



# Perception, Benefits, and Factors Affecting the Quality of Hospital Training Course for Pharmacy Students: A Qualitative Study with Recently Graduated Pharmacy Students

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## Abstract

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**BACKGROUND:** Hospital training courses for pharmacy students were required to prepare students to meet the challenges of real-world hospital work.

**AIM:** Because there have been few studies on the efficacy of such courses, we aimed to recognize recent graduates' perceptions, benefits, and factors influencing the quality of hospital training courses for pharmacy students.

**METHODS:** A qualitative study using a phenomenology approach was conducted in 2022 and included several hospitals in Baghdad, Iraq, using in-depth face-to-face individual-based semi-structured interviews. Until saturation, a convenient sample of recently graduated pharmacists was included. The obtained data were analyzed using a thematic content analysis approach.

**RESULTS:** A total of 40 recently graduated pharmacists participated in this study. Twenty-two participants took the hospital training course by direct attendance, while eighteen received the course online. A higher proportion of pharmacists stated that the hospital training course was beneficial and effective. The information obtained in the course is adequate in the direct attendance group, while those in the online group are inadequate. The teaching staff was the most influential factor influencing educational quality. The stress of studying during the training course hampered approximately 40% of the participants.

**CONCLUSION:** The hospital training course effectively prepared the graduate pharmacist for future work in hospitals. On the other hand, the online training course was insufficient and only provided students with theoretical, repetitive information with no practical engagement. Still, there is a need to improve the course in terms of lengthening the course, reducing crowding, and expanding the role of the teaching staff.

## Introduction

The pharmacy profession's focus has recently shifted from medication supply to direct patient care. Pharmacists are increasingly being encouraged to broaden their role to include pharmaceutical care provision to improve patient outcomes and lower health-care costs [1]. Accordingly, there is a greater demand for high-quality practice-ready pharmacy graduates, and practical learning within the academic program and before licensing has become increasingly crucial [2]. Higher education institutions strive to be recognized for their commitment to providing effective, high-quality educational programs fostering academic excellence in faculty and students. Simultaneously, students demand high-quality programs and use "quality" as a criterion when deciding which college to attend [3].

Experiential training in pharmacy educational programs is essential for developing of clinical practice

abilities, critical thinking skills, decision-making skills under uncertainties, and collaborative interpersonal practice skills for the graduate pharmacist [4]. The hospital training programs substantially prepare graduate pharmacists for their future roles [5]. In Iraq, a bachelor's degree in pharmacy lasts 5 years. In their last stage, fifth-stage pharmacy students only receive hospital training for one course [6].

There has been much discussion regarding what kinds of experiential training programs will best educate pharmacy students for future roles. There has also been debate about whether experiential training models can deliver the desired quality and quantity of such training [7].

To the best of our knowledge, no previous study assesses the quality of hospital training programs for fifth-stage pharmacy students in Iraq. The current study aims to assess the perception, benefits, and factors influencing pharmacy students' quality of hospital training courses.

## Methods

### Study design and sampling

A qualitative study using a phenomenology approach using in-depth face-to-face individual-based semi-structured interviews with flexible probing techniques was carried out in 2022. A semi-structured, open-ended interview questionnaire was used to interview recent graduates from four pharmacy colleges in five hospitals in Baghdad. Purposive sampling methods were used. The participants were divided into two groups according to the type of training received (online or direct attendance). Each participant identified as a potential respondent was individually asked for verbal consent after being informed about the study's purpose and procedures. The point of relative saturation determined the sample size in this study concerning the issues being discussed, which looked to be the point at which there was nothing more to learn and repetition occurred.

### Inclusion criteria

Recently graduated pharmacists within the last 5 years who received a hospital training course either by direct attendance or by online course were included in the study. Furthermore, the pharmacist must have experience working in hospital wards.

### Exclusion criteria

The graduates from other countries or a pharmacist who does not work in a hospital ward were excluded from the study.

### Data collection

A semi-structured interview questionnaire will be used to elicit participants' demographic data, graduate from a public or private college, years of experience, perceptions, benefits, and factors affecting the quality of the hospital training course. Interviews were conducted for 25–30 min per participant between January to May 2022.

The obtained data during each interview were documented by writing the response in a specific paper using the participant's own words in English. The main researcher coded the content using QDA MINER LITE v2.0.9, and then other study authors confirmed the coding. These codes were used for the qualitative data sorting. A thematic content analysis approach was used to analyze the obtained data.

### Ethical approval

Ethical approval was obtained from the Scientific and Ethical Committee in the College of

Pharmacy - the University of Baghdad. In addition, verbal consent was obtained from all the participants.

## Results

A total of 40 in-depth interviews were conducted with pharmacists. Twenty-two participants were males, and 18 were female. Participants' age ranged from 24 to 28 years, with a mean of 25.65 years. All participants hold a bachelor's degree from either a public (25 participants) or a private college of pharmacy (15 participants). About 22 participants took the hospital training course by direct attendance, while 18 received the course online. The data collected during this study was organized into ten themes, with each theme subdivided into several categories based on the responses of the participants. The themes obtained in this study are shown in Table 1.

**Table 1: Study themes**

Theme	Category
Benefits and experiences gained from the hospital training course	Management of a variety of medical cases
	Take an idea about the future work of the pharmacist
	Medical terminology knowledge in hospitals
	Learning fundamental hospital skills
The hospital training period's impression	Because of the online course, the benefit is minimal
	Only theoretical benefit was obtained; no clinical benefit
	Beneficial and effective course for a pharmacy student
	Inadequate for ideal pharmacist training
The thoughts on the information and skills you acquired during the training	The training course was too short
	Enough and adequate
	Training-related skills inadequacies
	No skills but only theoretical information
The most useful skills learned in this training	Repetitive previously taken
	Inadequate online information received
	Medical terms in hospitals
	Dosing and drug dispensing
Factors influencing educational quality in this course	No skills, just theoretical data
	Medication's indications in practice
	Teaching staff
	Place of training
Perspectives on the teaching staff	Duration of the course
	The materials learned
	Satisfied
	Unsatisfied
The obstacles faced during training	Staff should prioritize learning skills over exams
	Weak explanation in the online course
	Stress of study
	Crowded hospital
When would be the best time to start this course?	The weak teaching ability of the educating staff
	No obstacles
	Internet and online teaching style weaknesses
	COVID-19 pandemic
Who is the most qualified to teach the course?	Weak content
	How to interact with and communicate with patients
	The distance between the college and the hospital is long
	Third stage
Suggestions for improving this course	Fourth stage
	The fifth stage, only one course
	Fifth stage with two courses
	Academic staff
Who is the most qualified to teach the course?	Hospital medical staff
	Give only practical parts only without materials
	Decrease the number of students in each ward
	Need more time for some wards
Suggestions for improving this course	Increase the number of topics given
	Not online
	Make the fifth stage only for training
	Connect between theoretical and practical
Suggestions for improving this course	Increase the duration of training
	Employ more experienced educating staff

### Benefits and experiences gained from the hospital training course

According to Figure 1, the majority of pharmacists stated that the hospital training course provided them with the most benefits in terms of managing a wide range of medical cases. The main benefit obtained for a direct attendance group or even an online group was an idea about the pharmacist's future work. While only 5% of all participants stated that they received no clinical benefits from the course because it only provided theoretical information. In addition, 33% of online group participants stated that the benefit of the online course is minimal.

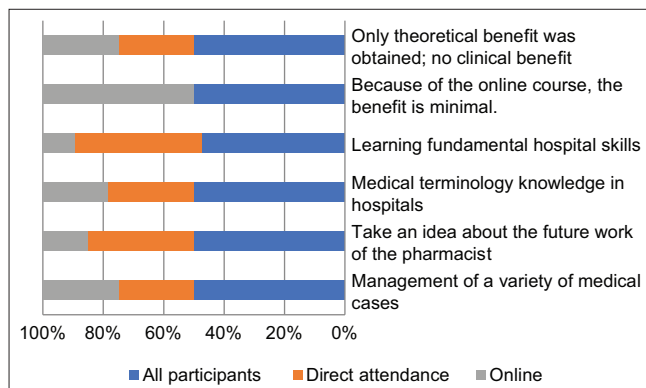


Figure 1: Benefits and experiences gained from the hospital training course

“The hospital training program taught me about a variety of diseases, how to treat them, the role of the pharmacist in the management of these cases, and how to obtain vital information about a patient's case from his file” [Male, 24 years].

### The hospital training period's impression

The majority of pharmacists in all groups stated that the hospital training course was a beneficial and effective course for a pharmacy student. However, 27.27% of direct attendance course and about one third of the online course said that the course they received is inadequate for ideal pharmacist training.

“It was enough to know main points only without going deep, most of the topics were good” [Male 26 year].

“The training period was too short and did not correspond to the importance and value of the lesson.” [Female, 27 years].

### Views on the information and skills you acquired during the training

Figure 2 shows the participants' perception about the training information and skills they acquired. The results show a convergence in the number of pharmacists who found the course was adequate and those who found that the course was inadequate,

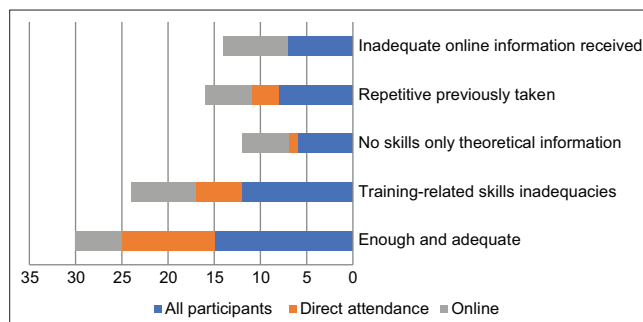


Figure 2: Opinions on the information and skills you acquired during the training.

although the number of pharmacists who found the course is adequate is higher in the direct attendance group and lower in the online group.

“The information and skills acquired throughout the training course were typically given wonderfully by the lecturers in the clinical pharmacy department and kept in mind, useful information and skills in a beautiful way” [Male, 24 years].

“Because of the COVID-19 pandemic, I consider the online training period to be unsatisfactory; the topics were just repetitive, and the teaching method was boring and theoretical in nature” [Female, 24 years].

### The most useful skills learned in this training

Medical terms used in hospitals were the main useful skills learned by most participants in all groups, as shown in Figure 3.

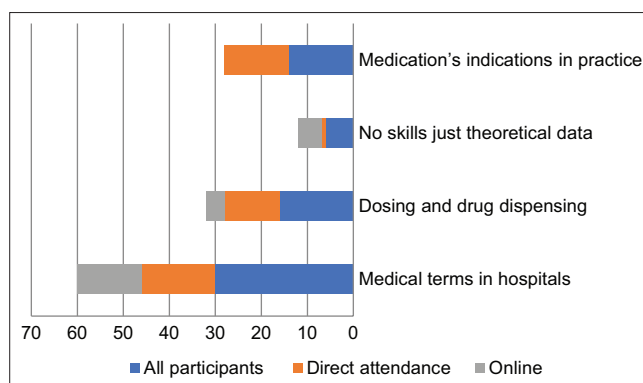


Figure 3: The most useful skills learned in this training.

“We learned the most important and widely used medical terms, abbreviations, and treatment guidelines for various medical conditions” [Male, 26 years].

### Factors influencing educational quality in this course

The findings of this study indicate that the key determinants of educational quality in the training course are the ability of teaching staff, the place of training, the duration of the course, and the materials learned.

The main factor influencing educational quality in this course in all groups was the teaching staff. The course duration was the least influential factor in the direct attendance group, while the location of training was the least influential in the online group, owing to the fact that they received the course online.

“Any defect in one of these factors may affect the quality of training. Fortunately, all of these factors were good and appropriate during my training” [Female, 26 years].

“The teaching staff and materials used have a significant impact on the benefit gained from any lesson, not just training” [Male, 26 years].

### ***Perspectives on the teaching staff***

Although more than one-third of participants in the online group said they were dissatisfied and received inadequate explanations during the online course, there was a higher percentage of pharmacists who were satisfied with the role of the teaching staff during the training period. In addition, less than one-fifth of the participants in direct attendance group stated that the staff should prioritize learning skills over exams.

“The teaching staff was excellent and did their best to deliver the information to us” [Female, 25 years].

“During the training course, the teaching staff played an important role in delivering information to the students through daily quizzes (many quizzes) and practical exams, but I believe there should have been a greater emphasis on clinical pharmacy skills and drug administrations because time was limited” [Female, 25 years].

### ***The obstacles faced during training***

Most participants were hampered by the stress of studying during the training course. On the other hand, the main challenge faced by the pharmacists who received the online course was a lack of internet and online teaching style. Other challenges include training in a crowded hospital, the stress of the COVID-19 pandemic, communication with patients, the long distance between the college and the hospitals, and the educational staff's limited educating ability.

“The difficult challenge was maintaining academic classes in college while receiving all new information from the hospital and massive amounts of quizzes” [Female, 26 years].

“The most important factor was COVID -19 disease; we did not have a passion for studying at the time, and the internet network was weak, as was the concentration of the materials” [Female, 25 years].

### ***When would be the best time to start this course?***

Nearly half of the participants prefer to take the course in the fifth stage with two courses rather than just one. Less than a quarter of all participants in all groups prefer to start the course at the fourth stage or to keep the course as is.

“In the first course of the fifth stage to give students a better chance of benefiting from such an important subject” [Male, 25 years].

“In the first course of the fifth stage, but only if it is not online; it must be in person and limited to practical information that will benefit the pharmacist in his future work” [Female, 25 years].

### ***Who is the most qualified to teach the course?***

According to more than three quarter of all participants and all of the online course group, the academic staff is the most qualified to teach the course. Although nearly one-third of direct attendees prefer hospital medical staff, nearly two third prefer academic staff.

### ***Suggestions for improving this course***

The main suggestions that proposed by the participants include give only practical parts only without materials, avoid giving the course online, increase the duration of training, decrease the number of students in each ward, connect between theoretical and practical, make the fifth stage only for training, increase the number of topics given, and employ more experienced staff.

According to many participants, the main suggestion is to administer only the practical part without any theoretical material. The main recommendation for pharmacists who receive this course online is to avoid receiving this course online again.

“I suggest every college take their training at a different hospital to decrease the load on Baghdad teaching hospital” [Male, 25 years].

“In terms of information and teaching method, the training should be extremely practical” [Male, 26 years].

## **Discussion**

This is the first study which assesses the perception, benefits, and factors influencing the quality of hospital training courses for pharmacy students in Iraq.

This study showed that the hospital training course provided pharmacy students with the most benefits in managing various medical cases. The main

benefit of a direct or online attendance group was an idea about the pharmacist's future work. The above findings are consistent with a study conducted in Malaysia by Phua *et al.* [8] that assess the satisfaction and perception of pharmacists toward their training in hospitals, in which the majority (84.8%) felt that the training duration was beneficial.

On the other hand, approximately one-third of the participants in the current study felt that the training course was insufficient for ideal pharmacist training, which is similar with an Indian study [9] that evaluated pharmacy students' perceptions of practical skills and education during clinical rotations in India. The study found that 37.9% were least satisfied with the clinical training program.

Regarding the information and skills acquired during the training, although 45.45% of the direct attendance group state that information and skills were adequate, 38.8 of online group state inadequate online information with no clinical skills received. This outcome can be explained by the fact that in an online group, students do not receive practical training in the hospital. It was then impacts on the skills they must learn during training. Although the quick shift to distance online learning was a mandatory and essential action in the COVID-19 era. Nevertheless, it was not always a smooth process, posing many challenges for instructors and learners, especially in the practical part [10].

Comparatively to the study by Ali Almuqdadi *et al.* [11] that assessed pharmacy students' perceptions of a new training program, only 29% of the students were less satisfied with the course material.

Regarding the factors influencing educational quality in this course, the present study revealed the crucial impact of the teaching staff. Pharmacy instructors should revise their curricula further so that graduates have a strong foundation in clinical skills [12].

According to several prior studies [13], [14], [15], the quality of student experiential training and resident development is heavily dependent on the training staff, highlighting the significance of the quality of the training staff. A more systematic and evidence-based approach to training may be required to sustain educational quality, particularly in student evaluation and feedback [16].

The present study showed that a particular percentage of the participants were either unsatisfied (25%) or thought the staff should prioritize learning skills over the exam (15%). This result may be attributed to the training staff's inability to recognize the objectives of the training process, indicating the need for focused training for this staff to comprehend their specific role and responsibilities, as well as how to practice these responsibilities with their students in an ideal manner. In comparison, Haq *et al.* study [17], which aimed to investigate pharmacy undergraduates' learning processes and their construction of a professional identity, revealed that students were aware that many of

their lecturers were either not qualified as pharmacists or did not practice in a health-care setting.

Regarding the duration of the training program, which continues for only one course in the two-course educational year in most colleges of pharmacy in Iraq, the majority of participants (45%) suggest that the program be given as two courses in the fifth stage, which is in line with Haq *et al.* [17] study, which concludes that most of the respondents (92.5%) in the current study rated the training period of 1 year as adequate.

The main challenge that the participants faced during training was the stress of the study. Many other studies [18], [19] found that, stress from large amounts of material combined with exams represents a challenge for many students. This indicated that the importance of providing these students with programs and activities to relieve stress and promote mental health could not be overstated. Starting a preserved atmosphere and a supportive, healthy campus could be a priority.

Crowded hospitals are another issue that 41% of all direct attendance course participants face. This can be attributed to an increase in the number of pharmacy students who practice in the same teaching hospital due to insufficient teaching hospitals available for training in Iraq.

COVID-19 has severely disrupted the entire education process including pharmacy education. For pharmacy students, practical knowledge and clinical training are as important as theoretical session. Despite all efforts, a significant gap persists, necessitating some initiative or policy to provide pharmacy students with hands-on clinical training and industrial exposure to instill the necessary level of confidence before entering professional life [20].

In the current study, the effect of the COVID-19 pandemic on the participants who received the online training course can be seen from their perception of the weak explanation and skills they received because of the insufficient online teaching style. This leads most of them to suggest that any hospital training course should be given by direct attendance in the future.

The main limitation of this study came from the use of the qualitative methodology. Qualitative studies have always had a problem with generalizability. This study was based on a small sample of qualitative face-to-face interviews with pharmacists in Baghdad city. Nevertheless, the qualitative methodology was the best approach for thoroughly exploring the issue of interest before doing a larger quantitative study.

## Conclusion

The hospital training course was beneficial and effective in preparing the graduate pharmacist for future

work in hospitals. On the other hand, the online training course was insufficient and only provided students with theoretical, repetitive information with no practical engagement. The technical network issue and online teaching style were likely significantly impacted the training's goal. The findings of this qualitative research have provided insight into the need for improving the hospital training course in terms of increasing the course duration, decreasing crowding, enhancing the role of the teaching staff, and improving the teaching method by focusing on the practical part.

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