

# GENERAL ATTITUDE AND PERCEPTION OF DENTISTRY STUDENTS TOWARDS ONLINE LEARNING

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## ABSTRACT

**Objectives:** To evaluate the attitude and perceptions towards online learning of BDS students of Rehman College Of Dentistry (RCD), Peshawar.

**Methods and materials:** This Cross sectional descriptive study was conducted at Rehman College of Dentistry, Peshawar from October 2020 to march 30, 2021. An initial draft of the questionnaire was designed using literature review and informal discussions with students attending online classes due to COVID 19 pandemic. The questionnaire was sent to four experts for expert validation. After pilot testing the amended questionnaire and finding its reliability (Cronbach alpha) to be 0.8, questionnaire was distributed amongst first to final year BDS students of RCD via Google forms using non-probability convenience sampling. Sample size was calculated to be 132 using openepi calculator .SPSS versions 24 was used for data analysis.

**Results:** Out of 15 questions, the students disagreed to 6 questions, agreed to 3 questions, neutral to agree to 3 questions and neutral to disagree to 2 questions. A slightly negative response was recorded by the students regarding acceptability and perception of online learning.

**Conclusion:** Although, E-learning has been globally accepted as a primary teaching and learning modality but the third world countries are still finding it hard to implement it. Sincere efforts with proper planning should be done to gain fruitful results and improve short comings of our online education system.

**Key words:** conventional learning, Face to face learning, Online learning.

## INTRODUCTION

E-learning or E-education is the delivery of knowledge, skills and attitude through electronic methods such a computer or a smart phone, usually accessed by internet. Although concept of online learning dates back to eighteenth century and is employed worldwide<sup>1</sup> but in third world countries like Pakistan, face to face learning is still considered as the primary mode of teaching and learning in majority of institutes. During COVID 19 pandemic, E learning evolved gradually and replaced traditional

means<sup>2</sup>. In fact, it became the sole method of teaching and communicating nationally and internationally. Online learning, just like traditional learning, has its own merits and demerits. It is a flexible and convenient option for delivering lecture and imparting knowledge that promotes active and independent learning anywhere anytime. It over comes the problems of classroom unavailability and teacher faculty shortage. The key advantage of this mode of education is that it is a “learner centered” approach<sup>3</sup>. Keeping up with the increasing requirements and meeting challenges of the modern world, most of the medical and dental institutions around the world and specifically in Pakistan are introducing e-learning or adopting hybrid approach<sup>4,5</sup>. Previous literature and various meta-analysis also support the idea

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that e-learning is associated with positive outcomes across a wide variety of learners<sup>6</sup>. If used properly, its benefits can outweigh traditional didactic lectures to a vast extent<sup>7</sup>. Regarding its disadvantages, it lags behind in student engagement, need for self discipline, prone to technical errors, internet availability and where some domains of medical courses lend themselves well to E-learning, clinical skills are considerably challenging to be learnt over the internet. Knowledge, without any practical insight, is not at all helpful in medicine in general and specifically dentistry. Although there has been considerable literature available worldwide regarding positive and negative attributes of online learning but, as pointed out earlier, there exists a significant gap in knowledge and research regarding online education in our part of the globe as it is a relatively novel concept here. Literature which is currently available has failed to unravel all the aspects of online learning, teaching and assessment strategies holistically. Besides that, almost all the dental colleges of Pakistan have a traditional discipline based, non-integrated and non-outcome-based curriculum taught in a primitive manner. Horizontal and vertical integration, hybrid and online learning are budding conceptions<sup>8</sup>. Primary reasons being lack of students and teacher IT training, non familiarity with netiquettes, and internet accessibility<sup>9</sup>. Even most senior teachers need technical and expert support when it comes to implementation of e-learning. In addition to that, our faculty and students are both used to the old system and does not want to leap outside their comfort zone<sup>10</sup>. So, the objective of our study was to evaluate the attitude and perceptions of Bachelor of Dental Surgery (BDS) students of Rehman College of Dentistry, Peshawar towards online learning. This can pave way forward for latest advancements in our current system and enable administrative bodies to recognize and rectify their mistakes in current system timely.

## MATERIALS AND METHODS

This Cross sectional descriptive study was conducted at Rehman college of Dentistry for total duration of six months ie from October 2020 to march 30,2021. Ethical approval was obtained from ethical committee of RCD (ERC Ref No: 2020-11-040) before starting the data collection. An initial draft of the questionnaire was designed using literature review and informal discussions with students attending online classes due to COVID 19 pandemic.

The questionnaire was sent to four experts for expert validation. Experts had masters in medical education degree with five years of teaching experience at least. An open-ended question was added at the end of the questionnaire for any suggestions and questionnaire was altered and redistributed to the target audience. Five point Likert scale was used and participants were encouraged to mark one of the option. Brief introduction of the study and consent to participate was present at the start of the Google form. In addition to that, participants were requested to add their valuable input as comments or recommendations in comment box. Participants were asked to provide justification in case of selecting extremes of options. After pilot testing the questionnaire and finding its reliability (Cronbach alpha) to be 0.8, Questionnaire was distributed amongst first to final year BDS students of Rehman College of Dentistry via Google forms using non-probability convenience sampling. Sample size was calculated to be 132 using open epi calculator and considering total population size to be 200 and confidence level to be 95%. All students who were regular attendees of online classes arranged by the college during the COVID-19 lockdown and willing to participate were included in the study. However, students who failed to respond to our questionnaire even after the second reminder were excluded. The data was analyzed using SPSS version 24. Percentages were calculated against each response.

## RESULT

The research questionnaire was distributed amongst 200 participants including all 4 years of BDS at Rehman College of dentistry, Peshawar. Among these, 136 participants responded. The majority of responses ranged between the age of 19-23, among which 69 were male and 67 were female.

Majority of the students disagreed to the statement that online sessions are interesting and enjoyable (82.4%), helpful in teaching, learning and assessment of clinical skills (66.9%), convenient (61.8%) and fair (58.5%) as compared to traditional learning. Mostly also disagreed to the fact that affective domain could be taught, learnt and assessed through online education (64.5%) and that more knowledge is increased through online classes as compared to traditional means of learning (81.7%). Students had a neutral to positive response when asked if they could rate their present technological

skills (N-57.4%, A-35.3%), if it was feasible for them to access online class (N-37.3%, A-33.8%) and that blended learning was a better option as compared to traditional and online learning (N-43.4%, A-33.1). Some of the students had a neutral to negative response to the fact that E- learning was helpful in improving their technological skills (N- 37.9%, D-33.1%) and that online lectures were tailored to the level of learning of students (N-37.5%, D-39.7%). Most of the students agreed to the statements that communication gap lacked in online teaching (75%), internet was easily available in their vicinities (47%) and that online education was halting their professional grooming (66.4%). Students partially agreed (35.2%) and partially disagreed (42.6%) that they would be interested in having hybrid sessions in the future.

**DISCUSSION**

The current study revealed that the overall re-

sponse was not encouraging towards the implementation of online learning on daily basis in future. The participants of the study reported a good knowledge and understanding regarding computer skills. Similar result was obtained by Asiry and Mohsabab saying 70% of their participants had good technological skills<sup>10</sup>. The students of the present era are better versed regarding technology as compared to students of the previous decade. Regarding internet availability, 47.7% agreed that the internet availability in their vicinity is good, making online classes easily accessible. As this study was conducted in one of the metropolitan cities of Pakistan, so internet was available but other far flung areas must be lacking this facility. Likewise, a study in Oman showed that the internet availability to 80% students is poor, making it an unfavorable option for learning <sup>11</sup>. E-learning is web based and can only be effective if the internet availability to students is uninterrupted. Computer based examinations and online assessments have

**Table 1: Students responses against questions related to online learning**

| S r . No. | Questions   | Strongly Agree | Agree | Neutral | Disagree | Strongly Disagree |
|-----------|---|----------------|-------|---------|----------|-------------------|
| 1.        | Rate your present technological skills  | 11%            | 24.3% | 57.4%   | 4.4%     | 2.9%              |
| 2.        | E-Learning is helpful in improving your technological skills  | 3.7%           | 23.5% | 37.9%   | 25.7%    | 7.4%              |
| 3.        | Online lectures are tailored to the level of learning of students                                     | 2.2%           | 20.6% | 37.5%   | 33.1%    | 6.6%              |
| 4.        | Online sessions are more interesting and enjoyable as compared to traditional lectures                | 3.7%           | 8.8%  | 5.1%    | 43.4%    | 39%               |
| 5.        | Sessions are helpful in teaching, learning and assessment of the clinical skills (psychomotor domain) | 1.5%           | 9%    | 22.6%   | 37.6%    | 29.3%             |
| 6.        | There is communication gap in online learning as compared to traditional                              | 29.4%          | 45.6% | 12.5%   | 8.8%     | 3.7%              |
| 7.        | Online assessments are convenient as compared to traditional learning                                 | 4.4%           | 15.4% | 18.4%   | 33.1%    | 28.7%             |
| 8.        | Online assessments are fair as compared to traditional learning                                       | 3.7%           | 11.1% | 26.7%   | 25.9%    | 32.6%             |
| 9.        | It is feasible to access online class   | 5.4%           | 28.4% | 37.3%   | 20.9%    | 8.2%              |
| 10.       | Internet is easily available in your vicinity   | 11%            | 36%   | 22.1%   | 20.6%    | 10.3%             |
| 11.       | Blended learning is a better option as compared to only traditional or online learning                | 4.4%           | 28.7% | 43.4%   | 21.3%    | 2.2%              |
| 12.       | Online education is halting your professional grooming  | 16.4%          | 50%   | 19.4%   | 11.2%    | 3%                |
| 13.       | Are you interested in having hybrid (traditional and online) sessions in future?                      | 5.1%           | 30.1% | 22.1%   | 30.1%    | 12.5%             |
| 14.       | Affective domain(attitude/professionalism) is taught, learnt or assessed through online education     | 0.7%           | 8.1%  | 26.7%   | 50.4%    | 14.1%             |
| 15.       | knowledge is increased more through online as compared to traditional learning                        | 2.2%           | 3.7%  | 12.5%   | 34.6%    | 47.1%             |

been used for over 40 years in different parts of the world<sup>12</sup>. This experience has been fruitful so far due to its appealing benefits like easy making and instant feedback. However, in this study it has been noted that over 61% of the participants found conventional assessments better than online exam. This can be attributed to the environment and the decorum maintained in the conventional exams and online exams lacking it<sup>13</sup>. More than half of the students considered online exam as unfair as compared to conventional exams. This is supported by Biotshwailo who stated in his study that cheating is the main cause of online exams being unfair<sup>14</sup>. This can be mainly attributed to the fact that our faculty is not properly trained in taking online assessment exams, its strategies and tools. Students are not aware of the netiquettes as well. About 84% of students were concerned that their knowledge is not being increased with online learning. This alarming high number of students not satisfied with online learning can be explained by poor technical skills of students and teachers. In addition to that, our students have become used to conventional learning and it is difficult for them to adapt online learning<sup>15</sup>. Tagoe in his study depicted that more than half of the students had improved learning skills with online learning<sup>16</sup>. Contrary to that, Wernicke claims that 90.8% of students perceived an increase in knowledge as a result of using e-learning packages<sup>17</sup>. Online learning is useful when students develop interest in online classes. In the current study, 92% of the students disagreed to the fact that online classes are enjoyable. This is in comparison with the values derived from another research saying 95% of partakers found online learning enjoyable<sup>17</sup>. Communication is the key to fruitful learning environment. Online learning may hinder the student-teacher interaction. This was evident in the research conducted that 45.9% of the students agreed to the statement saying online education creates a communication gap<sup>18</sup>. Another research shows that interaction increases learning and students have expressed concerns over lack of communication during online lectures<sup>19</sup>. Another study by Shivanji Dhawan says that students want a two-way interaction which is sometimes impossible to implement during online classes, making online learning not favorable to most of the students<sup>20</sup>. Scores for affective and psychomotor domain learning recorded were considerably low. 38.5% of the students disagreed to that fact that online learning

helps them learn clinical skills whereas 29.2% totally disagreed. This is in accordance with another study conducted in Pakistan which depicts there is lack of psychomotor development during online classes and this halts their professional grooming<sup>21</sup>. Turkiyimaz I in his study addressing the same issue gave contrasting results with 71.4% of the students stating that they perceived beneficial effects on clinical learning with online education<sup>22</sup>. Keeping in view the pros and cons of both conventional and online learning, a term hybrid education has been proposed which marks the presence of both elements in the same package. Upon questioning the participants of the research, the response was mixed and uncertain with 30% of the participants in favor of hybrid learning. 30.8% disagreed to the proposal, while 22.6% were neutral. Asary and Mohsabi conducted a study and found that 31.5% in Saudi Arabia preferred a combination of both traditional and online learning. Similarly, Abbasi S in his article says that 85% of Pakistani students think e-teaching is not better than traditional methods in anyways<sup>23</sup>. More than half of the students show low level of readiness for online learning<sup>24</sup>. In contrast to our results, 88.1% of Ghanaian students preferred hybrid education<sup>25</sup>. This difference may be attributable to the fact that the teaching faculty and the students in Pakistan were not exposed to e-learning before the pandemic lockdown, so, when this package was introduced, they did not prefer it as much. Greatest strength of our study is that E learning or hybrid learning is the latest trend and not fully explored. Secondly, as our questionnaire is valid and reliable, it can be used by different medical and dental colleges. Even all educational institutes can use it with minor modifications according to their circumstances. Last but not the least, greatest strength of our study is that it will act as a foundation stone for further researches regarding online learning and it reveals the fact that the students of Khyber Pakhtunkhwa, especially Peshawar are not enthusiastic and prepared about replacing traditional learning with digital learning. Some of the limitations of our study were that it was conducted in one particular private dental college of Peshawar hence lacks generalizability. Moreover, this study was based on a few selected questions and did not cover all the aspects of e-learning. The response rate recorded was 68 % which means the overall response rate was low.

Our future recommendations are that this research should be expanded nationwide and public sector dental and medical colleges should be included as well. Secondly, to increase the strength of our study, proper steps of instrument development can be followed, to formulate the questionnaire. Lastly, if e-learning awareness is increased among students through seminars and faculty and students are properly trained with online learning and assessment strategies, hybrid education can be introduced in our institutes as well.

## CONCLUSION

Although, E-learning has been globally accepted as a primary teaching and learning modality but the third world countries are still finding it hard to implement it. Our students are not willing to adopt it as a primary teaching modality. The cause is multifactorial such as lack of training of staff and the students, lack of resources and lack of interest to meet the challenges of modern day digital world. E learning is need of the hour and sincere efforts with proper planning should be done to gain fruitful results and improve shortcomings of our online education.

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