



## Original article

## Pharmacy students attitude and perception toward working in community pharmacy in Saudi Arabia

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## ABSTRACT

**Objective:** The objective of this study is to determine the level of attitude and perception of Saudi pharmacy students toward working in community pharmacies after graduation and to assess cultural, educational, and job related barriers and limitations that interfere with students and community pharmacy as a favorable workplace.

**Methods:** A cross sectional questionnaire, was mailed to a random sample of 600 pharmacy students. It included questions on students' future careers, ideal environment and barriers that might face them in community pharmacy.

**Results:** Four hundreds and twelve (412) completed the survey (response rate was 69%). Mean age was 23 years and 51.2% of respondents were female. Our results revealed low responses toward how interested they are to work in community pharmacy. The study response showed that improvement in salary and money incomes (46%) and culture and society issue (45%) are the two main barrier to make the career in community pharmacy more attractive.

**Conclusions:** Saudi pharmacy students had a negative attitudes and insufficient knowledge about community pharmacy. Pharmacy school would have an important role to fill the knowledge gap and prepare the student to work in the community pharmacy. In order to successfully "Saudization" the community pharmacy setting, efforts should be made to overcome their perceived barriers.

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## 1. Introduction

Community pharmacists are the most accessible healthcare professionals to public to have their medication and advice about their health condition. Community pharmacy practice differs from one country to another (Eades et al., 2011). The successful international model of community pharmacy, which allow pharmacists to provide drug-related services in addition to several clinical services, is not yet implemented in many developing countries (Roberts, 2006; Moullin, 2013; Al-Tannir, 2016). In some of these countries, the current model is mainly limited to selling medica-

tions and cosmetics to costumers (Al-Tannir, 2016; Bawazir, 2004). Therefore, many pharmaceutical care opportunities are missing due to this model (Bawazir, 2004). Providing a pharmacists with the education and training is essential to success of this model (Christensen and Farris, 2006).

Pharmacy education in Saudi Arabia has been improving and meeting the international education standards (Asiri, 2011; Al-Wazaify, 2006). This improvement is mainly driven by the need of clinical practitioners and the expansion of pharmacy schools in the country (Asiri, 2011). In 2002 there were only two schools that teach pharmaceutical sciences in the country and by the end of 2012 the number increased to reach around 30 pharmacy schools (Alhamoudi and Alnattah, 2018). This dramatic change positively improved the clinical services provided by pharmacists in different settings (Saleh, 2015). However, nothing has changed on the level of community pharmacy setting.

Most of pharmacy schools' curricula in Saudi Arabia don't have specific undergraduate courses that focus on community pharmacy, which makes students lack the essential understanding about this setting. Despite many of these schools have adapted international curricula in their doctor of pharmacy (Pharm.D)

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programs and closed bachelor of pharmacy, many are still missing community pharmacy as a specific course (Horsburgh et al., 2001; Sweaney, et al., 2014). Students may have one or two topics about this setting throughout their entire study period (Alhamoudi and Alnattah, 2018; Alaqeel and Abanmy, 2015). In addition, most of pharmacy schools doesn't offer community pharmacy training before graduation (Alaqeel and Abanmy, 2015; Al-Arifi, 2012). Furthermore, the current training in community pharmacy for pharmacy interns is limited to filing prescription only with no opportunities for counseling or providing other services in community pharmacy setting (Al-Arifi, 2012).

The majority of Saudi graduates from pharmacy schools join either hospitals, or governmental agencies, whereas the number of pharmacy graduates who work in community pharmacy is very low and the tendency of working in this setting is still unclear for many fresh graduates (Al-Tannir, 2016; Saleh, 2015). This is the opposite of what happens in many developed countries where the majority of fresh graduates join community pharmacy settings (Sweet, 2015). In Saudi Arabia, community pharmacy setting is not attractive to most fresh graduates yet and the public perception toward community pharmacists as healthcare providers is not clear (Saleh, 2015).

After the announcement of the Country's Vision of 2030, many initiatives have been introduced to change the model of current community pharmacy setting in the country. These initiatives are about using community pharmacies as essential facilities for providing pharmaceutical and preventative services as well as medication use and safety (Moshashai et al., 2018). Also, this transformation plan aims to promote this setting and make it attractive field for pharmacy schools' graduates and to nationalize this setting (Moshashai et al., 2018; Alomi, 2018). Along with that, pharmacy schools have started building up community pharmacy courses and introduce students to this field from the first year of study (Alomi, 2018; Alomi, 2017).

Therefore, the main objective of this study is to determine the level of attitude and perception of Saudi pharmacy students toward working in community pharmacies after graduation. The second objective is to assess cultural, educational, and job related barriers that interfere with students and community pharmacy as a favorable workplace.

## 2. Methods

A cross sectional questionnaire was conducted between April and May 2017. A questionnaire was developed to determine students' opinion, attitude about working in community pharmacy and the main challenges that might hurdle the future Saudization of this settings. The survey was developed based on an extensive search of the literature. After that, the first draft of the study questionnaire was reviewed by three academic experts voluntarily who reviewed the survey for any suggestions or amendments. The second draft of the survey was then sent to a group of pharmacy students to pilot and test their understanding of the survey questions.

This study was designed to identify the students' perception and knowledge about working in community pharmacy in Saudi Arabia. Survey data consisted of variables comprising demographic characteristics, Levels of knowledge and the Attitude (perception) of respondents about community pharmacy. The survey involved the Likert scale to determine the community pharmacist's perceptions about community pharmacy. The study was reviewed and approved by King Saud University.

### 2.1. Data collection

A random sample of 600 pharmacy students from different universities were invited to participate in this study. Pharmacy

Students from different geographical locations including Northern, Southern, Western, Eastern and Central region in Saudi Arabia were participated in this study. This provided us with national representative data to enable us determining the readiness and willingness of students to work in the community pharmacy.

### 2.2. Statistical analysis

Descriptive statistics were used to analyze the data. All statistical analyses were performed using SPSS statistical software for Windows version 21 (SPSS Inc., Chicago, USA). A chi-square was used to assess the association between and among variables that included Demographic characteristics, levels of Knowledge and attitude of respondents.

## 3. Results

Of the 600 pharmacy students who received the questionnaire, 412 completed the survey (response rate was 69%). The demographic profile of the respondents is summarized in Table 1. Most respondents were female (51.2%) and the mean age of the respondents was 23 years. Most of the students were studied in pharmacy school located in the central region. Sixty percent in bachelor of pharmaceutical science program and 40% in Pharm.D program. Majority were in governmental university and have a grade point average (GPA) above 3.6. Almost 40% of respondents consider

**Table 1**  
Demographic characteristics of the students participated in this study.

Variables	Total number of participant (n = 412) No. (%)
Age	
18 to 20	44(10.7)
21 to 25	322(78.1)
26 to 30	41(10)
31 or older	5(1.2)
Gender	
Male	201(48.8)
Female	211(51.2)
Marital status	
Single	358(87.1)
Married	48(11.7)
Divorced	5(1.2)
Region	
South	30 (7.3)
West	53(12.9)
Central	260(63.1)
East	50(12.1)
North	19(4.6)
Degree (program)	
Bachelor	247(60)
Doctor oh Pharmacy (Pharm.D)	165(40)
Type of university	
Governmental	340(82.5)
Private	72(17.5)
Current year status	
1st	30(7.3)
2nd	22(5.3)
3rd	54(13.1)
4th	87(21.1)
5th	93(22.6)
Intern	32(7.8)
Fresh graduate	94(22.8)
Current GPA	
<2.5	17(4.1)
2.5–3.5	101(24.5)
3.6–4	107(26)
>4	187(45.4)

working in hospital as their career goal, 15% considering academia and 10% ministry of health (Fig. 1). There was a significant association between career goal and gender as well as the type of degree they obtained (Bachelor vs Pharm.D).

3.1. Level of interest in working in community pharmacy

Finding of this study revealed that the majority of respondents were not interested in working in community pharmacy. Our results revealed that only 11% of students were interested or very interested in working in community pharmacy and only 17% were consider working in a community pharmacy in the future. Half of respondents have a negative perception toward the pharmacists who work in the community setting and feel that the work environment is not optimal (Fig. 2).

Over half of respondents did not feel underestimated compared to their colleagues who working in other area. However, about 40% feel embarrassed telling their friend and family that they are working in the community pharmacy (Table 2).

3.2. Knowledge about community pharmacy

Most respondents indicate that they didn't have enough knowledge about or training in community pharmacy. Majority of respondent's state that they did not have enough information about community pharmacy and they indicated that reason behind the lack of knowledge about community pharmacy is the college. Although, 44% of them have a required course in their program focus on the community pharmacy, on the other hand nearly 25% did not even disused the community pharmacy in their college (Fig. 3). Some respondents suggested adding a course the focus on the community pharmacy and services that can be provided.

3.3. Barriers for working in community pharmacy

As barriers that discourage pharmacy students from working in the community pharmacy; 46% of them indicated that income was on the top of the list followed by culture and society issue 45%, promotion 38%, and work environment 33% (Fig. 4).

In order to overcome these barriers and make the community pharmacy more attractive to Saudi pharmacy, almost all responses agreed that improvement in salary, promotion, and expanding their involvements in patient care activities would make the career in community pharmacy more attractive.

4. Discussion

To our knowledge, this is the first study evaluating the perception and attitude of pharmacy students toward working in

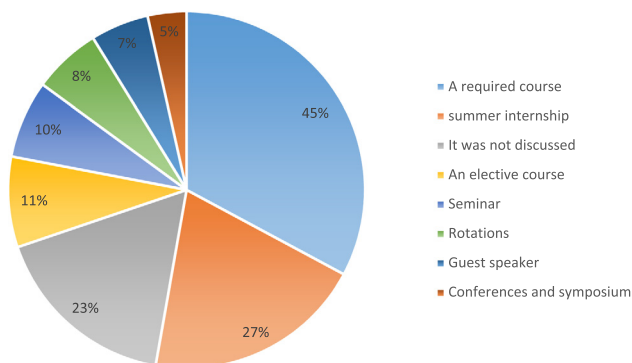


Fig. 1. Student knowledge about community pharmacy.

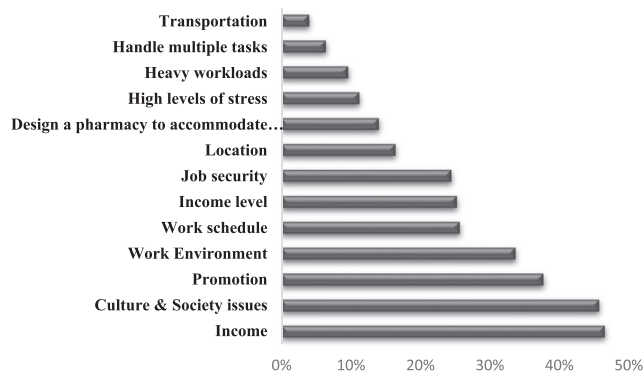


Fig. 2. Factors discouraging students from working in the community pharmacy.

Table 2 Students' perception toward working in community pharmacy.

	Yes (%)	No (%)
Would you feel underestimated in comparison to other pharmacists working in non-community setting?	48.74	51.26
Would you feel embarrassed when someone you know sees you working in a community pharmacy?	37.74	62.26
Would you feel embarrassed when you tell your friends and family that you work in a community pharmacy?	38.05	61.95

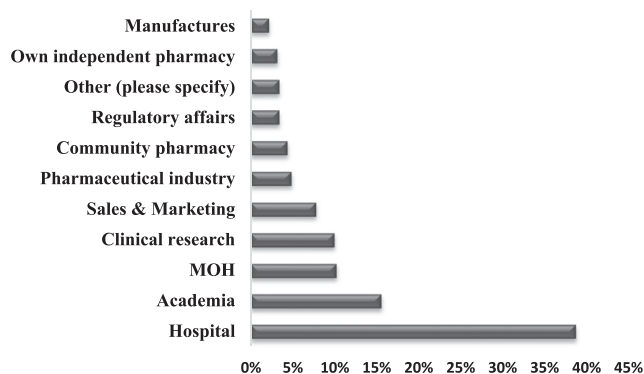


Fig. 3. Pharmacy Students career goals.

community pharmacy in Saudi Arabia. Globally, the role of pharmacist in community pharmacies has been expanded beyond the traditional responsibilities to be involved in providing better pharmaceutical care services including patient counseling, medications therapy management and vaccination (O'Loughlin, 1999). However, there are discrepancies between countries regarding the proper models for delivering pharmaceutical care (Shill and Das, 2011). In Saudi Arabia, pharmacy practice has developed over the years by shifting toward involving the pharmacists in patients care rather than product care (Aljadhey, 2017).

However, the situation of community pharmacies is not as developed as it should be. With no clear pharmaceutical services provided and the negligence in providing good environment for patients to receive such services. Moreover, many pharmacies shifted toward providing non pharmaceutical services which was one of the reasons many pharmacy graduates don't consider working in community pharmacies seriously.

In this study there were 412 students completed the survey, with majority of them being in the fourth and fifth year of pharmacy school (43.7%). Also 22.1% were fresh graduate students who were still seeking jobs. Although we had a good variety of

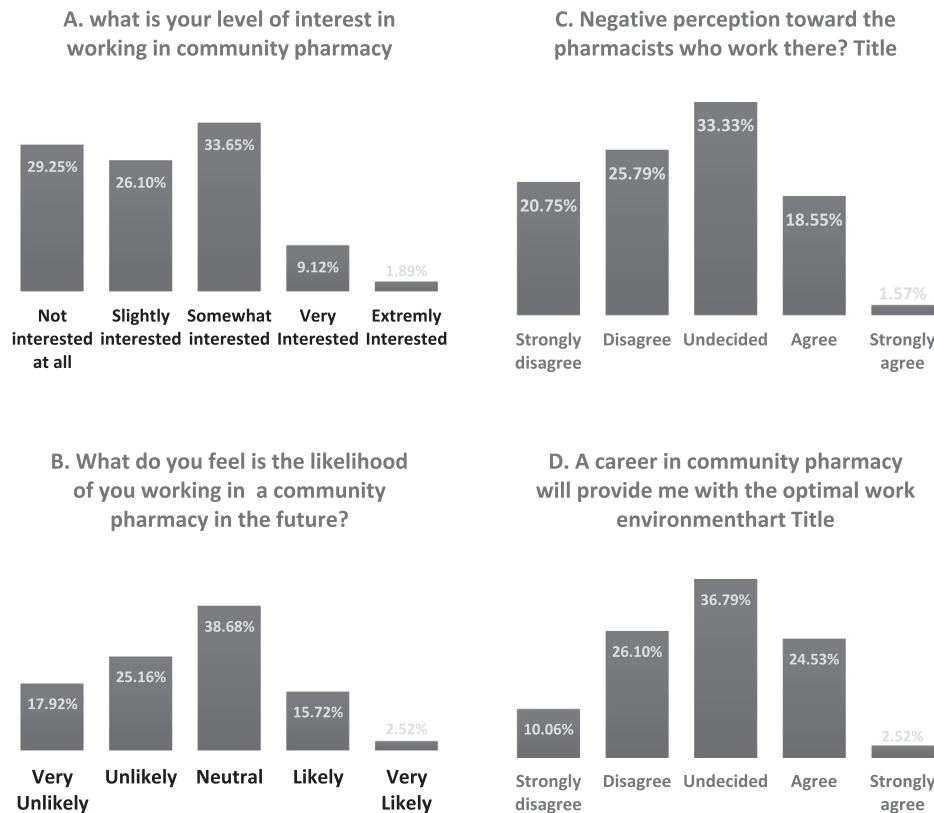


Fig. 4. Students level of interested and reception about working in community pharmacy.

students from all over the Kingdom, however, the majority were from the central region were some of the largest schools of pharmacies are located. Female students were more interested to work in community pharmacy setting than male students, which might be considered interesting due to the lack of a good representations and encouraging work environment for females in community pharmacy setting in the kingdom.

Among all the different pharmacy carrier options, only 5% of respondents selected working in community pharmacy as their carrier goal. The vast majority were more towards selecting working in hospitals and academia as carriers respectively. This results is totally the opposite with other previous finding in United States were pharmacy students top option for employment was community pharmacy followed by institutional pharmacies (Pharmacy A. A.o.C.o., 2014). In Japan, it was reported that almost 42% of pharmacy students prefer to work in community pharmacy settings as future carrier as compared to hospital pharmacy (Nakagomi et al., 2016). At the same time, the results of this study were similar to other developed countries like Malaysia were pharmacy students especially those attended public pharmacy schools prefer to work in hospital pharmacies as compared to those in private school but at the same time community pharmacy still a high option compared to academia and industry (Hasan, 2010).

In Saudi Arabia, this is a little concerning, due to the limited employment opportunities for pharmacists to in hospitals as a results of the saturation in the ministry of health, military, national guard, and other governmental hospitals. This might lead to worsening the problem of unemployment among pharmacists, which actually started to be a major concern in the kingdom of Saudi Arabia.

Community pharmacy now might be considered an ideal option for students given the rising of unemployment rate in the kingdom. However, in this study we found that students had a negative

perception about working in community pharmacies. Almost 29% of the respondents were not interested in working in community pharmacy, 26% were slightly interested, and 36% were somewhat interested. Also 43% were unlikely to very unlikely to work in community pharmacy. Almost 36% thinks that community pharmacy is not an optimal work environment and 20% have negative perception about pharmacist working in community pharmacy. This can be expected more with female respondents given the fact that community pharmacies in the kingdom are dominated by male pharmacists.

Interestingly, the major concern of respondents was social unacceptance, being underestimated, embarrassment, and lack of appreciation by family, friends, and community. This idea creates a major barrier for students to accept working in community pharmacies especially with the current situation of community pharmacies in the country that helped generating this perception among pharmacy student. The lack of proper pharmaceutical services needed to be provided in community pharmacies led to the idea that pharmacist is actually considered a salesperson.

In addition, many students think that salaries and income gained by working in community pharmacies is not encouraging as compared to working in hospitals, regulatory bodies, academic institutions were they provide better financial benefits for pharmacists. Which is similar concern to other pharmacy student in other countries like the United States where financial awards are considered the top priority for students regarding working in community pharmacy (Savage et al., 2009).

Generally, community pharmacies are dominated by non-Saudi pharmacists (Al-jedai et al., 2016). Pharmacy chains somewhat prefer to hire non Saudi pharmacists, because their salaries are lower than what Saudis expected. Promotion is another factor that discourages students from working in community pharmacies. Many would think there will be no chance for carrier development



and get promoted as compared to others working in hospitals or academia (Aljadhey, 2017; Al-jedai et al., 2016).

Although recently the ministry of labor allowed for female pharmacists to work in community pharmacies in locations that can provide better work environment for female pharmacists like pharmacies in malls and private health care centers. However, a better approach is needed to provide more acceptable work environment in all community pharmacies settings and locations.

Many think that working in community pharmacy provides lower job security than governmental pharmacies. This might be true; most Studies prefer to work for the government because guaranteed job security as compared to private sector. However, this creates a heavy burden on the government from financial standpoint. At the same time private sector represented by community pharmacies and pharmaceutical industries didn't provide a better solution for pharmacy graduate from job security to financial incentives that might convince pharmacists to shift toward working there. Recently, the government decided to shift toward privatization of many of healthcare services and jobs including pharmacies. A step might change the perception of pharmacy students about accepting the fact working by the standards of private sector and lower the dependence on the government.

This study found that one of the major reasons for the negative perception about working in community pharmacies among students is the lack of knowledge about it in pharmacy schools. Almost 53.42% of respondents didn't have a clear understanding of community pharmacy as profession. Many pharmacy schools curricula does not include community pharmacy courses, rotations, or internship. This negligence led to underestimate community pharmacy as future carrier.

A study in Thailand reported that 51.6% of pharmacy students who were planning to take community pharmacy rotation were confident to work as community pharmacist after graduation, however after taking the rotation, the percentage increased to almost 62% (Sethabouppha, 2012).

Pharmacy schools must take this seriously by adding core courses and training rotations to shed the light on community pharmacy setting, especially with the new direction of the government represented by the 2030 Saudi vision that included initiatives to expand the role of community pharmacies in providing full pharmaceutical and medical services. Also the new direction of ministry of labor to require a pharmacy chains and independent pharmacies to increase the number of Saudi pharmacists, which require large numbers of well-educated and trained pharmacy schools graduates.

## 5. Conclusion

Saudi pharmacy students had a negative attitudes and insufficient knowledge about community pharmacy. Students demonstrate that salaries and promotions were the top barrier for them to work in the community pharmacy. Pharmacy schools would have an important role to fill the knowledge gap and prepare the student to work in the community pharmacies. Enhancing the knowledge and providing solid background with respect to teaching and training, would ultimately help changing the perception toward working in community pharmacies and facilitate the success of the new direction of the country. However, to achieve this goal there should be a serious collaboration from the community pharmacy leaders and owners.

There should be serious efforts to hire Saudi pharmacists and provide an attracting environment for them to enhance the role of universities. Owners should provide better financial incentives,

salaries, working hours, chances for development, promotions, and good working environment for both genders in order to attract pharmacy graduates. Ministry of health can help improve the negative attitude by giving community pharmacies more privilege rather than dispensing medication.

## Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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## Appendix A. Supplementary material

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jsps.2020.01.021>.

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