

Satisfaction and Challenges of Online Learning Among Healthcare Students: Towards Digital Education in the Healthcare Profession in Saudi Arabia

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ABSTRACT

Objective: To assess the satisfaction and challenges in online learning among the health care students during the COVID-19 pandemic.

Study Design: Descriptive cross-sectional web-based survey.

Place and Duration of Study: This study was conducted at the Department of Nursing, Faculty of Applied Medical Sciences, University of Tabuk, Tabuk, Kingdom of Saudi Arabia from January 2022 to March 2022.

Materials and Methods: Non-probability convenience sampling method was used to recruit samples for this study. 237 students were enrolled in this study. A validated Likert scale was used to collect the data.

Results: 65.4% of the participants reported high satisfaction levels with the mean of 55.97 (SD-10.97). The majority of the participants had low levels of challenges (Mean-7.50, SD-6.69). A significant association was found between demographic characteristics and satisfaction with online learning. A Significant negative correlation was found between satisfaction and challenges. The students addressed the common challenges in practical learning, relating the clinical concepts, distraction, more stress, and engagement with other responsibilities during online learning.

Conclusion: The top priority of the health care education is to develop an online educational model with clinical skills and procedures.

Key Words: Online learning, satisfaction in online learning, challenges in online learning, online medical education

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INTRODUCTION

The spread of coronavirus all over the world affected the transformation of the education system. Saudi Arabia also faced a similar problem of a sudden shift of the classroom educational system to online learning. The educational system went on online learning to abide by the rules on social distancing and lockdowns^{1,2}. The online education system was considered a lifeline for the educational system during the lockdown in many countries. But in Saudi Arabia, the scenario was entirely different; this shifting was used in developing an online educational system towards achieving Saudi vision 2030¹⁻³.

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A recent report from UNESCO praises Saudi Arabia's educational response during the pandemic as a model for other countries. Particularly UNESCO appreciated the "Madrasati" ("My School") platform in the distance learning program. Saudi universities developed an educational platform to support online education during pandemic¹.

The transition period was difficult for the students and staff. The clinical training through online education was more challenging. In medical education, online learning cannot be used for the complete teaching and learning process, it could be used in some aspects of the teaching process². Various ranges of satisfaction levels were identified in medical education from different studies²⁻⁴.

A study from Oman reported poor communication, overload of information, and lack of motivation⁴. Most of the students were not experienced the online assessment system before the pandemic. Some of the studies addressed the stress during online assessment due to unfamiliarity and did not provide a fair assessment⁵⁻⁶. Medical education was not properly pursued online education before COVID-19 in many countries due to a lack of infrastructure and design. Implementation of this without identifying the problems in the future could be difficult⁷. A study from Saudi Arabia reported a lack of familiarity with virtual tools

and sufficient preparation for online education among Saudi students⁸.

The universities in Saudi Arabia are already in the process of developing online education. Suddenly the COVID pandemic made faculty and students experience the process of online learning without any trial phase. Imparting medical education was challenging for the academic staff to implement online. Satisfaction of stakeholders in online education is the highest priority in achieving a better educational outcome. Similar pandemic situations are expected in the future, so the healthcare education system must be prepared to meet the demand for online learning. It will be difficult to improve the learning experience of healthcare students without assessing their satisfaction and challenges. Identifying the challenges in online learning within medical education would help develop an action plan for future development toward digital education.

MATERIALS AND METHODS

This cross-sectional web-based survey was conducted with a pre-designed questionnaire among the health care students (Medical, Nursing, Medical Lab Technology, Physiotherapy, and Pharmacy) at the University of Tabuk from January 2022 to March 2022. A nonprobability convenience sampling method was used for the sample recruitment. A total of 237 healthcare students participated in the study. The participants were recruited based on their willingness to participate. This study included only undergraduate healthcare students, with online experience.

The validity of the instrument was confirmed by a broad review and expert opinion. Reliability was ensured with 10% of the sample with a score of 0.82. These students were excluded from the main study. The data was collected using a structured validated questionnaire with 3 sections. The questionnaire consisted of closed-ended questions with a rating scale.

Section A: Demographic Variables

Section B: Satisfaction Scale

This section consists of 5 subsections with 15 items. On a five-point Likert scale, a rating of 5 signified strongly agrees, and 1 meant strongly disagrees.

Section C: Challenges

This section consists of 10 challenges that were identified based on previous studies among healthcare students. The survey was focused on the experiences of students during the implementation of online learning.

The data was entered and analyzed using Statistical Package for IBM (SPSS 20.0). Frequency, Percentage, Mean, and Standard deviation were used to find the satisfaction and challenges. Chi-square statistics were used to find the association between satisfaction and the demographic variables. Pearson correlation was used to identify the relationship between satisfaction and challenges. A p-value less than 0.05 were considered significant.

This study was ethically approved by the institutional review board of the University of Tabuk (UT-202-54-2022). Confidentiality was maintained throughout the study.

RESULTS

Sociodemographic characteristics: 44.3% of the participants were 23 years and above, one-third of the participants were between 21-22 years (34.6%), and one-fifth of the participants were between 18 years and above (21.2%). More than half of the study participants were male (54%). 39.2 percent of the participants were from nursing, followed by Medicine (18%), MLT (16.5%), Physical therapy (13.5%), and pharmacy (12.7%). More than half of the students had previous online experience (54.4%). More than half of them were attending the lecture through their mobile phone (51.1%). Most of them attended 3 -6 hours of online learning/per day during COVID-19. Most of them are satisfied academically (72%). More than half of the students reported that their GPA increased during online learning (56.5%). 38 percent of the participants preferred online learning for the future and more than one-third of the participants preferred traditional learning (35%) and one-fourth of them preferred blended learning (26.6%).

Level of Satisfaction and challenges in online learning among the health care students

Table No.1: Area-wise Mean, SD, and mean percentage to assess the Satisfaction in online learning among the health care students.

Level of Satisfaction	Max. score	Range	Mean	SD	Mean%	95 CI
Lecturer and course delivery	15	15-6	11.37	2.38	76	(11.06-11.68)
Learning environment	15	15-6	11.62	2.61	77	(11.29-11.95)
Lecturer interaction	15	15-6	11.44	2.65	76	(11.09-11.77)
Assessment	15	15-6	11.27	2.38	75	(10.97-11.58)
Peer support	15	15-3	10.25	2.84	68	(9.88-10.61)
Overall	75	75-32	55.97	10.97	75	(54.56-57.37)

Table No.2: Area wise Mean, SD and mean percentage of the challenges in online learning among the health care students.

Level of challenges	Max. score	Range	Mean	SD	Mean%	95% CI
Overall	40	25-0	7.50	6.69	19	(6.64-8.35)

Table No.3: Percentage distribution of participant's responses in challenges in online learning

S.No	Challenges	Never	Sometimes	Often	Always
1	Difficult to interact with the lecturer	56	33.3	9	0
2	Learning strategies and style were difficult	58.6	32	8	1.27
3	I lack technical skills on the blackboard	62	28	8	1.27
4	Poor internet and other resources	69.6	21.1	6.7	2.5
5	I felt absence of practical	62.8	23.2	9.7	4.2
6	Difficult to interpret the clinical concepts	52	26	17	4.2
7	I felt less motivated	47.2	22.78	25.3	4.6
8	I felt more stressed during online learning	34.6	30.8	30.8	3.8
9	I get distracted easily	31.2	25.3	39.2	4.2
10	Engaged with other responsibilities	30.3	31.6	34.18	3.8

Table 1 identifies the mean and standard deviation of the online learning satisfaction questionnaire. The overall Mean score was 55.97 (SD -10.97) & Mean percentage was 75%. The subsections of the questionnaire showed mean percentage as follows: lecturer & course delivery (76%), learning environment (77%), lecturer interaction (76%), Assessment (75%), and peer support (68%). The scores of the peer support (Mean 10.25, SD 2.84) were lower than in other areas. Table 2 shows the level of challenges in online learning scores. Overall challenges among the health care students in online learning were lower (Mean 7.50, SD 6.69).

More than three-fifths of the students (65.4%) were highly satisfied with online learning, One-third of the students had average satisfaction with online learning (33.3%) and very negligible students had low satisfaction (1.3%).

The level of challenges faced during online learning among healthcare students. The majority of the students (96.2%) had a low level of challenges. Table 3 depicts the challenges faced by the students during online learning. One-tenth of the students often felt the absence of practices in online learning (9.7%), Nearly one-fifth of the students responded that online learning difficult to interpret the clinical concepts (17%), one-fourth of the students were often less motivated (25.3%), more than one-third of the students often felt engaged with other activities during online learning (34.18%), 39.2% of the students distracted often during online learning and 30.8% of the students often stressed during online learning.

The students' satisfaction in online learning had a significant association between age ($P < 0.001$), gender (0.029), year of study ($P < 0.001$), previous online experience ($P < 0.001$), mode of learning (0.018), hours of learning ($P < 0.001$), academic satisfaction ($P < 0.001$), GPA ($P < 0.001$) and preferred future preference of learning ($P < 0.001$). The level of satisfaction and

challenges negatively correlated at a highly significant level ($P < 0.001$). This shows that the students who had high satisfaction levels had lower challenges in learning online.

DISCUSSION

65.4% of the study participants were highly satisfied with online learning and 33.3% had shown average satisfaction. Mean satisfaction was 55.97 (SD 10.97). The worldwide satisfaction rate with online learning among the students was reported as 26.4% to 82%⁹⁻¹⁴. Some of the studies reported higher satisfaction.^{9,10} Average^{12,13} and lower satisfaction¹⁵. These satisfaction rates depend on the resources, teaching methods and instructor's background.

The results were congruent with the Jordanian study in terms of previous experience in determining online learning¹⁵. The progress of the academic year had shown higher satisfaction among the participants. This shows that student preparedness for online learning was better among the higher academic level. In this study female students scored significantly higher than male students. Gender difference with online learning varies from place to place²⁻⁴.

There was no significant association between the various programs among healthcare students. Similarly, no significant difference was observed between the medical and nursing students in a study from India¹³. Interestingly, a study from Riyadh observed that higher satisfaction was found among medical students in terms of resources and assistance, but lower satisfaction was found with the practical and theoretical aspects². In the present study, peer support was an area identified with lower satisfaction.

In this study, more than half of them used mobile phones in online learning. More studies had reported the use of smartphones in online learning, Wide availability, and easy usage might have influenced the user to use their smartphones. But the students who

attended the online classes with a laptop had better satisfaction who attended with a mobile phone. This might be due to less distraction with a laptop than mobile phones^{5,13,15}. In this study, the students preferred future choices as online and blended learning. The findings are similar to the Nigerian study and Saudi Arabian studies^{3,5,15}. Even though the implementation was sudden without phases, the students adapted to the application of online learning in the education field. Contradictory results of a multi-centric study showed that more than half of the participants did not favor online learning over classroom teaching due to focus and lack of distractions in classroom teaching¹⁶. This shows the difference in perception among the students in different places.

In this study, most of the students felt a low level of challenges in online learning (96.2%) with mean score of 7.50 (SD 6.69). The highest challenge felt by the students was easily getting distracted during online learning often (39.2%). 26% of the participants sometimes and 17% often felt difficulty in interpreting clinical concepts with online learning. Similarly, Rafi et al. reported that practical classes fail to provide effective learning in medical education¹⁷. Mian and Khan also emphasized the fact that distance learning does not replace direct contact with patients and they also stressed that online learning lacks clinical skills¹⁸. 33.3% of the students sometimes felt difficulty in interacting with the lecturer in online learning. Low voice and language clarity during online learning resulted in less interaction⁹.

In this study, only 28% of the participants had technical issues. Various studies reported technical issues, IT infrastructure, internet issues, high cost of the internet, poor internet connectivity, digital literacy, limited technical skills in the usage of e-learning platforms, and electricity among medical and nursing students^{12,17-20}. Apart from these IT issues, the other issues reported were low learning motivation, privacy, infrastructure, and lack of training and assistance¹⁵.

The highest percentage of students often reported a challenge in practical learning, difficulty interpreting clinical concepts, motivation, stress, and engagement in other activities. Inadequacy of practical learning, scarcity of experience with online education, pandemic-related anxiety, and technophobia, online assessment, and dissatisfaction with clinical learning among medical students was reported in the previous studies^{5,13,14}. In this study, 30% of the participants often felt stress during online learning.

CONCLUSION

This study demonstrates moderate satisfaction and a low level of challenges faced by students in online learning among healthcare students. Online learning is a feasible and satisfactory method of learning in healthcare education courses. The students highlighted

the clinical and practical learning challenges in medical education. The identified challenges need to be focused on and managed in near future for the successful implementation of online learning.

Author's Contribution:

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