

# MyDispense impact in compensating summer field training course during COVID-19 pandemic

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## ABSTRACT

COVID-19 pandemic lockdown has forced the summer training committee for pharmacy students at Umm Al-Qura University to start a simulation field training instead of the real field training in 2019-2020. This sudden change to remote learning and training has placed the pharmacy training and education system into an extraordinary experience that can have a great influence in the future. To assess summer training students' opinions on the impact of using MyDispense instead of real field training. A cross-sectional study using a survey targeted summer training of pharmacy students. Around 220 students participated in answering the survey with a majority not satisfied with this kind of training. Furthermore, they needed more lectures and webinars to understand more about how to use this simulating application accurately. Students proposed to adjunct online and onsite learning together. However, further research should be explored to give a better view and understanding.

**Keywords:** MyDispense, Covid-19, Simulation pharmacy, Education, Online

## Introduction

Coronaviruses are non-segmented enveloped positive-sense RNA viruses that are related to the Coronaviridae family and Nidovirales order [1]. It is one of the major pathogens that triggered a great public health threat called coronavirus disease (COVID-19), which mainly targets the human respiratory system and causes pneumonia of unknown etiology [1]. The first case of the novel coronavirus disease was diagnosed in December 2019 (COVID-19) and it swept across the world and galvanized international action [2]. COVID-19 has caused a dramatic distraction in pharmacy experiential training and education since social distancing was the most effective preventive strategy during the pandemic [3, 4].

Online learning has been suddenly needed during the COVID-19 pandemic, health schools have had to shift their field learning and activities to online platforms. This online shift is a huge challenge, which requires both cultural and technological adaptations that have been forced to rapidly implemented modifications to achieve the educational mission despite the disruption [5].

Medicine dispensing is one of the most important competencies and a principal skill for pharmacists, which required access to special information, equipment, and resources [6].

MyDispense is a web-based software program that simulates the dispensing process in a community pharmacy, originally developed by Monash University in Australia and has been afterward updated to reflect pharmacy practice in the United States [7, 8]. In the MyDispense program faculty members are able to generate their own dispensing, validation, and over-the-counter (OTC) exercises. Several studies indicated that simulation in pharmacy school has shown many advantages over other types of assessment or learning strategies, thus the students get the chance to practice different skills in a safe environment without negatively impacting patient safety [9, 10]. One of the most important advantages of using MyDispense that the students will be able to view simulation exercises as more life-like and

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Website: [www.japer.in](http://www.japer.in)

E-ISSN: 2249-3379

**How to cite this article:** Al-Hindi Y, Mojally M. MyDispense impact in compensating summer field training course during COVID-19 pandemic. *J Adv Pharm Educ Res.* 2021;11(1):35-8. <https://doi.org/10.51847/soAoRpp>

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applicable for their future careers. In addition, MyDispense offers the capability to deliver real-life scenarios in a simulated environment [7]. As this was the first time that our pharmacy college had to substitute real field training with MyDispense simulation training, we aimed to assess summer training pharmacy students' opinions on the impact of using MyDispense instead of real field training.

## Materials and Methods

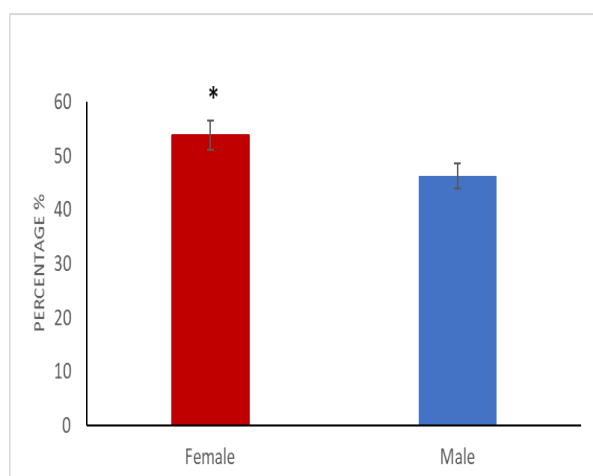
We used a cross-sectional online survey using google form and we targeted summer training pharmacy students. The survey we designed to assess and measure students' opinions was written in English, and piloted on 30 random people from the population who were not included among the study participants in order to assess the acceptability and consistency of the questions and to validate the validity of their faces; it was then updated accordingly. The sample size was calculated based on an online calculator [11]. Total summer training students were 450; the sample size was 208; we used 220 to prevent any bias or errors. The study was reviewed and approved by the ethics committee of Umm Al-Qura University.

### Statistical analysis

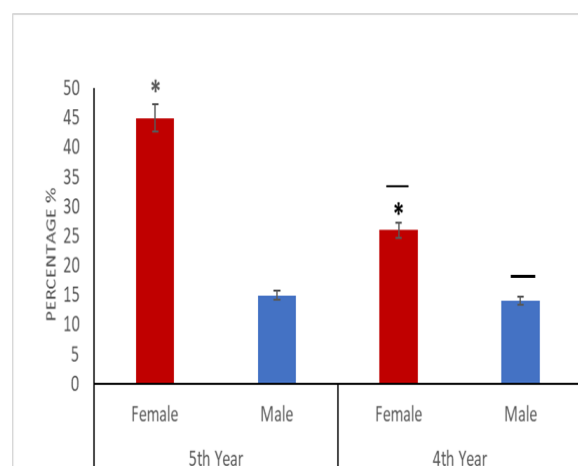
Data were coded, validated, and analyzed using SPSS, version 23. Frequencies and proportions were used to present the data. Chi-square test was used as the test of significance at the 5% level.

## Results and Discussion

Responses from the summer training targeted students survey included 220 students from the pharmacy college, in Saudi Arabia (Table 1). Both male and female students participated, among whom 53.8% were females ( $P=0.003$ ) (Figure 1). The summer training students included 60% of the 5<sup>th</sup> year and 40% of the 4<sup>th</sup> year ( $P=0.0012$ ) (Figure 2).



**Figure 1.** Bar chart representing male and female participants of the summer training students,  $*P<0.005$ .



**Figure 2.** Bar chart representing 5<sup>th</sup> and 4<sup>th</sup> years male and female participants of the summer training students,  $*Male$  versus  $Female P<0.005$ . – 5<sup>th</sup> year versus 4<sup>th</sup> year,  $P<0.005$ .

**Table 1. Summer training Student Response to Statements about MyDispense Simulation in percentage % (n=220)**

Survey statements	Yes	No	Maybe
Registering and signing in Using MyDispense is simple and easy.	88.5%	10.3%	1.2%
Using MyDispense instead of the real summer field training gave me the chance to learn from my mistakes.	30.8%	34.6%	34.6%
Assignments and tasks on MyDispense were correlated with course objectives.	42.3%	28.2%	29.5%
Using MyDispense helped me better understand the steps needed to dispense a prescription	60.3%	15.4%	24.4%
Attempting the tutorial exercises improved my confidence in dispensing prescriptions.	26.9%	30.8%	42.3%
MyDispense is a stimulating learning environment.	59%	15.4%	25.6%
MyDispense feedback changed the way I worked through subsequent exercises.	24.4%	46.2%	29.5%
I need more time to use MyDispense correctly	7.7%	65.4%	26.9%
I need lectures and webinars in order to help me use MyDispense better.	42.3%	35.9%	21.8%
Using MyDispense in curses can be better instead of the real field training.	6.4%	73.1%	20.5%
Did You find any difficulty using MyDispense	41%	34.6%	24.4%
In summer training is it better to substitute the field for MyDispense forever	17.9%	30.8%	51.3%
I found the interface/environment realistic.	9%	40%	51%

It is a fact that the COVID-19 pandemic has forced college academics worldwide to teach and assess students by using online technology methods [12]. Saudi Arabia represented in the Ministry of Education has made huge and vital contributions across the country to make the remote learning process

successful [13]. This was also based on the strong backbone of multiple tools for example the fast internet connections, the E-learning facilities in each institution [14]. Although some of the faculty members in health care colleges had suffered from their little experience with distance learning tools, every administrative team was very helpful in making more effort to train each of the academics to the basic software [15]. This was started by using virtual classrooms and online exams on the Blackboard and Microsoft teams.

In our pharmacy college, we used to give summer training to students by directing them towards training fields such as pharmacies, community centers, and hospitals. This was difficult to be happening during the pandemic as almost all these institutions were aborting any training acceptance. Therefore, our summer training committee decided to compensate for this and substitute it for a stimulation online training field, which is MyDispense. By reviewing the literature, we found that we are the first college to substitute real field summer training with MyDispense simulation of community pharmacy.

Almost more than half of the students agreed on the fact that MyDispense online registration and access were very simple and easy and they did not suffer from difficulty using it. This was parallel to their opinion on the objectives of the summer course that met their expectations. Moreover, the majority of the students agreed that using MyDispense helped them to better understand the steps needed to dispense a prescription in the real field. However, most of the students agreed on the need for lectures and webinars in order to help them use MyDispense in a more sophisticated process. Our results are in agreement with most of the surveys that were done exploring students' opinions on using MyDispense in their assignments. They demonstrated that MyDispense adopts many of the best-practice measures identified for simulation-based education such as feedback, deliberate practice, curriculum integration, outcome measurement, simulation fidelity, skill acquisition, and maintenance [16]. In addition, to the "no consequence" nature of the software that helps students to explore the dispensing process in a safe environment before they commenced it in the real field [17].

On the other hand, most of the students did not agree on using MyDispense in courses to be a better substitution for practical assignments. Moreover, they resented the idea of substituting MyDispense for summer field training, they suggested to use both methods; MyDispense as a stimulation exercise and then the real field training. This can be meaningful as communication between the learners and educators if it is difficult and lacking availability will lead to surface learning [18]. Another encountered problem can be technology problems such as unstable internet connection or any technical issues. Moreover, face-to-face communication is still better than online communications and cannot easily replace it. Hamilton *et al.* demonstrated that online communications can adversely affect the learners' experience [19]. However, some studies suggested a bunch of recommendations to enhance the interactions and therefore, the learners' learning experience in online education will be enhanced in the future if followed [20].

Our findings are based on the pharmacy students' summer training experiences of MyDispense application, which was subjected to them by force during the lockdown period that was caused by the COVID-19 pandemic. Our study included responses from google forms only. Thus, the opinions should be discussed with caution. Furthermore, our survey did not cover some topics such as the impact of lockdown on the internship in pharmacy education, the economic influence, or the mental influence of summer training pharmacy students. These topics are helpful to be explored in future research.

## Conclusion

Using remote or online education has existed for decades. However, the COVID-19 pandemic has influenced forcefully the need to administer this online education to all subjects and fields of education globally. In our study, the summer training pharmacy students, based on their simulation MyDispense education experiences during the lockdown period, provided valuable opinions that can affect the future of transforming pharmacy learning. They proposed to adjunct online and onsite learning together. However, further research should be explored to give a better view and understanding on how and to what extent pharmacy students are affected by the forceful transformation during and after the pandemic.

**Acknowledgments:** We thank all students who participated in this study.

**Conflict of interest:** None

**Financial support:** None

**Ethics statement:** None

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