows licensed pharmacists to operate in pharmaceutical promotion⁽¹³⁾, this study found that a high number of pharmacy students are working in this field. Despite the huge number of graduates, shortages in employment may occur, necessitating the hiring of students. In comparison to the scenario in Saudi Arabia, where an insufficiency of pharmacists owing to a lack of graduates and pharmacy schools necessitated the recruitment of a considerable number of foreign pharmacists⁽¹⁴⁾. The majority of participants were from three cities (Najaf, Baghdad, and Karbala), which have a large number of private universities. The existence of a greater number of private colleges may result in a higher proportion of students working in this profession compared to public colleges.

The percentage of Saudi students who consider the pharmaceutical sales and marketing industry as a future career is 46.7%⁽¹⁵⁾ compared to this study's findings of 48.4% for both agreed and strongly agreed on responses collectively. In another Saudi study half of the students expressed an unfavorable view of pharmacists who work in the community and considered the work environment to be unsatisfactory. In the same study, roughly one-fifth of students said they would consider working in a community pharmacy in the future.

Maybe it's because there isn't enough representation and a supportive work environment for women in Saudi Arabia. The majority of students preferred community pharmacy work to promotional employment, according to this study. For many students, community pharmacy is less profitable than hospitals, regulatory agencies, or academic institutions.⁽¹⁰⁾ In contrast to what occurs in many developed countries, where the majority of newly graduated pharmacists work in community pharmacy settings⁽¹⁶⁾, Iraqi graduated pharmacists may seek more profitable careers as the major causes to choose this career was improving their skills and save money for the future, that resemble the Saudi situation in which community pharmacy may not be as encouraging because the public's image of community pharmacists as healthcare professionals is unclear.⁽¹⁷⁾ A study in Iraq found that most employees were satisfied, with salary and position being the two most important factors determining satisfaction.⁽⁹⁾ Financial incentives are regarded as the main objective for students working in community pharmacies in other nations like the United States.⁽¹⁸⁾

In addition to the difficulty of the promotional job, the presence of unethical promotional behaviors was the second major barrier to the participants in this study. There is still an ethical or moral problem with promotions because

there are no local norms in Iraq and restrictions are not strictly enforced. Interactions between medical representatives and physicians in Iraq frequently result in irrational prescription practices, which can have a detrimental impact on patients' health while also increasing the cost of drugs⁽¹⁹⁾. It is expected that inadequate regulatory and monitoring procedures have a significant impact on medical practitioners' prescribing behaviors⁽²⁰⁾. Similar to what was found in Iraq, the disparity in perceptions about the acceptability of promotional gifts in Kuwait may be attributed to the absence of industry ethical norms and/or government regulations⁽³⁾.

Conclusion

Over one-third of pharmacy students work in the pharmaceutical promotion area. In general, there is a favorable view and good perception of working in this industry. Due to the present scenario in Iraq, there may be an agreement regarding this sector being considered a future job; however, there is an apparent need for colleges to focus more on the aspects of this career. Among the most important factors influencing the decision to choose this work are the desire to improve one's abilities and save money for the future. The students see the difficulty of the job in general, as well as the existence of unethical practices, as major hurdles to working in this sector, in addition to their insufficient knowledge and skills.

Recommendations

It is recommended that colleges focus more on the issues that students will face in the future regarding career choice and development in terms of preparing them with the required skills in addition to the knowledge they gain from studying different subjects, especially in the presence of a high number of graduated pharmacists and the risk of a lack of job opportunities. Lectures and instruction on the ethical and moral aspects of promotional activity are extremely important and essential.

Limitation of the Study

This study based on an online form questionnaire and in-depth face-to-face interview might reflect a more accurate result. This survey was made during the COVID-19 pandemic which might affect the perception and some answers.

Conflicted of Interest Statement

The authors state that no commercial or financial relationships that might be regarded as a possible conflict of interest were present throughout the research.

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