



Perception of Dental Students towards the usage of Online Assessment during COVID -19 Pandemic

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Background: The COVID-19 pandemic have forced educational institutions to shift rapidly to distance and online learning. This study aims to explore attitude and perception of dental students towards online assessment during pandemic.

Objective: To assess student's perception, attitudes, and readiness toward online assessment.

Methodology: A self constructed questionnaire including 10 questions was designed with 5 specialists, to improve the design ambiguity. The study was conducted through electronic media.

Results: A total of 270 dental students answered the survey. The overall response rate was 70.68%. More than 50% students are well versed with online assessment. One fourth of the participants found convenience as the advantage while 64.7% students encountered technical issue as the limitation of online assessment. There was overall positive attitude towards usage of online assessment.

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Conclusions: This study showed acceptable levels of individual characteristics and system ability levels as well as the perceived importance of using online tools in dental education among the participants.

Keywords: COVID-19; online assessment (OA); dental; students; perception.

1. INTRODUCTION

The deadly infectious disease Covid-19 profoundly affected the education sector, across the globe forcing many colleges to remain closed temporarily and discontinuation of in-person teaching in universities. It is unsure to get back to normal teaching anytime shortly. The lockdown due to Covid-19 has thoroughly shaken the conventional education system and forced to adapt the avenues of online education.

As a result of confinement of the students and faculty in their homes, the traditional paper and pen examinations in examination hall were not feasible. The uncertainty threatened the progress of millions of students taking higher education due to delays in academic schedules. Educational units are challenging to find out possible ways to deal with this tough situation. These situations make us understand that scenario planning is burning need for academic institutions [1] (Rieley, 2020).

Looking at the current situation, the COVID-19 pandemic experienced the preparedness of universities to deal with a disaster requiring the help of advanced technology to facilitate effective online learning. This boosted the development of online learning platforms and facilities so that disruptions in learning can be minimized [2]. Institutions to a greater extent emphasized on online engagement of learners, delivering the course contents online and online assessments. Thus Covid -19 which marked a great danger to humanity, in fact provoked the institutions to adapt and empower online learning.

Online learning systems include web-based software used for the distribution, tracking and managing courses over the Internet. It involves directing, designing and delivering the learning contents, thereby facilitating two-way communication between students and faculty. Advantages of online learning saves time, reduces costs, offers various learning styles, allows students to learn anywhere at any time outside classroom and overcomes shortage of faculty. Though online learning and online assessment is not new to the learners, pandemic

revived the need to investigate online learning and assessment opportunities. Easy accessibility and usage of online tools are important factors [3-5].

Since the establishment 1998, Maharashtra University of Health Sciences (MUHS), Nashik was following traditional method of assessment but due to mega pandemic of COVID-19, MUHS has rapidly shifted its focus from traditional way to online assessment. MUHS has come up with various innovative ways of carrying out OA, which are required for final results.

OA would be a sudden shift to new challenge for dental students. Hence present study would be first of its kind that aims to access the perception of dental students towards the usage of OA for the first time during COVID-19 Pandemic. It may also identify opportunities for future education, research and software development in this field.

2. METHODOLOGY

A cross-sectional observational study was carried out using a questionnaire. A self-constructed, prevalidated questionnaire [Fig. 1] including 10 questions was designed with five specialists to improve the design without any ambiguity. The questionnaire survey link was forwarded to 382 dental students inclusive of all first to final academic year of VSPM Dental College, Nagpur. The requested answers were in the form of yes/no, multiple choice and free text questions. The questionnaire was designed specifically for this research project and incorporated Likert-type [6]. scales . Overall, there were 270 completed questionnaires were collected during one month.

2.1 Inclusion Criteria

Dental students inclusive of all first to final academic year of VSPM Dental College, Nagpur.

2.2 Exclusion Criteria

Dental students who have completed their graduation, students who declined to participate or returned grossly incomplete questionnaires.

<p>QUESTIONNAIRE</p> <p>Age-----</p> <p>1- Do you have access to computer or internet facility?</p> <p>Ans- a-Yes b-No</p> <p>2- I know how to open, modify and upload document.</p> <p>Ans- a- Strongly disagree b- disagree c-uncertain d-agree e- strongly agree</p> <p>3- I check the internet daily or weekly for course announcements, and online assessment.</p> <p>4- Ans- a- Strongly disagree b- disagree c-uncertain d-agree e- strongly agree</p> <p>4- Which one is more helpful in communication and interaction with teachers and other students?</p> <p>Ans - a- WhatsApp b- e mail c- Any other, please specify-----</p> <p>5- Are you aware of online assessment?</p> <p>Ans- a- Yes b- No</p> <p>6- My attitude towards online assessment is</p> <p>Ans- a- very negative b- negative c- positive d- very positive</p> <p>7- Benefits of online assessment can be-</p> <p>Ans- a- saves time, b- improved structure/ readability/ corrections possible</p> <p>c- interesting d- much more convenient</p> <p>e- no difference f- environment friendly g- Any other, please specify-----</p>	<p>h- Obstacles encountered during online assessment</p> <p>Ans- a- technical issues</p> <p>b- more time required</p> <p>c- it's a new situation</p> <p>d- not used to/ friendly with technical devices</p> <p>e- simply, prefers paper exams</p> <p>f- Any other, please specify-----</p> <p>9- Online assessment can replace traditional assessment.</p> <p>Ans- a- Strongly disagree b- disagree c-uncertain d-agree e- strongly agree</p> <p>10- Any other suggestions related to online assessment, please mention.</p> <p> </p>
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Fig. 1. Questionnaire for survey

The results were evaluated using comparison amongst all the groups. The data was analysed using Microsoft Excel 2013™, and the results reported using numbers and percentages.

3. RESULTS

Among the 382 dental students, 270 students completed the questionnaire. The overall response rate was 70.68%. Their age ranged from 19-24 years.

The results (Graph 1) show that most students have computer and daily internet access (27.8% agree and 50% strongly agree), agreed that they know how to open, modify, and upload online documents (31.5% agree and 38.9% strongly agree), and checked the internet daily or weekly for course announcements. (27.8% agree and 38.9% strongly agree).

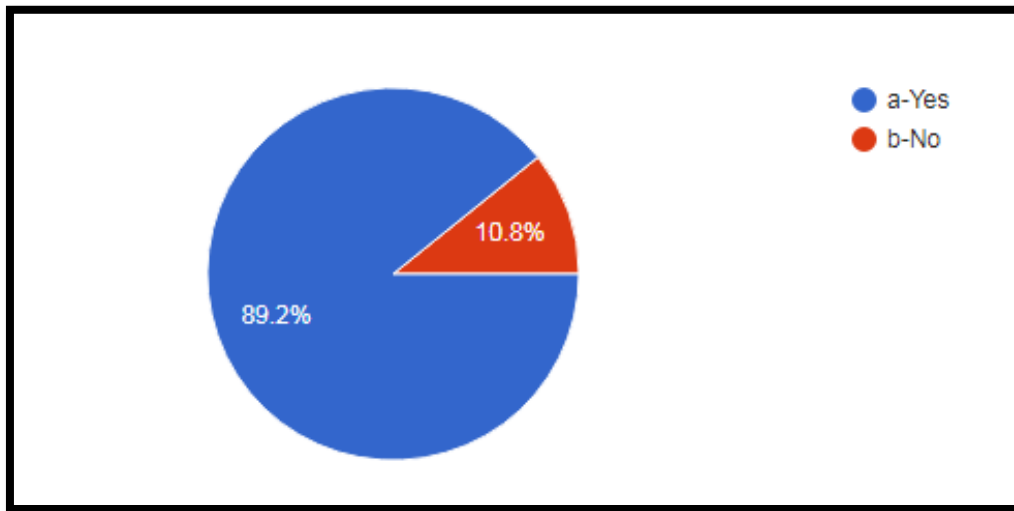
In addition, 84%, n=225 students agreed that

WhatsApp was helpful to their learning and communication with teacher and other students.

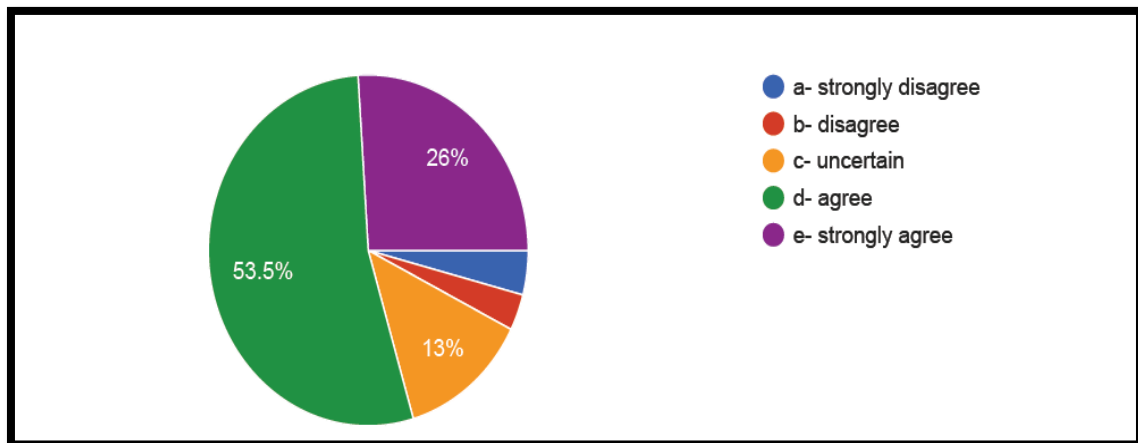
Almost all (95.5%, n=255) students were aware of online assessment. Overall positive responses were reported when students were asked about attitude and perception towards usage of OA.

Present survey lead to the identification of the several advantages of online assessment during COVID-19 Pandemic. About one fourth (20.8%, n=55) of dental students agreed about convenience as its main advantage. While answering about obstacles encountered during online assessment, more than half participants (64.7%, n=172) agreed for technical issues.

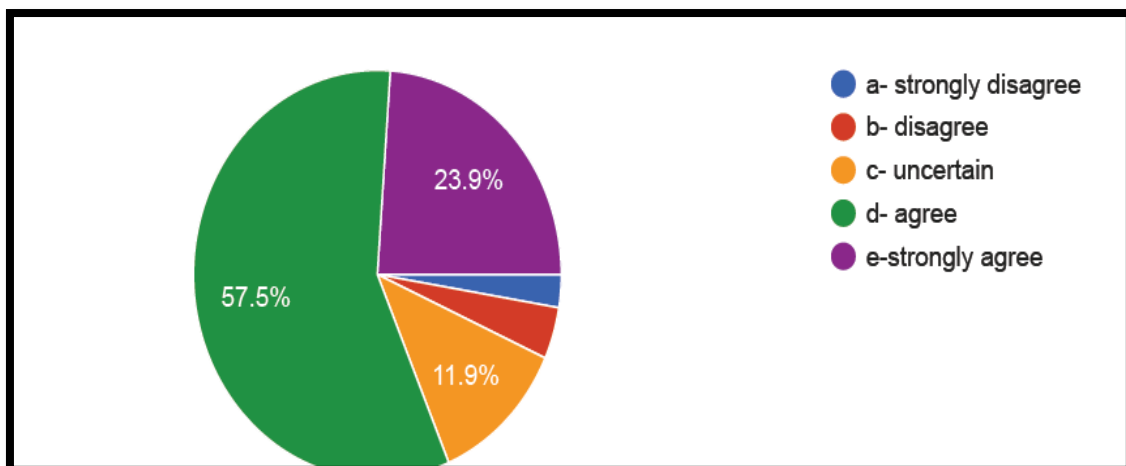
Overall, the frequency distribution shifted to the right indicating a high frequency of agreement on replacement of traditional way of assessment by newer innovative methods of online assessment.



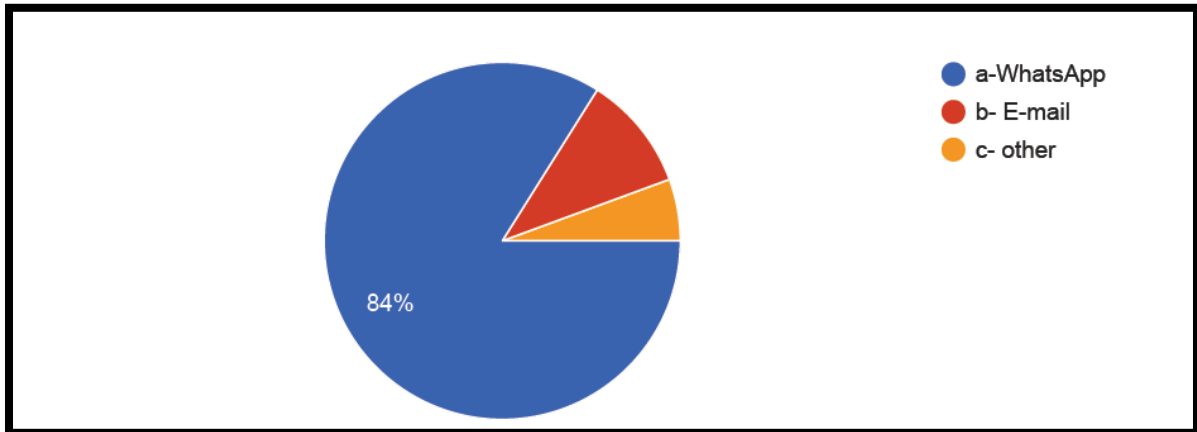
Graph 1. Response of participants towards access to internet facility



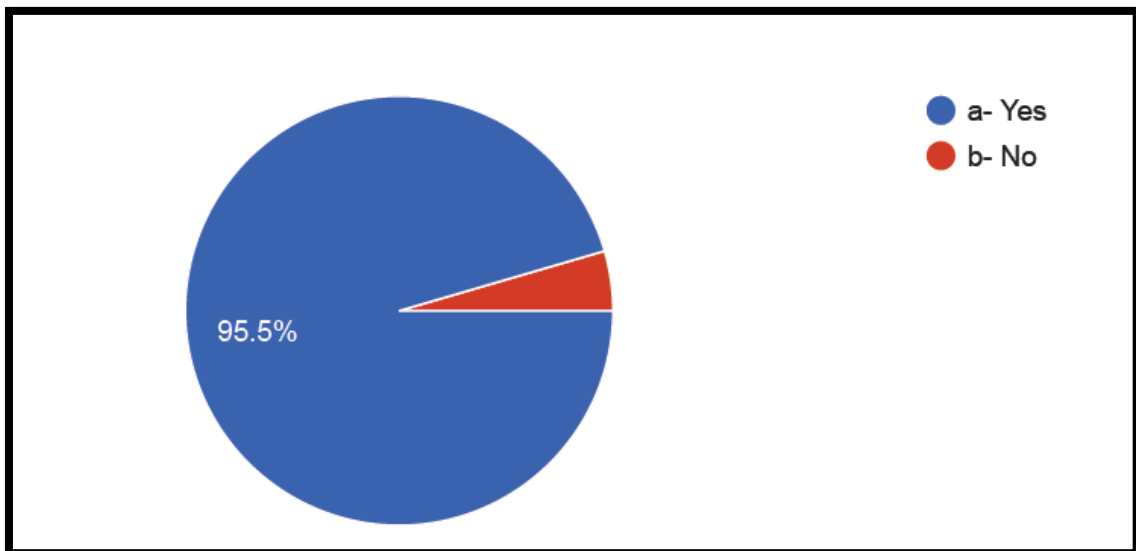
Graph 2. Knowledge about how to open, modify and upload the document



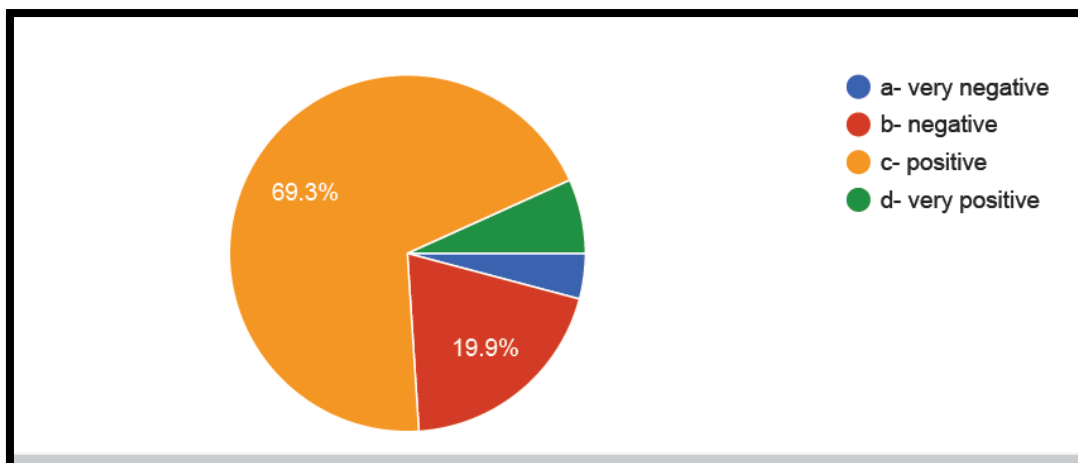
Graph 3. Checking internet daily or weekly for course announcement



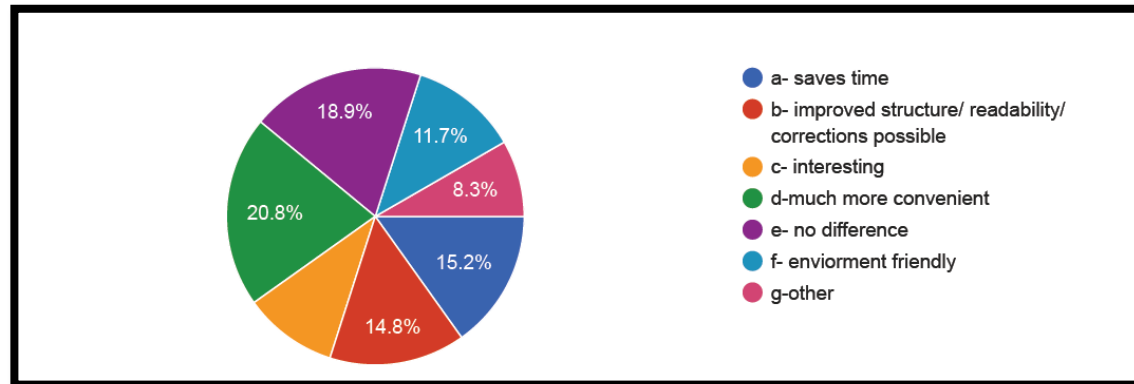
Graph 4. Helpful method of communication and interaction with teachers & other students



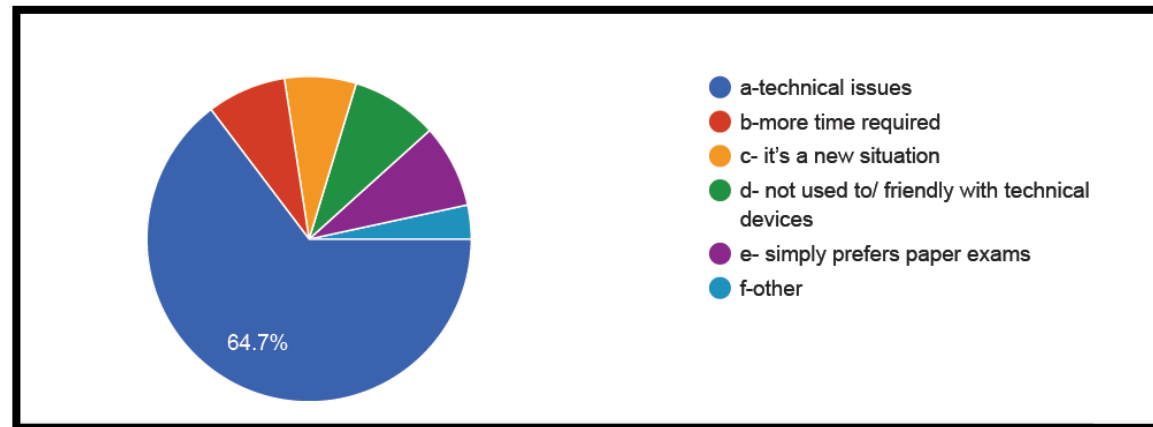
Graph 5. Awareness about online assessment



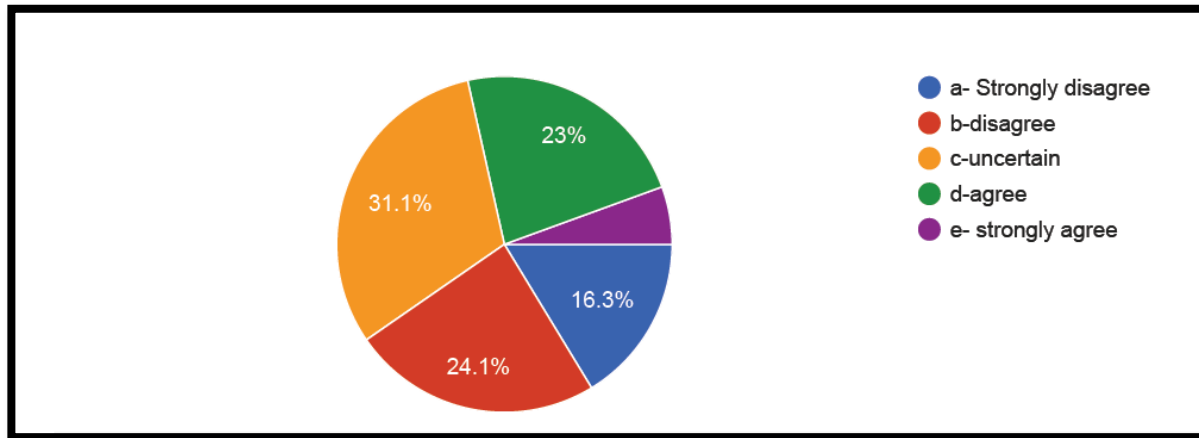
Graph 6. Attitude towards online assessment



Graph 7. Benefits of online assessment



Graph 8. Obstacles encountered towards usage of online assessment



Graph 9. Opinion about replacement of traditional way of assessment to online method

4. DISCUSSION

Albeit a preliminary one, this study succeeded in exploring perception of online assessment practice among dental students. A novel deadly disease struck the world like a tsunami, in the spring of 2020. Within less than 90 days from its official recognition in late January, the 2019 novel coronavirus disease (Covid-19) has affected globally, bringing complete shutdown. Health universities are not immune to the novel disease, and the coping mechanism is difficult. Despite discomfort and disconnect, online learning and OA has become a new norm. Institutions have strict policies on personnel mobility, and many of them are in full lockdown. Many students went back to their home, thinking they could return when the disease gets under control, but are now facing outbreaks in their home cities and strict global travel and custom restrictions. Time-honored academic life, in general, is profoundly disrupted. Students were continued to wait patiently from the feeling of never knowing when this endlessly cruel holiday might end and rejoin the institutes back to normal classroom life.

MUHS university was established on 3 June 1998 by the state Government of Maharashtra, almost from past 21 years university was following traditional in person way of conducting assessment. Due to this severe outbreak, the government has had new regulations put in place. Regarding teaching and learning, this outbreak obliged everyone to stay at home, and put stress on teachers to find out new learning and assessing tools. University declared that to combat Covid-19 jointly, by following protocols and staying in the confines of homes, students should utilize tough phase productively by engaging in online learning on digital platform [7].

The current study assessed the perception, attitudes, and readiness of study group toward the challenges of online learning in dental education. The participants in the current study reported a high level of computer skills and adequate OA experience. Digital India made easy accessibility of internet to almost all the participants and thereby majority of the students are well versed with the technical skills like uploading, modifications etc required for OA.

Participants reported with greater confidence about checking internet daily for course announcement. Many changes have been introduced in the accessibility and use of

information technology. Thus majority of undergraduate dental students are now computer literate and are supported by comprehensive information technology infrastructure [8].

For dental student, social media has become more easily accessible and can be utilised using a variety of media, such as What's app, e-mail etc. This may widen horizons of not only students but teachers also in delivering information [9]. Findings of present study are in accordance with Bhola et al. It was found that whats app was the most accepted social media for dental students for communication amongst students and dental teachers. Also few reported that Google classroom can also be an alternate way.

Participants in the current study perceived that OA has several benefits which include time saving, improved structure, readability & corrections are possible, interesting, much more convenient and environment friendly. Such findings are in accordance with SWOC (Strengths, Weaknesses, Opportunities, & Challenges) analysis. Other benefits may also include-

- 1- great deal of flexibility in terms of time and location
- 2- students can give immediate feedback
- 3- anytime-anywhere feature

While OA clearly have a specific and important role in dental higher education but they are not without challenges. Sometimes student finds online teaching to be mind-numbing and unengaging [10]. A number of obstacles and issues are raised by students concerning OA [11-13]. Few of the related studies were reported [14-15]. Technical support most demanded by the participants in the current study. Other common weaknesses that may hamper the OA are-

- 1-human touch is lost
- 2-students non-serious behavior
- 3-time & cost involve is high.

5. CONCLUSION

Students and teachers across various universities have never really practiced e-learning. Most of them are complacent and are stuck with traditional modes of teaching. The Corona Virus outbreak is the prospect to make out the best from the current situation. This crisis will be a new phase for online learning and will

allow people to look at the fruitful side of e-learning technologies.

This study showed acceptable levels of individual characteristics and system ability levels as well as the perceived importance of using online tools in dental education among the participants. A step-by-step guide can be prepared by academic institutions that can guide the teachers and students on how to access and use various e-learning tools and how to cover major curriculum content via these technologies thereby reducing the digital illiteracy.

CONSENT

As per international standard or university standard, respondents' written consent has been collected and preserved by the author(s).

ETHICAL APPROVAL

The study was conducted after approval by the Institutional Ethical Committee.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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