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Original Research Article

Barriers and motivation for online learning among pharmacy students in Jordan

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Abstract

Purpose: *To explore the barriers and motivations of pharmacy students towards online learning in Jordan, as well as the students' inclinations towards taking online courses in the future.*
Methods: *This cross-sectional study is based on a questionnaire that was distributed from May 20th to December 20th, 2020 to pharmacy students in Jordan. Data were collected and analyzed.*
Results: *A total of 600 pharmacy students responded, and all the participants had previously taken online courses. The highest ranked items on the participants' motivation towards online learning are its convenience in terms of time and location (92.8 %), and getting good grades in online courses (81.7 %). The main barriers were lack of collaboration and interaction (57.5 %), and feelings of disconnection during online learning (56.5 %).*
Conclusion: *This study reveals a positive attitude among pharmacy students on the effectiveness of online learning. Most respondents appreciate the convenience of online learning in terms of time and location. However, lack of collaboration and interaction, and feelings of disconnection during online learning are major barriers.*

Keywords: *Barriers, Motivation, Online learning, Pharmacy students*

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INTRODUCTION

Online learning is defined as "learning and teaching experiences in synchronous or asynchronous environments using technologies with internet access. In this environment, students can be anywhere (independent), and learn from as well as interact with instructors and other students [1].

The rapid development in technology [2] and the sudden outbreak of the deadly Covid-19 pandemic caused by Corona virus (SARS-CoV-2) across the world forced educators to shift entirely to online teaching/learning utilizing different tools that can be used successfully as an alternative to face-to-face classes [3].

The number of students receiving online education is increasing rapidly. The percentage of graduate students who take one or more online courses also increased from 16.5 % in 2008 to 45.6 % in 2016 [4]. Moreover, the results of the study showed that more females receive

online education than males, and it was found that 65 % of undergraduate and 54 % of graduate online students were female [4]. The bachelor's degree program in pharmacy in Jordan includes theoretical and practical training in the hospital and pharmacies. So, before the era of COVID-19, online learning was not adopted as a modality of teaching within pharmacy schools. Distance education has become a need in Jordan to ensure the continuation of education during the COVID-19 pandemic-related closure of educational institutions. According to the 2030 Sustainable Development Goals (SDGs) for the quality of education, effective online educational strategies need to be addressed critically in low and middle-income countries to achieve the 2030 SDGs [5]. This study thus aims to identify possible barriers, challenges, motivational factors and intent to taking online courses in the future among Jordanian pharmacy students.

METHODS

This is a cross sectional study based on an online survey. Participating students are pharmacy students from the University of Jordan. An online survey designed by the researchers, was deployed through an online survey tool. The questionnaire included four sections; the first section contained demographic information, including questions about age, gender and academic year. The second, third and fourth sections of the questionnaire contained questions to determine motivation, barriers, and intent to taking online courses in the future. The questionnaire was distributed from May 20th to December 20th, 2020 through Microsoft Forms, using the official Facebook, and WhatsApp platform of the Faculty of Pharmacy to communicate with students. Questions were in two formats: multiple-choice, and rating questions on a five-point scale (Likert scale). The research objectives and the consent forms were set at the beginning of the questionnaire. Data were analyzed using the statistical package for social sciences (SPSS) version 22. Categorical and continuous values were expressed as frequency (percentage) and mean ± SD as appropriate.

The study received institutional ethical approval and followed international guidelines for human studies.

RESULTS

A total number of 600 pharmacy students completed the questionnaire. Table 1 summarizes the characteristics of the study sample. The majority of participants were female (83 %). The data showed 5th year students were the most represented (21.7 %), and the first-year students were the least represented (18.7 %). Among the participants, students 20 – 30 years old were the most represented (96.7 %), and most of the participants (71.3 %) reported that they had participated in at least 3 online courses in the previous 6 months.

Table 1: Participating students' characteristics

Characteristic	N (%)
Gender	
Male	102(17)
Female	498(83)
Age	
23-30	580(96.7)
31-40	20(3.3)
> 40	0(0)
Year in school	
First year	112(18.7)
Second year	113(18.8)
Third year	123(20.5)
Fourth year	122(20.3)
Fifth year	130(21.7)
Enrollment in online courses in the previous 6 months	
1	22(3.7)
2	150(25)
3	285(47.5)
4	143(23.8)

Results in Table 2 show the motivational factors towards online learning among pharmacy students. Most students were more positive about getting good grades in online courses (81.7 %), than about time and location convenience (92.8 %). However, most students were largely neutral towards the statement "I find it easier to study online courses than traditional courses" (83 %).

Results shown in Table 3 indicate that most students express collaboration and interaction challenges (57.5 %), and feel disconnected during online learning (56.5 %), and view this as a major barrier to taking online classes. They on the other hand were neutral towards the item of the online materials being too challenging (67.2 %).

Most students were comfortable and not finding other items as barriers to online learning. The percentage of students who would want to take an online course again was 86.3 %.

Table 2: Motivation factors towards online learning (N = 600)

Factor	Strongly disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
I get better scores in online courses than in face-to-face courses	0(0)	6 (1)	104 (17.3)	190 (31.7)	300 (50)
I am more responsible in online courses	1 (0.2)	6 (1)	233 (38.8)	160(26.7)	200(33.3)
I am more motivated in online courses	77(12.8)	33 (5.5)	138 (23)	244 (40.7)	108 (18)
I prefer electronic interaction with my teachers and other classmates	100(16.7)	44 (7.3)	233(38.8)	121 (20.8)	102 (17)
The current Online learning opportunities meet my educational needs	70(11.7)	37(6.2)	143(23.8)	105(17.5)	245(40.8)
I find it easier to study online courses than traditional courses	30(5)	27(4.5)	498(83)	35(5.8)	10(1.7)
Accessible education and my courses scheduled at convenient times and locations	0(0)	0(0)	43(7.2)	253(42.2)	304(50.6)
Online courses tend to offer cheaper learning	33(5.5)	10(1.7)	254(42.3)	200(33.3)	03(17.2)

Table 3: Pharmacy students' barriers toward online learning (N = 600)

Factor	Strongly Disagree N (%)	Disagree N (%)	Neutral N (%)	Agree N (%)	Strongly agree N (%)
Untrained teachers	105(17.5)	204 (34)	211 (35.1)	40 (6.7)	40 (6.7)
Technical obstacles	98(16.3)	198 (33)	230 (38.3)	34 (5.7)	40 (6.7)
Lack of motivation (points, gamification...)	90(15)	186 (31)	234 (39)	16 (2.7)	74(12.3)
Too challenging e-Learning materials	51(8.5)	52 (8.7)	403 (67.2)	44 (7.3)	50 (8.3)
Lack of collaboration among classmates in online learning	99(16.5)	42(7)	114(19)	103(17.2)	242(40.3)
Online learning outcomes are not equal to the outcomes of in-school learning	153(25.5)	151(25.2)	160(26.7)	38(6.3)	98(16.3)
Feeling disconnected in online learning	104(17.3)	42(7)	115(19.2)	108(18)	231(38.5)
Online courses tend to offer more expensive learning	108(18)	248(41.3)	244(40.7)	0(0)	0(0)

This means that most students had a more positive attitude towards having online courses, and were comfortable taking online courses with other classmates. Whereas the percentages of students who did not want to take an online course in the future was 23.7 %.

DISCUSSION

The purpose of this study was to determine the motivational factors among students of the Faculty of Pharmacy, University of Jordan, to taking online courses, the barriers to online learning and the students' interest in taking online courses in the future. Online learning is an apparent alternative to traditional methods in Jordan, in order to maintain the continuity of higher education during the COVID-19 pandemic. Now, academic learning in Jordan includes online courses and face-to-face courses. It is important for leaders in academia to understand student motivation, barriers toward online learning and interest among students in taking online courses, so that they can predict the barriers that students may face in order to avoid them before they happen, in addition to improving the online programs they offer.

The majority of participants in this study were female students, and this is not surprising as most students at schools of pharmacy in Jordan are females [6]. Pharmacy students in this study expressed a positive attitude towards most motivational factors to online learning. The responses to motivational factors showed that getting good grades, convenience in terms of the flexibility to attend at the time of the lecture was the main motivation to enrol for online courses. These results were similar to a study conducted by Haifa Fahad Bin Mubayrik *et al*, which found that most respondents appreciated the convenience of distance learning because of its flexibility to attend at the time of the course [7]. Another study found comfort, accessibility as the main advantages of online learning, while limitations such as inefficiency and difficulty in maintaining academic integrity were also identified [8]. Findings in this study were different from that of a study conducted by Francis *et al*, which indicated that online students received lower grades and were less likely to pass from their courses than face-to-face students [9]. The

study revealed that the main barriers to online education were online class collaboration and interaction, with students feeling disconnected identified as one of the biggest obstacles to participating in online learning. These results complement the results of many studies which also showed that interaction and collaboration remain the main obstacles to online learning [10-12]. Instant feedback and social interaction are not always possible in an online environment. However synchronous education provides a better opportunity for interaction and collaboration [2,13].

The results showed that most students were more willing to take online courses within the next 12 months (86.3 %), while 23.7 % of students were not willing to take online courses within the same period. The current study, similar to the study conducted by Zhang *et al*, found that most of the participants had a positive attitude towards online education, and this is evident in their continued interest in taking online courses [14].

CONCLUSION

Online learning is a rapidly growing method for learning among undergraduate students in Jordan. It may represent an optimal solution to maintaining learning processes in exceptional and emergency situations such as the COVID-19 pandemic. This study found a positive attitude among pharmacy students on the effectiveness of online learning. Most students intend to take online courses within the next 12 months. Most respondents appreciated the convenience of online learning in terms of time and location. However, lack of collaboration and interaction, and feelings of being disconnected in online learning were the main barriers.

DECLARATIONS

Conflict of Interest

No conflict of interest associated with this work.

Contribution of Authors

The authors declare that this work was done by the authors named in this article and all liabilities pertaining to claims relating to the content of this article will be borne by them.

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