

Dental Faculties and Practitioners' Perception of Virtual Learning as Integral Apparatus in Dental Education: A Cross-sectional Survey

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ABSTRACT

Introduction: The Coronavirus Disease-2019 (COVID-19) pandemic saw a global lockdown being imposed, which restricted dental faculties access to teaching institutes and dental practitioners to continuing dental education programs. However, this resulted in a surge in the usage of virtual learning platforms for imparting and gaining information.

Aim: To evaluate the knowledge, awareness and perception of dental teaching faculties and practitioners about virtual learning as a complementary tool in dental education.

Materials and Methods: A nationwide cross-sectional questionnaire survey was conducted on the virtual platform (SmartSurvey) among dental faculties and dental practitioners, from June 2021 to July 2021. The questionnaire comprised of different sets of closed-ended questions customised for each group. The survey was validated and dispersed through web-based links and Quick Response (QR) codes to all the dental

faculties and practitioners. Descriptive statistics was used for analysing the results.

Results: A total of 596 participants (220 dental faculties and 376 dental practitioners) participated in the survey. Zoom (n=157, 82.63%) was the most popular among the virtual platforms used for dental education. Affability of time (n=192, 87.27%), convenience and comfort of learning from anywhere (n=312, 82.98%) were the main advantages of virtual education. The dominant challenge faced by the participants was the internet connectivity (n=213, 96.82%).

Conclusion: Majority of the faculties and practitioners prefer virtual education as an adjunct to conventional education. The widespread reach of virtual platform can be utilised to effectively deliver the educational content on a global scale. However, a streamlined framework which addresses all the shortcomings commonly faced by the faculties and practitioners is essential to provide a hassle-free virtual learning experience.

Keywords: Communication, Distance learning, Educational model, Internet

INTRODUCTION

The outbreak of pandemic led World Health Organisation (WHO) to declare a public health emergency of global concern [1]. As a result of this global lockdown, there was a decline in outdoor as well as group activities. Amongst the critically afflicted categories were the educational sectors like schools and colleges, which had stopped functioning due to the health crisis [2]. Additionally, dental practitioners were among the high-risk groups for the spread of Coronavirus Disease-2019 (COVID-19) pandemic through droplets and aerosol [3,4]. This posed a higher risk for the dental practitioners working on patients with dental conditions [5]. The global hiatus led to the development of virtual platform and acceleration in its usage by the dental faculties for the students and practitioners. This resulted in teaching and acquiring knowledge becoming easier and within the reach of the palm [6].

Formerly, classroom teaching and traditional face to face interactions dominated the teaching arena with the usage of textbooks, notes, handouts, black/white board teaching [7]. Likewise, Dental congresses, Continuing Dental Education (CDE) programs and hands-on workshops were the only modes of learning for practitioners to equip on newer technologies and techniques in the field of dentistry [8]. This was replaced with the inception of webinars offered through social media platforms, which have become a primary source for dental education [9].

The pandemic resulted in a rise in adoption of the digital technology and revolutionised the way in which information is spread from one corner of the world to another [10]. It was estimated that 88% of youngsters in urban population belonging to the age group of 16

-24 years used social media on a daily basis [11]. The increasing popularity and acceptance of online educational programs has pushed teachers across the world to adapt to online teaching.

However, virtual education demands the need for computer skills to keep up with the recent technological trends that come along with these new softwares [12]. There is a need of constant upgradation from the teachers' perspective to cope-up with the ever increasing demands of the students, in terms of content and context of education being provided [13]. The usage of virtual platform also comes with certain shortcomings such as the inability to monitor every student individually, lack of two way feedback and internet connectivity issues [14]. Getting to know the advantages, challenges and lacunae experienced by dental faculties and dental practitioners in the virtual field of learning would help solidify virtual learning as a viable alternative to the conventional means and also come up with an effective model to conduct an effective virtual education system.

Hence, the aim of this cross-sectional questionnaire study was to evaluate the knowledge, awareness and perception of dental teaching faculties and practitioners about virtual learning as a complementary tool in dental education and understand the shortcomings of virtual education experienced by the dental faculties and practitioners in India.

MATERIALS AND METHODS

The present cross-sectional nationwide survey was conducted across India, through an online software called SmartSurvey, for a period of one month i.e., from June 2021 to July 2021. The study was approved by the Institutional Review Board (IRB) of the University (IHEC/SDC/ORTHO-1905/22/460). Two different sets of

questions were made, targeting the dental faculties and practitioners in India. The questionnaire consisted of a series of closed-ended questions with multiple choices, with matrices under certain questions that would lead the participants to the relevant domain and further evaluate the knowledge of the participant, pertaining to that particular question.

Inclusion criteria: Dental practitioners irrespective of the area of specialty, dental faculties currently associated with any dental educational institute and participants who gave consent to taking up the survey were included in the study.

Exclusion criteria: Undergraduate and postgraduate dental students, dental technicians and hygienists, and participants not belonging to dental profession were excluded from the study.

Sample size calculation: Sample size calculation was not done as the number of participants receiving the questionnaire could not be determined, since even the participants were urged to share the link within their professional circle. Moreover, authors did not have control over how many faculties and practitioners actively participated in the survey after receiving the link. All those participants who returned the completely filled online questionnaire properly, were included as sample in the study.

Questionnaire

A total of 15 questions for faculties and 17 questions for practitioners were formulated, keeping in mind the length of the questionnaire, simplicity, ease of understanding and the relevance of the questions. The formulated questions were such that they focused on preference of different aspects of virtual learning, advantages, disadvantages, challenges and its future adoptions. The questionnaire was devised by joint discussion between all the five authors of this study, who had periodic online meeting through Skype platform, to discuss about the legitimacy and relevance of the formulated questions. The questionnaire was formulated de novo, without any reference from any previously conducted study. The kappa value obtained was 0.83 which was a good agreement among them.

The face, content and the design of the questionnaire was validated by sharing the questionnaire with 20 random practitioners and 20 random faculties of dental schools, the results of which were not included in the final analysis. Cronbach's alpha value of 0.875 was obtained, indicating good internal reliability of responses between the validators. The feedback of the practitioners were taken into account for designing the final questionnaire.

The distribution of the questionnaires was done by providing the participants with a link to the survey questionnaire through various electronic media such as emails, social media platforms like Facebook, Instagram, WhatsApp, Telegram, Short Message Service (SMS) and through Quick Response (QR) code. Consent was obtained from the participants prior to commencement of the survey and their identities were kept anonymous. Three reminder messages were sent to every participant at a span of one week each to garner maximum participation. The faculties and practitioners were further urged to share the link with their professional circle, in order to achieve maximum reach.

STATISTICAL ANALYSIS

The results were obtained electronically, tabulated in a spreadsheet and were subjected to descriptive statistics using Microsoft Excel software 2019 version 2202. Kappa statistics and Cronbach's alpha test was done to evaluate the interobserver reliability between the respondents, using International Business Management (IBM) Statistical Package for the Social Sciences (SPSS) software version 23.0.

RESULTS

A total of 596 responses were received, of which 220 respondents were dental faculties and 376 respondents were dental practitioners.

The mean gender distribution of the faculties and practitioners that participated in this study is depicted in [Table/Fig-1].

Gender	Faculties (N=220) n (%)	Practitioners (N=376) n (%)
Female	109 (49.55)	219 (50.24)
Male	111 (50.45)	157 (41.76)

[Table/Fig-1]: Gender distribution of faculties and practitioners.

Dental faculties: Number of faculty participants who had a teaching experience of more than five years was 104 (47.27%). Faculties who had conducted some form of virtual education in the past were n=190 (86.36%), whereas 30 participants (13.64%) had no previous experience of conducting virtual education. One hundred and seventy two (90.53%) of the faculties have used virtual education to address the undergraduate students, whereas 105 (55.26%) have used it for postgraduates. The video platform used by majority of them for dental education in the university was by Zoom (n=157, 82.63%) followed by Google Meet (n=67, 35.26%) and WhatsApp (n=42, 22.11%). The preferred method of virtual teaching by majority of the participants was through webinars (n=168, 88.42%) followed by online tests and exams (n=116, 61.05%) and Journal clubs by students (n=105, 55.26%).

The preferred mode of teaching, for delivering academic content, student supervision and time for preparation of teaching materials is depicted in [Table/Fig-2]. One hundred and twenty one (63.68%) of the faculties were of the opinion that classroom learning is better than virtual learning, in terms of interaction with the students. The responses for comparison of virtual and conventional participation in conferences/conventions show that virtual participation is more time saving (n=147, 66.8%), cost effective (n=171, 77.7%) and allows a greater number of participations (n=146, 66.4%). However, it was not better than conventional participation in delivering the scientific content (n=75, 34.1%), audience-speaker interaction (n=114, 51.8%) and it also hampers the social and professional interactions. One hundred and ninety two (87.27%) faculties believe flexibility of time is the biggest advantage, followed the comfort of access from any location (n=189, 85.91%) [Table/Fig-3]. Number of participants who believed internet connectivity is the biggest disadvantage of virtual education were 213 (96.82%) [Table/Fig-4]. The opinion of teaching faculties on various implementations and future applications of virtual learning is shown in [Table/Fig-5].

According to you, which mode of teaching in dentistry do you think...	Virtual learning n (%)	Classroom learning n (%)	Both n (%)	Response (n)
Is more effective in delivering the academic contents to your students?	3 (1.6)	79 (41.6)	108 (56.8)	190
Is better for student evaluation/supervision?	8 (4.2)	135 (71.1)	47 (24.7)	190
Needs more time to prepare for a class?	73 (38.4)	30 (15.8)	87 (45.8)	190

[Table/Fig-2]: Preference of faculties for mode of teaching.

As per Q6, for having conducted any form of virtual education, only 190 participants had opted Yes. The participants who opted for the option NO were automatically skipped from this question by the online questionnaire software as it was not relevant for them

Dental practitioners: Out of 376 practitioners, 243 (64.63%) had a clinical work experience of 0-5 years, whereas 70 (18.62%) of the practitioners had 6-10 years of work experience. Two hundred and seventy eight (73.94%) of the practitioners had some form of previous exposure to virtual education programs. Zoom (n=229, 82.08%) was the most commonly used virtual platform for dental education followed by Facebook Live (n=138, 49.46%), GoTo Webinar (n=96, 34.41%) and YouTube Live (n=93, 33.33). The preferred duration and frequency for a webinar as per the respondents was 45 minutes (n=117, 41.94%) and less than one webinar per week (n=126, 45.32%). Majority of the practitioners (n=211, 75.90%)

What are the advantages of virtual teaching in dentistry? (Multiple responses allowed)		Response (%)	Response (n)
1.	Flexibility of time (can be conducted at a convenient time)	87.27	192
2.	Ease of accessibility (using a computer, smartphone, tablet)	72.73%	160
3.	Comfort of access from any location (no need to be in the classroom)	85.91%	189
4.	Affordable (eliminates travel costs and travel time)	73.18%	161
5.	Remote access for students without geographic limitations	64.55%	142
6.	Multidimensional possibility to enhance knowledge through online resources	41.82%	92
7.	Ease of assessment (evaluating assigned tasks, knowledge)	32.73%	72
8.	Environment friendly	40.00%	88
9.	Faster sharing of resources (reading materials, presentations, e-books, videos)	62.27%	137
10.	Others (Please specify)	4.55%	10
Others: (please specify) (10)			
1.	Easy to leave if not interesting		
2.	May be		
3.	May be recorded and repeated or archived		
4.	It's a burden on the teachers. Can't account for presence of all students		
5.	Teacher is a must and cannot be substituted by virtual teaching as teacher is a facilitator.		
6.	Student need not miss a class due to unavoidable circumstances, revisions can be done anywhere/anytime		
7.	I don't recommend		
8.	Can be recorded and views multiple times whenever the students prefer		
9.	Prevents group gathering which is the need of the hour.		
10.	Accessing remotely hamper the personal touch. One may not be able to assess what the student is perceiving and vice versa.		

[Table/Fig-3]: Advantages of virtual teaching (Faculty).

What are the disadvantages of virtual teaching in dentistry? (Multiple responses allowed)		Response (%)	Response (n)
1.	Internet connectivity problems	96.82	213
2.	Internet security issues (data, sensitive patient information)	73.64	162
3.	Lack of face-to-face interaction with the faculty	80.00	176
4.	Difficult to monitor the student's response	81.36%	179
5.	Poor training of preclinical skills	67.73	149
6.	Poor training of clinical skills	82.73	182
7.	Difficulty of assessment of preclinical competence	61.36%	135
8.	Difficulty of assessment of clinical competence	75.00	165
9.	Difficulty of learning newer technology and software	29.09	64
10.	Others (Please specify)	1.82	4
Others: (please specify) (4)			
1.	May not be good for dentistry which highly comprises clinical activity		
2.	Not fully reliable.		
3.	Easy loss of interest/attention span		
4.	Personal touch. For any human interaction personal touch is a must. Except for this all are technical problems which I feel can be rectified to some extent.		

[Table/Fig-4]: Disadvantages of virtual teaching (Faculty).

have attended webinars conducted by both national as well as international speakers. WhatsApp (n=235, 84.53%) and Facebook (n=182, 65.47%) were their foremost sources of information related to dental webinar. Updating/refreshing knowledge was the prime reason for 242 (87.05%) practitioners to attend dental webinars. Dental practitioners were of the opinion that virtual participation in conferences/conventions were better than conventional participation as it was more time-saving (n=287, 76.3%), more cost-effective

Faculty's perception of virtual teaching as a tool in the future	Yes n (%)	No n (%)	Maybe n (%)	Response n (%)
Compromises clinical understanding of a topic by the student	137 (62.3)	36 (16.4)	47 (21.4)	220
Compromises clinical teaching of a topic by the faculty	129 (58.6)	48 (21.8)	43 (19.5)	220
Should be used as an adjunct for future teaching in dental education	148 (67.3)	21 (9.5)	51 (23.2)	220
Should be used as a major mode for future teaching in dental education	34 (15.5)	145 (65.9)	41 (18.6)	220
Has a negative impact on mental health and well-being of the teacher	56 (25.5)	92 (41.8)	72 (32.7)	220
Was helpful during the lockdown period	197 (89.5)	3 (1.4)	20 (9.1)	220
Should continue post COVID-19 period	62 (28.2)	80 (36.4)	78 (35.5)	220

[Table/Fig-5]: Faculty's perception of virtual teaching as a tool in the future. COVID-19: Coronavirus Disease-2019

(n=306, 81.4%), more effective in delivering the scientific content (n=114, 30.3%) and allowed a greater number of participants (n=270, 71.8%). However, the respondents also believed that virtual conferences are not better for audience-speaker interaction (n=161, 42.8%), was worse for social interaction between participants (n=166, 44.1%) and hindered professional interactions (n=187, 49.7%). Three hundred and twelve (82.98%) chose the comfort of access from any location as the main advantage of virtual learning, followed by 301 (80.05%) respondents who chose ease of accessibility and 297 (78.99%) participants who chose flexibility of time [Table/Fig-6]. The main disadvantage of virtual learning was internet connectivity issue (n=275, 73.14%), followed by organising hands-on workshop (n=266, 70.74%) [Table/Fig-7]. The practitioners' perspective on role of virtual learning in dentistry is given in [Table/Fig-8]. Practitioners would prefer virtual as well as conventional mode of learning for continuing dental education (n=247, 65.7%) and dental conferences (n=211, 56.1%).

What are the advantages of virtual learning in dentistry? (Multiple responses allowed)		Response (%)	Response total (n)
1.	Flexibility of time (can be viewed at a convenient time for the dental practitioners)	78.99	297
2.	Ease of accessibility (using a computer, smartphone, tablet)	80.05	301
3.	Comfort of access from any location (even from within the clinic)	82.98	312
4.	Affordable (eliminates travel costs and travel time)	73.94	278
5.	Remote access without geographic limitations	53.72	202
6.	Multidimensional possibility to enhance knowledge through online resources	43.35	163
7.	Environment friendly	37.50	141
8.	Faster sharing of resources (reading materials, presentations, e-books, videos)	58.51	220
9.	Any others: (Please specify)	1.33	5
Any others: (please specify) (5)			
1.	Point no. 1-only if the recording is available for later viewing		
2.	No extravaganza expenditures		
3.	Since most webinars and lectures get uploaded, there is the great advantage of listening to the lecture again or the important part of it as many times as we want		
4.	Virtual meetings are safer in pandemic crisis times		
5.	Keep in touch with the subject		

[Table/Fig-6]: Advantages of virtual learning in dentistry (Practitioners).

DISCUSSION

This questionnaire survey aimed at evaluating the general perception and the preference of the faculties in dental schools and dental practitioners in India regarding the usage of virtual platforms for the purpose of dental education. Previous studies have shown that

What are the disadvantages of virtual learning in dentistry? (Multiple responses allowed)		Response (%)	Response total (n)
1.	Internet connectivity problems	73.14	275
2.	Internet security issues (data, sensitive patient information)	48.94	184
3.	Lack of face-to-face interaction with the speaker	53.99	203
4.	Difficulty in organizing hands-on workshops	70.74	266
5.	Negative impact on physical health (Strain to the eye, sedentary, lifestyle)	35.11	132
6.	Lack of professional networking	38.30	144
7.	Lack of social networking	33.78	127
8.	Any others: (Please specify)	1.86	7
Any others: (please specify) (7)			
1.	Speaker if not sound technologically finds it difficult		
2.	Not all webinars are HD. If a technique is being demonstrated, the field of vision is less, clarity issues are less and sometimes it gets boring		
3.	Dentistry is a skilled based profession and hands on play vital role it adds to the theoretical knowledge		
4.	To pace up with the lecturer		
5.	Lack of environment conducive for learning		
6.	Lack of technical knowledge		
7.	Nil		

[Table/Fig-7]: Disadvantages of virtual learning in dentistry (Practitioners).

I think virtual learning in dentistry...	Yes n (%)	No n (%)	May be n (%)	Response total (n)
Is beneficial to improve the skills in clinical practice	189 (50.3)	68 (18.1)	119 (31.6)	376
Compromises clinical understanding of a topic	160 (42.6)	130 (34.6)	86 (22.9)	376
Was helpful during the lockdown period	335 (89.1)	7 (1.9)	34 (9.0)	376
Should continue post COVID-19 period	221 (58.8)	54 (14.4)	101 (26.9)	376

[Table/Fig-8]: Practitioners' perspective on role of virtual learning in dentistry.

e-learning has been an effective tool in administering education to students and thereby improving the quality of education [15,16]. Kumar PM et al., in his study states that e-learning could be a revolutionary means of improving theoretical and clinical related advancements [15]. Sidpra J et al., in their study urge the educators to see videoconferencing as a powerful tool in delivering educational content during social isolation [16]. However, certain challenges faced by students like interaction, duration and modes of education were not evaluated previously, plus there are no studies that have been conducted targeting the education of dental practitioners.

Most of the respondents in this survey had a teaching experience of less than five years, showing that the trend of virtual learning has been widely employed by the young dental faculties. Majority of the respondents had previously conducted virtual education for undergraduates, postgraduates, dental practitioners and specialists, showing that most of them had prior exposure to virtual education. The choices for video conference platforms are in abundance and with the introduction of newer softwares like Kaltura virtual classroom, Vedamo, BigBlueButton, LearnCube, Electra Live and Adobe Connect, it offers faculties a plethora of options to choose from [17]. Among the dental faculties, Zoom was the most preferred video platform for delivering university dental education, with Google Meet and WhatsApp being the other most commonly used platforms. Similarly, study conducted by Orloff C has also shown Zoom to have been extensively used in the United Kingdom during COVID-19 lockdown for providing education and lectures for all

age groups [18]. Few respondents (13.68%) (n=26) had also cited the usage of university customised virtual teaching platform for the delivery of academic content.

In terms of the effectiveness in delivering academic content to the students, both virtual as well as conventional classrooms were equally preferred. However, faculties believed classroom learning was better for student supervision and also believed virtual learning took more time to prepare for a class. This could be attributed to the need for preparation of newer digital learning materials prior to the commencement of every online session and a backup contingency, just in case there were any technical difficulties encountered during online teaching, which would necessitate the need for an alternative teaching method [19]. Also, faculties were of the notion that the student-teacher interaction is poor in virtual platforms, as the student is not bound by the close vigilance of the teacher in the same room.

According to the faculties, virtual conference/convention is equally effective to conventional conference/convention in delivering the scientific content. Most faculties feel that the virtual conference/convention is more time saving and more cost effective than conventional conference/convention. This is in accordance with a poll conducted among the participants in the study conducted by Remmel A, [20]. On the contrary, faculties believe that virtual conference is not better for audience-speaker interaction, social interaction between the participants and also believe that it hampers their professional interactions, which is in accordance with the study conducted by Woolston C, [21]. Another advantage of virtual conferences is that it allows a greater number of participation compared to conventional conference/convention, due to the absence of geographic limitations and the ability of the participants to attend from the comfort of their houses [22].

Among the listed advantages in the questionnaire survey, the main advantage of virtual teaching as reported by the respondents was the flexibility of time. This result was similar to the findings reported by the study done by Mukhtar K et al., who reported the faculties favouring flexibility of time as being the foremost advantage of virtual education [23]. One of the major drawbacks reported by the dental faculties while using the virtual platform was inconsistent internet connectivity, which disrupts the continuity of the flow of delivering the educational content. This was also reported by another study conducted by Topor DR and Budson AE [24]. Faculties feel that virtual teaching compromises the clinical teaching of a topic by the faculties and also the comprehension of clinical topic by the student. This could be improved in the future by the use of newer innovative teaching methodologies such as virtual and augmented realities. More than 60% faculties feel that virtual teaching should only be used as an adjunct and not as the major mode for future teaching in dental education. Although 89.5% of the faculties say that the virtual teaching was helpful during the lockdown period, majority of them do not want it to continue post-pandemic. This has also been the case in several studies which show that the faculties were more inclined towards conventional classroom teaching than virtual teaching [25,26]. This mindset could possibly change in the future with better adaptation and exposure to newer innovative methods of virtual teaching.

The survey addressing the dental practitioners showed that majority of practitioners had previous exposure to webinars and online classes for continuing dental education, showing high engagement of dental practitioners towards dental education. Most of the dental practitioners had a clinical experience of less than five years, which again showed that the recently graduated dental practitioners were more inclined towards virtual learning. Dental practitioners had most commonly used Zoom video conferencing platform, which was also the case with dental faculties. This was followed by Facebook Live, Go To Webinar

and YouTube Live. The latter are used more often as a form of informal means of education. Majority of practitioners acquired their source of information about the webinar, through WhatsApp, Facebook, electronic mail and Instagram. Frequency of online lectures and duration of each session also plays a key role in the success of a virtual educational program [19]. Dental practitioners are generally under a time constraint and the time frame for every webinar is a crucial factor in order to get maximum attendance. A total of 41.94% practitioners chose 45 minutes as their preferred duration for a webinar. Majority of practitioners attended 1-3 webinars a week.

Of late, virtual conferences have gained more popularity and acceptance as 30.3% of the practitioners felt it was more effective in delivering the content and 38.5% felt it was equally effective when compared to conventional conferences. Practitioners also believe that virtual conferences were more time saving and cost effective. However, many felt that the audience-speaker interaction was bad and virtual conferences were worse for social interaction between participants.

The main advantage of virtual learning is the comfort of access from any location. Virtual learning is also beneficial in improving the skills in clinical practice. Dental practitioners said that Internet connectivity problems were the biggest disadvantage with virtual learning. Practitioners also believe that virtual learning compromises clinical understanding of a topic. This could be attributed to the lack of hands-on training which is provided in conventional programs. Practitioners said that virtual learning was helpful during the lockdown period (89.1%) and that they wanted virtual learning to continue post pandemic (58.8%).

The discovery of the present study asserts that virtual learning along with class room learning were accepted modes of learning among the dental faculties and dental practitioners. It gives us a valuable insight on the general perception, preference, advantages, disadvantages and limitations of virtual education in delivering the educational content. The virtual learning or e-learning have been widely employed in schools and colleges alike [25]. In Spite of having its own limitations and difficulties, virtual teaching could be exploited as an alternative to conventional teaching as it is easier, student and resource friendly. Since studies reporting the effect and role of virtual learning in the dental education of practitioners is scarce, the findings of this study could also act as a guide, based on which an effective and streamlined framework for virtual learning program can be formulated in the future. This would serve not only during lockdown period but also as an adjunct to conventional classroom learning. Resolving unmet challenges like internet connectivity could shape the future of dental education and cater to a vast majority of people by aiding in better planning of future educational programs. Formal training of all faculties on the usage of virtual applications could also be implemented. This would aid in persuading more dental faculties to take up virtual teaching as a mode of delivering dental education.

Limitation(s)

One of the major limitations encountered during the conduction of this questionnaire survey was the length of survey. The average time taken per participant to complete the survey was in the range of 5-7 minutes. This led to few participants discontinuing the survey midway and resulted in few partially filled responses. Another limitation was the fact that this survey was conducted during the lockdown period, which might have influenced the results in favour of virtual learning. The survey was distributed through various electronic media and was restricted by the available audience who have access to such media. It also relied heavily on distribution through word of mouth and resharing from the participants among their professional circle.

CONCLUSION(S)

Zoom was the most commonly used platform for virtual education by both dental faculties as well as practitioners and WhatsApp was the main source of information about webinars among practitioners. Flexibility of time and comfort of access from any location were the main advantages of virtual learning. Internet connectivity problem was the main disadvantage of virtual learning and teaching. Majority of teaching faculties prefer virtual teaching as an adjunct to conventional teaching. The acceptance of virtual learning has increased significantly after the lockdown period. The widespread reach of virtual platform can be utilised to effectively deliver the educational content on a global scale. However, a streamlined framework which addresses all the shortcomings commonly faced by the faculties and practitioners is essential to provide a hassle-free virtual learning experience.

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