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Assessment of the Attitude and Barriers of Iraqi Community Pharmacists to Provide Vaccination Services

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Abstract

Since the focus of healthcare has shifted toward disease prevention, pharmacists were highly encouraged to expand their practice to include vaccination services. The aim of the current study was to evaluate the attitude of Iraqi community pharmacists to provide vaccination and to explore the expected barriers to provide such services at community setting. The present study was a cross-sectional online survey study that included 13∘ Iraqi community pharmacists who are licensed by the Iraqi syndicate of pharmacists. The first part of the survey questionnaire is related to socio-professionals characteristics. The 2nd part assessed the attitudes of community pharmacists towards delivering vaccination service in community pharmacy setting. The 3rd section explores barriers that community pharmacists expected to face when delivering vaccines. Among the 135 participants, 59 (43.7%) showed a high positive attitude and 65 (48.14%) reported high barriers level. Only (45.93%, n=62,) of respondents agreed that community pharmacists have a good knowledge about vaccination and only (42.22%, n=57) of them agreed that vaccination by community pharmacists will lower the cost to the patients. In addition, (79.26%, n=107) of them agreed that providing vaccination through community pharmacy will improve the rate of vaccination in general. Regarding barriers, results of the current study showed that the most common two barriers to provide vaccination services were lack of authorization and lack of continuous training and workshops [(85.19%, n=115,) for each]. Pharmacists with Bachelor degree had significantly higher positive attitude compared with those having higher academic degrees. In addition, pharmacists with working experience of 5 years or less had significantly higher barrier score compared to those with more than 5 years working experience. In conclusion, despite their desire to increase their knowledge, less than half of Iraqi community pharmacists reported a positive attitude toward the introduction of a community-based vaccination program. In addition, many barriers about implementing vaccination services were found in the current study.

Keywords: Attitude, Barriers, Community pharmacists, Iraq, Vaccination services .

Introduction

Vaccination is one of the most cost-effective policy to prevent diseases [(1)]. Vaccine availability resulted in preventing of about 2.5 million deaths each year [(2-5)]. Despite its obvious benefits, adult vaccination rates around the world fall below of the desired levels [(6)]. In order to enhance the vaccination rate, many countries adopted policies of expanding vaccination providers, thus, enabling community pharmacists (CPs) to give vaccines [(7)].

Many previous studies were done to explore the positive effects of permitting CPs to administer vaccines. The findings of these studies showed that CPs accelerate vaccination, effectively educate the patients, increase the vaccination coverage rate, and decrease the number of new cases with an ultimate decrease in healthcare expenditures [(8-12)]. Due to their accessibility, good qualification, and experience in pharmaceutical care, CPs can play the great role in the prevention of vaccine-preventable diseases. They can recognize specific target population for vaccination, delivering counseling, and ensuring that vaccines are given according to their schedules [(13)]. In one study, giving vaccines in community pharmacies in addition to traditional centers during an epidemic can increase coverage, mitigating up to 23.7 million symptomatic flu cases, with about $99.8 billion cost-savings to the society [(10)]. According to another study, up to 30% of the vaccinations for the 2004-2005 flu seasons were given in community pharmacies [(14)]. Providing vaccination services by CPs have been available in many countries for many years, with the 1st being available in the USA [(15)] where pharmacists are involved in supplying, dispensing, advocating for vaccination, as well as administering some vaccinations [(16)]. However, several states in USA

have restrictions on which vaccines the pharmacist can administer and/or age limitations on who the pharmacist can vaccinate [17]. Since then, the authority has also been extended to additional countries, such as Portugal, New Zealand, Canada, United Kingdom, and Australia [18], and legislation is currently being prepared in a large number of additional countries [19]. Following the COVID-19 pandemic, such legislation was required. Furthermore, many barriers to give vaccines by CPs are reported by studies. The reported barriers in a Canadian study included lacks of an adequate space, lacks of sufficient support staff, lacks of an adequate knowledge, lacks of an adequate training regarding the indications (or contraindications) of vaccines, lacks of authorization, lacks of reimbursement, lacks of physician support, and lacks of time [6]. According to a Saudi study, the reported barriers were lacks of expertise, lacks of patient demand, lack of a private setting, and lacks of payment [20]. On the other hand, the barriers to the vaccination service in Poland were a lack of reimbursement, a lack of training, a lack of time, and worries about patient safety [21]. Identifying the perceived barriers and minimizing them in a correct and timely manner is essential to the success of the pharmacist-run vaccination program.Pharmacists in Iraq are currently not authorized to administer vaccines in community pharmacies. It was unknown when such service would be implemented in Iraq as authorizing CPs to become vaccinators was a controversial issue. Moreover, it is not clear if CPs in Iraq would be willing to serve as vaccine administrators if they are given the chance to. Moreover, translating studies done elsewhere to the Iraqi pharmacy practice is not accurate since Iraq has different healthcare system. Hence, exploring the possibility of expanding the scope of practice of CPs is of critical importance. To our knowledge, there are no data about attitude and willingness of Iraqi CPs to provide vaccination services and what barriers they could face. Accordingly, this study aims to assess the willingness of Iraqi CPs to provide vaccination services and to identify the potential obstacles they might encounter in delivering such services within Iraqi community pharmacies.

Methods

Study design and subjects

The present study was a cross-sectional online survey study that was conducted anonymously on CPs using a convenience sampling technique. The study included any Iraqi CPs who is licensed by the Iraqi syndicate of pharmacists to work and willing to participate in the study.

Study instrument

The questionnaire of the current study was adopted from three previous studies [20, 22, 23]. All of these studies were cross-sectional and most of questions included in their questionnaires were appropriate for the Iraqi setting. The first draft of the questionnaire was reviewed by academic staffs. Their comments about the suitability of each question for the purpose of the study and its compatibility with the Iraqi pharmacy practice were taken into consideration, in addition to reviewing the linguistic formulation of each question. The questionnaire was distributed via closed professional social media platforms (Facebook groups for pharmacists) (from 23/2 to 8/4/2023). The first part of the questionnaire is related to the socio-professionals characteristics of CPs, including age, gender, university education, community pharmacy work experience, vaccination training, and location of their pharmacies. The 2nd part included 9 statements that assess the attitudes of CPs towards delivering vaccination service in community pharmacy setting. The third section includes 11 statements that explore barriers that CPs expected to face when delivering vaccines. For parts 2 and 3, each statements was answered on a five-point Likert scale ranging from strongly disagree (scored 1) to strongly agree (scored 5). Finally, 2 scores (attitude and barriers) were calculated. The total number of items in the questionnaire was 26 items.

Statistical analysis

All data were entered into a Microsoft Excel sheet. Continuous data were represented as means [± standard deviation (SD)], while categorical variables were represented as frequencies and percentages. The Shapiro-Wilk test was used to assess the distribution normality of the continuous data as it has more power to detect the nonnormality and it is the most popular and widely used test. The normally distributed variables were presented using mean and SD. The median and interquartile range (IQR) were used to describe the variables with non-normal distribution. Independent t-test was used to assess differences in barrier scores since they followed normal distribution. While Mann Whitney U test was used to assess differences in attitude scores since they not follow normal distribution. Online calculators were used for Independent t-test and Mann Whitney U test (https://www.socscistatistics.com/tests/studenttest/default.aspx) as well as for Shapiro-Wilk test (https://www.statskingdom.com/shapiro-wilk-test-calculator.html). The level of statistical significance was set at a two- tailed $p<0.05$.

Results

Socio-professional characteristics of the participating pharmacists

A total of 135 CPs completed the study. The mean age of the CPs was 31.13 years (SD = 5.92) with 6.55 years working experience in community pharmacies (SD =5.62). Nearly half of the CPs were males (n =68, 50.37%), about two-third had a Bachelor degree (n =93, 68.89%), most of them not received previous vaccination training (n=96, 71.11%) and working in urban areas (n=114, 84.44%) as shown in Table 1.

Table 1. **Socio-professional characteristics of the participating pharmacists.**

Characteristics		
Age (mean ± SD), (range)		(31.13 ±5.92), (23-55) years
Working experience in community pharmacy (mean ± SD), (range)		(6.55 ± 5.62), (0.08-26) years
		Number (%)
Gender	**Male**	68 (50.37%)
	Female	67 (49.63%)
Academic degree	**Bachelor**	93 (68.89%)
	Diploma	6 (4.44%)
	Master	32 (23.70)
	Ph.D.	4 (2.96%)
Receiving vaccination training	**Yes**	39 (28.89%)
	No	96 (71.11%)
Pharmacy location	**Urban**	114 (84.44%)
	Rural	21 (15.56%)

Pharmacists' attitude to provide vaccination in pharmacies

Results presented in Table 2 showed that only (45.93%, n=62) of respondents agreed that CPs have a good knowledge of vaccines and vaccination process and only (42.22%, n=57) of them agreed that vaccination by CPs will lower the cost to the patients. In addition, (79.26%, n=107) of the CPs agreed that providing vaccination through community pharmacy will improve the rate of vaccination in general, (82.96%, n=112) of them agreed that CPs are more accessible to people than other healthcare providers (HCPs) and (93.33%, n=126) of them agreed that CPs can play an important role in advertising and promoting vaccination. In addition, CPs were divided into low or high attitude level based on the median of attitude score value (35, IQR =5.0). Among the 135 participating CPs, 59 (43.7%) showed a high attitude (above the median).

Table 2. Pharmacists' attitude to provide vaccination in pharmacies.

		Strongly agree/agree	**Mean (SD)**
1	"Community pharmacists have a good knowledge of vaccines and immunization process"	62 (45.93%)	3.27 (0.99)
2	"Providing vaccination through community pharmacy will improve the rate of vaccination in general"	107 (79.26%)	3.99 (0.79)
3	"Providing vaccination through community pharmacy will improve the rate of vaccination in a certain age group of people such as the elderly"	106 (78.52%)	3.98 (0.83)
4	"Community pharmacists are more accessible to people than other health care professionals"	112 (82.96%)	4.17 (0.77)
5	"Vaccination in community pharmacies is more convenient to the people"	89 (65.93%)	3.70 (0.89)
6	"Vaccination in community pharmacies improves the therapeutic relationship between community pharmacists and customers"	110 (81.48%)	3.97 (0.75)
7	"Vaccination in community pharmacies reduces the cost to people"	57 (42.22%)	3.21 (1.10)
8	"I feel happy to expand the people services to include vaccination"	109 (80.74%)	4.07 (0.87)
9	"Community pharmacists can play an important role in advertising and promoting vaccination"	126 (93.33%)	4.29 (0.58)

Barriers to providing vaccination in pharmacies

Regarding barriers, results of the current study showed that the most common two barriers to provide vaccination services were lack of authorization and lack of continuous training and workshops (85.19%, n=115 for each). The next common barrier was the concerns about handling vaccines, storage, and disposal of sharps item (80.00%, n=108). Additionally, more than two-third of the CPs indicated lack of collaboration with other HCPs (79.26%, n=107), lack of private area (76.30%, n=103), poor quality of education (70.37%, n=95) and concern about safety (68.89%, n=93) as additional barriers (Table 3). In addition, CPs were divided into having either high or low barriers level depending on the mean barrier score value (41.37, SD = 4.93). Among the 135 participating CPs, 65 (48.14%) reported high barriers level (above the mean).

Table 3. Barriers to providing vaccination in pharmacies.

		Strongly agree/agree	Mean (SD)
1	"Lack of authorizations"	115 (85.19%)	4.14 (0.73)
2	"Lack of collaboration with other healthcare professionals"	107 (79.26%)	3.96 (0.81)
3	"Poor quality of university education"	95 (70.37%)	3.84 (0.94)
4	"Lack of continuous training and workshops"	115 (85.19%)	4.24 (0.84)
5	"Concern about safety"	93 (68.89%)	3.87 (0.94)
6	"Pharmacists feel uncomfortable with needles"	77 (57.04%)	3.55 (1.11)
7	"Lack of time"	47 (34.81%)	3.04 (0.99)
8	"Concerns about handling vaccines, storage, and disposal of sharps item"	108 (80.00%)	4.11 (0.89)
9	"Lack of private area to provide the vaccination"	103 (76.30%)	3.94 (0.94)
10	"Lack of profitability"	72 (53.33%)	3.53 (0.99)
11	"Pharmacists are less trusted by people to provide vaccination services"	58 (42.96%)	3.15 (1.18)

Difference in attitude and barriers scores of pharmacists according to their characteristics

Results presented in Table 4 showed that pharmacists with Bachelor degree had significantly higher attitude compared with those having higher academic degrees. In addition, pharmacists with working experience of 5 years or less had significantly higher barrier score compared to those with more than 5 years working experience (Table 5).

Table 4. Difference in attitude scores of pharmacists according to their characteristics

Variables	Subcategories	Attitude score [Median (IQR)]	P-value*
Working experience	≤ 5 Years	35(4.5)	0.417
	> 5 Years	35(5.0)	
Gender	Male	35(5.0)	0.794
	Female	35(5.0)	
Receiving vaccination training	Yes	34(4.0)	0.515
	No	35(5.0)	
Pharmacy location	Urban	35(5.0)	0.214
	Rural	36 (4.5)	
Academic degree	Bachelor	35(4.0)	0.0042
	Higher degrees	33(6.0)	

*Significance level is *P* value <0.05. [Mann Whitney U test]

Table 5. Difference in barriers scores of pharmacists according to their characteristics

Variables	Subcategories	Barrier's score (Mean ± SD)	P-value*
Working experience	≤ 5 Years	42.28 ± 4.52	**0.0206**
	> 5 Years	40.23 ± 5.29	
Gender	Male	40.81 ± 5.04	0.1850
	Female	41.94 ± 4.82	
Receiving vaccination training	Yes	41.26 ± 4.17	0.8653
	No	41.42 ± 5.25	
Pharmacy location	Urban	41.43 ± 5.00	0.7463
	Rural	41.05 ± 4.77	
Academic degree	Bachelor	41.76 ± 4.77	0.1704
	Higher degrees	40.50 ± 5.28	

*Significance level is *P* value <0.05. [Independent t-test]

Discussion

Following the COVID-19 pandemic, the vaccination process became more crucial to prevent the spread of infections. In order to give the community the best chance of receiving the necessary vaccination, expanding the practice of CPs to include vaccination could be adopted [23]. This expansion required enhancing graduate pharmacists' knowledge and education on the subject, including vaccination and immunization in academic courses, and providing a post-graduate certificate to administer vaccines with periodic recertification [24].

In the current study, less than half of the participated CPs showed high a positive attitude to provide such service. In contrast, almost all the CPs (95.5%, n=208) had a good attitude toward the implementation of a community pharmacy-based vaccination program in Malaysia [25]. Additionally, the majority of CPs agreed that CP could help improve overall vaccination rate. Also, about two-thirds of them agree that vaccination at community pharmacies is more convenient for people. Many previous studies demonstrated that as a vaccine provider, pharmacists improved vaccination coverage rates and expanded access to vaccination [26-28], for example, the policy changes were associated with a long-term increase of 2.2% to 7.6% in the number of adults receiving an influenza immunization [26], maximum weekly vaccine doses was significantly increased and the time to achieve 80% vaccination coverage was decrease when both nonpharmacy and pharmacy providers were utilized compared to nonpharmacy providers only [28].

Furthermore, (78.52%, n=106) of the participating CPs agreed that "providing vaccination through community pharmacy will improve the rate of vaccination in a certain age group of people such as the elderly". The estimated involvement of pharmacy to influenza coverage was 11-26% in the 1st season of the Portuguese programme of vaccination, with pharmacy accounting for 4-11% of elderly vaccinations [29]. Also, (82.96%, n=112) of participants agreed that CPs are more accessible to people than other HCPs. The International Pharmaceutical Federation (FIP) published a global report in 2020 concerning pharmacists' role in vaccination. The report stated that 1.8 billion individuals worldwide have access to vaccination services through community pharmacies [30]. It is interesting to note that more than a third of pharmacists surveyed (42.96%, n=58) believed that patients did not trust pharmacists to provide immunizations. This outcome is consistent with a Canadian study that found that, despite pharmacists being recognized as a trustworthy source of health information, a doctor or nurse's suggestion to obtain or administer a vaccine has more influential than recommendation from pharmacists [31].

Results from the present study also showed that only (45.93%, n=62) pharmacists agreed that CPs had a good knowledge of vaccines and vaccination procedures, which is lower than reported by one study in Saudi Arabia (85.0%, n=51) [20]. Good knowledge is essential for pharmacists to broaden their areas of practice since it helps them to adequately educate the public, which in turn enhances their performance and confidence when administering vaccines [24]. Therefore, to perform such vaccination service in Iraq, CPs should be trained to become proficient in vaccination. Many vaccination training programs have been implemented in Canada and have shown positive results, with 97% of participating pharmacists saying they are better prepared to provide such service [6]. Additionally, only (42.22%, n=57) pharmacists agreed that providing vaccines at community pharmacies helps reduce costs for patients, which is lower than that of the Jordanian study (61.7%, n=124) [23]. A previous study found that administering vaccines by CPs could save about $99.8 billion for the community [10]. Although vaccines in Iraq are given free of charge, some people may have to travel to reach the vaccination centers, and the times for providing vaccines are restricted for a specific period of the day, which may conflict with people's working hours, forcing them to stop working and devote themselves to visiting the vaccination centers and all of this represents a

cost that can be avoided by allowing vaccinations to be carried out in community pharmacies where vaccination could took place at night, and on weekends and holidays. The health insurance system is currently in the process of being established by the Iraqi Ministry of Health, which may contribute to minimize the problem of cost in the future.

When implementing vaccinations in community pharmacies, patient-related barriers affecting the vaccination rate should also be taken into consideration. The literatures highlights poor patient knowledge, uncertainty about the safety of vaccinations, having to visit vaccination facilities at inconvenient times to get vaccinated, or long waiting time [32-34]. Accordingly, it seems that implementing vaccinations services in community pharmacies will reduce such barriers. Convenient locations and hours of operation, the ability to educate patients and to explain any disturbing information can effectively increase patient vaccine coverage [21]. Among the participating CPs, (48.14%, n=65) reported high barriers level which approximate that reported among Jordanian CPs (54.23%, n=109) [23]. Consistent with findings from previous studies [6, 21, 35], lack of authorization for CPs to administer vaccines was the most common barrier to vaccination service delivery in the current study. Pharmacists are not authorized to provide vaccination services in Iraq, a service permitted in many countries such as Australia, Canada, Denmark, Portugal, United Kingdom and the United States [36]. Enhancing pharmacists' authorization may be adopted by cooperation between the Iraqi Syndicate of Pharmacists and the Ministry of Health to legislate instructions allowing Iraqi CPs to administer vaccination services.

Lack of on-site training and workshops was also a common barrier to vaccination service delivery in this study. Researchers in Saudi Arabia have also shown that the lack of relevant training is a barrier to vaccine administration in pharmacies [20]. In order to resolve CPs' concerns, it is necessary to execute well-structured training under the supervision of qualified dons before extending the practice scope of CPs to include the delivery of vaccines [37]. Another common barrier reported in the present study was concerns regarding the handling of vaccines, storage, and disposing sharps item. Cold must be maintained at the time of vaccine arrival, storage, as well as handling and administration. Refrigerators (2 to 8 °C) and freezers (− 50 to − 15 °C) must be supplied with a temperature monitoring equipment and placed in a well-ventilated room. Facilities must have a stable power supply and be equipped with an uninterruptible power supply (UPS). Vaccines should be prepared in an area separated from any area where potentially contaminated products are stored [22]. Other common barriers reported in the current study were lack of collaboration with other HCPs, lack of private space for vaccinations, poor quality of higher education, and concerns about safety. Whole cooperation between pharmacists and health centers is important to establish vaccination services in community setting [5]. Lack of private area to provide the vaccination, and lack of time were reported as a barriers by (76.30%, n=103), (34.81%, n=47) of participants respectively. The regulations in some countries state that pharmacies where vaccinations are administered must provide a separate space for the service, enough room for the pre-vaccination interview, and enough space for the recipient to remain under supervision after the vaccine [38].

Furthermore, the current study showed that pharmacists having bachelor's degree have significantly higher positive attitudes than those with an advanced university degree. The warnings of pharmacists with postgraduate degrees about the practical difficulties that may accompany the provision of vaccination services in community pharmacies in Iraq may be more than that of a pharmacist with a bachelor's degree, which is reflected negatively on their attitude towards the process in general. This result is inconsistent with the Malaysian study, where CPs with a master's degree had significantly better attitudes than CPs with a bachelor's degree [20]. The working experience years, as well as receiving vaccination training had no significant impact on attitude scores in the current study. Similar finding were reported among Malaysian CPs [20, 25]. However, contrary to the finding of the current study, having long experience or previous experience in vaccination were positively associated to the willingness to vaccinate among Lebanese CPs [37].

Besides; pharmacists with 5 years or less of professional experience have a higher barrier score than those with more than 5 years of professional experience. A study in Jordan found that CPs with fewer experience time showed significantly more barrier score [23]. The acquired knowledge and practice that can be achieved with longer experience may overcome some barriers to providing vaccination by CPs. Additionally, the current study showed that there was no significant difference in barriers scores between bachelor and those with high degrees. Similar finding were reported among Malaysian CPs [22].

Limitations

The results of this study would be more reliable if the sample size were greater. Information that is gathered through the self-report approach may be subject to social desirability bias.

Conclusion

Despite their desire to increase their knowledge, less than half of Iraqi CPs reported a positive attitude toward the introduction of a community-based vaccination program that could help to increase the coverage rate. Many barriers

about implementing vaccination services were found in the current study. Implementing educational and training programs, fostering collaboration with other HCPs, and providing storage space are all important considerations.

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Conflicts of Interest

The authors did not disclose any conflicts of interest.

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Ethics Statements

The proposal which includes details of the study and method of data collection was administered to the "College of Pharmacy, University of Baghdad" and the approval was obtained from the scientific and ethical committee (approval name: RECAUBCP582023, date 20/02/2023).

Author Contribution

The authors confirm contribution to the paper as follows: study conception and design: First and second Authors; data collection: All Authors; analysis and interpretation of results: Second Author; draft manuscript preparation: Second Author. All authors reviewed the results and approved the final version of the manuscript.

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تقييم موقف وعوائق صيادلة المجتمع العراقيين لتقديم خدمات التلقيح

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الخلاصة

منذ تحول تركيز الرعاية الصحية نحو الوقاية من الامراض ، تم تشجيع الصيادلة بشدة على توسيع ممارساتهم لتشمل خدمات التلقيح . كان الهدف من الدراسة الحالية هو تقييم موقف صيادلة المجتمع العراقيين من تقديم التلقيح واستكشاف العوائق المتوقعة لتقديم مثل هذه الخدمات في بيئة المجتمع. كانت الدراسة الحالية عبارة عن دراسة استقصائية مقطعية عبر الإنترنت شملت ١٣٥ من صيادلة المجتمع العراقيين المرخصين من قبل نقابة الصيادلة العراقية. يتعلق الجزء الأول من استبيان المسح بالخصائص الاجتماعية والمهنية للصيادلة المجتمعيين. الجزء الثاني يقيم اتجاهات صيادلة المجتمع تجاه تقديم خدمة التلقيح في صيدليات المجتمع. يستكشف القسم الثالث العوائق التي يتوقع الصيادلة المجتمعيون مواجهتها عند تقديم اللقاحات. من بين ١٣٥ مشاركًا ، أظهر ٥٩ (٤٣,٧٪) موقفًا ايجابيا مرتفعًا و ٦٥ (٤٨,١٤٪) أشاروا إلى مستوى عوائق مرتفع. وافق (٤٥,٩٣٪) فقط من المستجيبين على أن الصيادلة المجتمعيين لديهم معرفة جيدة بالتلقيح و (٤٢,٢٢٪العدد = ٥٧) فقط منهم وافقوا على أن التلقيح من قبل صيادلة المجتمع سيخفض التكلفة على المرضى. كما اتفق (٧٩,٢٦٪ العدد=١٠٧) منهم على أن توفير التلقيح من خلال صيدلية المجتمع سيحسن من معدل التلقيح بشكل عام. فيما يتعلق بالعوائق ، أظهرت نتائج الدراسة الحالية أن العائقين الأكثر شيوعًا أمام تقديم خدمات التلقيح هما عدم وجود ترخيص ونقص التدريب المستمر وورش العمل (٨٥,١٩٪ العدد =١١٥) لكل منهما. كان للصيادلة الحاصلين على درجة البكالوريوس موقفًا ايجابيا أعلى بشكل ملحوظ مقارنة بأولئك الحاصلين على درجات أكاديمية أعلى. بالإضافة إلى ذلك ، كان لدى الصيادلة الذين لديهم خبرة عملية لمدة ٥ سنوات أو أقل درجة عوائق أعلى بشكل ملحوظ مقارنة بأولئك الذين لديهم أكثر من ٥ سنوات من الخبرة العملية. في الختام ، على الرغم من رغبتهم في زيادة معرفتهم ، اظهر أقل من نصف صيادلة المجتمع العراقيين موقفا إيجابيا تجاه إدخال برنامج التلقيح في صيدليات المجتمع كما وتم العثور في الدراسة الحالية على العديد من العوائق حول تنفيذ خدمات التلقيح.

الكلمات المفتاحية: الموقف ، المعوقات ، صيادلة المجتمع ، العراق ، خدمات التلقيح