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Attitudes and Perspectives of Students Towards Online Clinical Teaching

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ABSTRACT

Introduction and Aim: The COVID-19 pandemic has led to a change in the teaching modality in variety of allied health institutions, forcing them to rely on online platform for clinical training. The present study aimed to explore the perceptions of BASLP students towards online learning of clinical skills during Covid-19 pandemic, to provide a broad scientific basis to guide future development of speech and hearing online education. **Methods:** A total of 297 students pursuing BASLP from 10 different Karnataka based institutions and those approved by the Rehabilitation Council of India participated in this cross-sectional, web-based study investigating various aspects of online clinical training. On a binary choice questionnaire, students rated their opinions toward teaching efficacy, overall limitations, learning satisfaction as well as their future perspectives regarding online clinical training. Data obtained from the survey were statistically analysed. **Results:** According to the responses, the majority of the students showed negative perceptions towards online clinical training. **Conclusion :** Although online clinical training has enabled continuation of speech and hearing education during the COVID-19 crisis, students in our study show negative perceptions towards online clinical training. Students preferred offline mode over online mode. In order to overcome the current pitfalls and maximise the learning outcomes through online clinical training, in future we suggest Institution administration and faculty to take necessary measures such as combining synchronous and asynchronous teaching methods, facilitating a team and case-based approach.

Keywords: COVID-19; Online clinical training; Speech and hearing; Attitudes; Student perceptions

INTRODUCTION

COVID-19, a global pandemic declared by the WHO on March 11, 2020, has led our entire country to an intense period of change and adaptation in all sectors[1]. The education and training systems, in particular have undergone a remarkable transition. It has prompted myriads of medical and allied health institutions to abruptly suspend theoretical teaching and clinical training and to resort to online mode of learning. This modality has been adopted to ensure a continuous learning and teaching process.

Online learning is a method to teach students using interactive information and communication technology in either a synchronous or asynchronous mode[2–4]. It has been proved as an efficient modality of learning and teaching in different educational fields[5]. Like any mode of teaching, online learning has its merits and demerits. Several studies have reported advantages of online learning[6,7]. These advantages include active learning attitude, increased convenience, easy access to poor internet access and network strength, limited technical knowledge of students**,** increased level of confusion, frustration, and anxiety, and disorganized learning[8–11]. Their studies revealed that in terms of factors like interaction, social presence, satisfaction and overall quality face- to- face learning is perceived better than online learning.

Although online mode is considered efficient for theoretical teaching, it can be challenging when it comes to clinical training as it demands direct observation and hands-on exposure to clients. These factors may pose further challenge to the educators when it comes to ensuring the overall quality of education. Several studies have been conducted over the past two years to explore the efficacy

of online clinical training and student perspectives towards it across many medical and allied health fields in different countries. Mixed opinions exist on the efficacy of online learning. Medical students preferred a combined approach of teaching as online learning of clinical medical skills was more challenging[8]. Online training of clinical skills can hinder students' learning experiences and growth, as well as their capacity to connect with and engage with patients[9]. Researchers have claimed that online learning is more beneficial in areas like economics, business and humanities than medical, allied health sciences and engineering where practical skills are essential[1].

Speech and hearing is one of the many allied health sciences. Speech language pathologists and Audiologists are involved in providing a range of clinical services like preventive, diagnostic and rehabilitative services to individuals with communication disorders. They may also be actively involved in research and development. Their educational preparation is highly skill-based, and necessitates a great deal of patient handling including vital skills such as active listening, empathy, and effective communication. This was traditionally being accomplished by practically oriented class based lectures and clinical exposure. However, due to the ongoing pandemic, there has been an abrupt shift of teaching-learning modality to online mode. Thus striking a balance between the clinical skill development and patient handling has become a challenge. Although, online mode of clinical training has been adopted, little is known about its impact on students. Lately, studies have been conducted to determine the student-faculty perspectives on online learning for theoretical classes but with only a few probing into online clinical training[1]. Therefore, it is necessary to understand the perspectives of students on implementation of online clinical training. As per the review of literature, there is a dearth of studies related to the perspectives and effectiveness of online clinical training among Indian speech and hearing students and faculty are available. Hence the present study aims at exploring the student perspectives towards online clinical training among Speech and Hearing students of Karnataka during COVID-19 pandemic. This will help in enhancing the online mode of clinical skill training and provide a better learning-teaching experience for students and faculty of speech and hearing. The aim of the study was to explore and understand the attitudes towards online teaching of clinical skills: student perspective.

METHODS

This was a cross sectional survey study done using a Google Form of 19 questions, designed and validated by a team of faculty members at a Medical College in Mangalore. The study was carried out after obtaining necessary clearance from the scientific and ethical committee of the Institution.

A total 297 students in the age range of 18-25 years pursuing Bachelors in Audiology and Speech Language Pathology (BASLP) from institutions based in Karnataka and those approved by the Rehabilitation Council of India took part in the study. Students were only included if they had good internet connectivity for online clinical training.

Procedure

The study was carried out in three phases:

I. Development of questionnaire

A detailed survey questionnaire focussing on the most likely and common factors that contribute and affect the online clinical training program in terms of learning was formulated using literature review. It was divided into 2 sections. The first section covered the student demographics (age, gender, year of study etc.). The second section consisted of 19 binary choice questions related to teaching efficacy, overall limitations, and student learning satisfaction during online clinical training during the COVID-19 pandemic as well as their future perspectives towards online clinical training.

II. Validation

The developed questionnaire was validated by five experienced speech and hearing professionals with minimum 5 years of teaching experience to enhance the study quality. Based on their feedback, necessary modifications and revisions were made to enable better comprehensibility and sequencing of questions.

III. Data collection

The finalized questionnaire (Appendix 1) was converted into a 'Google form' and was sent to students who met the inclusion criteria through online platforms such as WhatsApp and Gmail. Students were first given information about the content and purpose of the study and an informed consent was obtained. They were requested to provide authentic responses to the binary choice questionnaire based on their perceptions.

Data analysis

The collected data was statistically analysed using SPSS 20.0 software. Percentage analysis and descriptive statistics were used to get inferences.

RESULTS

The study was conducted on students pursuing Bachelors in Audiology and Speech Language Pathology (BASLP) from institutions based in Karnataka and approved by the Rehabilitation Council of India. The demographics are shown in Table 1. Among the 297 students, 256 (86.2%) were females and 41 (13.8%) were males. The age of the students ranged from 18 to 25 years (M=22.66, SD=2.15).

Table 1: The demographics of participants

Variable	n (%)
Male	41 (13.8%)
Female	256 (86.2%)
Total	297 (100%)

Teaching efficacy

Based on students' perceptions regarding teaching efficacy during online clinical learning, 61.3% agreed that clinical faculty tend to focus more on theory rather than practical during online clinical training. Only 31.6% of the students were of the opinion that online clinical training is well structured whereas the other 68.4% did not agree with the same.

Furthermore, about 77.8% reported a lack of student - teacher interaction during online clinical training. A large percentage of students (79.1%) believed that for an optimal learning experience, supervision during online clinical training cannot be compensated.

While 36.4% reported that online clinical training provides access to variety of clinical resources/materials, 63.6% reported otherwise.

Overall limitations

The study shows that a large percentage of students (93.6%) believed that the COVID-19 crisis has negatively impacted their clinical skills with 99% of them affirming that the COVID crisis has affected the clinical training more than the theory. Overall, only 7.7% felt that offline clinical training is better than online training.

Regarding the overall limitations of online mode of clinical learning, a similar proportion of the students reported a lack of exposure towards instruments used for assessment and management of speech, language, and hearing disorders and a lack of exposure to patients with online clinical training i.e., 97% and 96% respectively.

Student learning outcome/satisfaction

Based on students' perspectives, learning satisfaction through online mode of clinical training was rather low as 77.8% reported a lack of learning satisfaction through online clinical training. Additionally, more than half of the students (59.6%) felt demotivated to attend online clinical training, while the remaining 40.4% reported otherwise.

Out of the 297 students who participated in the study, 67% support uploading pre-recorded demonstration videos of assessment and rehabilitation procedures for higher learning outcome and around 60.9% believed that clinical faculty performing the test in the testing room and students watching live gave output similar to that of offline clinical learning.

According to the participating students, online clinical training provides insufficient time to grasp the clinical concepts and clear queries (65.3%) and is likely to result in a lack of clinical handling skills development (94.9%). Moreover, only a small proportion (16.5%) predicted to feel confident post online clinical training, to handle the clinical population in the future.

Quality enhancement preference/ future perspectives

Regarding future preferences, a majority of the students (90.2%) preferred to take additional offline clinical training after the COVID-19 crisis. While 53.5% preferred not to have online clinical training during the COVID-19 crisis, 46.5% were of the opinion that having online clinical training during the crisis would be beneficial.

DISCUSSION

Focusing on the global crisis COVID-19 virus, the current study was designed to explore perceptions towards online clinical training among BASLP students of Karnataka, India. In our study, we specifically evaluate student's opinions toward teaching efficacy, overall limitations, learning outcome/satisfaction during online clinical training as well as their future recommendations for quality enhancement.

Teaching efficacy

To summarise, our study results indicate that majority of the students felt that online clinical training is not well structured. This is in accordance with findings from previous studies[8], in which they report low quality of teaching as one of the many drawbacks. This may be due to the fact that teachers had no previous experience (clueless) with this modality of teaching and limited availability of SOP/guidelines for conducting online clinical classes. Furthermore, students report a lack of student - teacher interaction during online clinical training. This suggests that students prefer more interaction and engagement during online clinical training sessions.

Over 60% of the students agreed that clinical faculty tend to focus more on theory rather than practical during online clinical training. However, for successful implementation of the online clinical training, instead of focusing only on theoretical aspects, the faculty must design meaningful learning activities based on authentic cases as much as possible. Case based learning would allow the students to effectively apply their theoretical knowledge to diagnose or treat the patients.

Moreover, our study results show that for an optimal learning experience, supervision during online clinical training cannot be compensated. While asynchronous modalities (in which faculty are not present in real-time) may permit more flexibility in thinking and response time, temporal presence of a faculty would facilitate students to clear doubts

and receive timely feedback.

In a study carried out on Polish medical students, easy access to educational material was one of the strongest advantages of online learning, however our study results were contradictory[10]. This discrepancy in findings may be attributed to lack of prior planning.

Overall limitations

Our study shows that COVID-19 pandemic has had a negative impact on students' clinical skills with a majority affirming clinical training being affected more than the theory. Similar findings have been obtained in earlier studies[1]. It is a well-known fact that in a short span of time, the pernicious COVID-19 virus has led to sudden shift to online teaching mode, thus resulting in lack of specific guidelines/framework for online clinical training.

Overall, only 7.7% felt that offline clinical training is better than online training. This finding is supported by Kumar[11] study in which students' perception scores were better for the offline sessions. Undoubtedly, offline clinical classes have an added advantage of direct interaction with the patients, supervisors, classmates which allows students to better understand concepts and clear their queries. Therefore, the negative perceptions towards online clinical training is likely due to the sudden introduction of online training.

Additionally, a lack of exposure towards instruments used for assessment and management of speech, language, and hearing disorders and a lack of exposure to patients was reported as major limitations of online clinical training. This finding is consistent with other recently published studies assessing students' perception of online classes during the pandemic[10].

Student learning outcome/satisfaction

Our study reports students' clinical learning experience through online mode as unsatisfactory. Furthermore, more than half of the students (59.6%) felt demotivated to attend online clinical training. These findings are in accordance with a recent study done by Stoehr et al.,[12]. on medical students of different countries. A significant number of students (42%) reported difficulty in motivating themselves to follow online classes. The cause for these negative reactions towards online clinical training may be multifactorial in nature. Teaching type, teaching format to name a few. In order to reduce these effects, we need a multidimensional approach targeting each the factors (strong force of motivation, inspiration and time management skills) which are likely to result in demotivation among students. However, there also exists literature that reports students preferring online clinical training over offline teaching[13].

The students who participated in our study support uploading pre-recorded demonstration videos of assessment and rehabilitation procedures for higher learning outcomes and also believe that clinical faculty performing the test in the testing room and students watching live gives output similar to that of offline clinical learning. The delivery of online clinical training with either synchronous or asynchronous mode has its own merits and demerits. It would be ideal if the training curriculum includes a mixture of both the types of modalities for better learning.

According to our study, online clinical training provides insufficient time to grasp the clinical concepts and clear queries which is in conformity with findings from Dost et al.,[14]. A research conducted in Jordan also revealed that majority of students reported an inefficient response to their inquiries from instructor[8]. As a whole, students in our study did not find online classes to be engaging or interesting, with limited opportunities to clear their doubts. However, there are studies in the literature which show dissimilar findings[15].

Moreover, students in our study believe that online clinical training will result in a lack of clinical handling skills development and only a small proportion of students predict feeling confident post online clinical training to handle the clinical population in the future. These findings are consistent with students' opinion in many countries like Pakistan, China, Malaysia etc. To overcome these fears, the administration and faculty must take necessary measures and come up with innovative solutions to overcome the drawbacks of online clinical training.

Quality enhancement/ Future perspectives

Regarding future perspectives, about half the participating students preferred not to have online clinical training during the COVID-19 crisis and a majority of the students preferred to take additional offline clinical training after the COVID-19 crisis. This inclination points out to the students' anxiety and fear that the crisis would have a detrimental impact on their clinical skills. Moreover, it shows their concern for future career opportunities. It is likely that these student behaviours will reduce if the administration focuses on implementation a curriculum framework of online learning that follows a mixed or blended approach combining both offline and online learning teaching modalities[11].

Future directions and limitations

Ours was an online based survey study set up to investigate BASLP students from institutions across Karnataka only, and results could have been completely different if the survey was conducted across other Indian cities. Future research could include those cities in order to get deeper insights about online clinical training. Furthermore, ours was a cross-sectional study which does not provide a holistic picture of the scenario. Thus, as a shortcoming, our findings may not accurately represent students' perception of online clinical learning. To assess these effects, additional longitudinal

studies may be required. Moreover, since this survey, mainly focused on students' perceptions towards online clinical training, further research focusing on effectiveness and psychological impact may be required to understand the influence of online clinical training on students in more depth. Further studies could also investigate factors influencing student perceptions towards online learning and faculty's attitudes and experiences towards online clinical training.

CONCLUSION

Although online clinical training has enabled continuation of speech and hearing education during the COVID-19 crisis, students in our study show negative perceptions towards online clinical training. They preferred offline mode over online mode as they feared missing the practical skills because these skills could not be compensated by online learning techniques. In order to overcome the current pitfalls and maximise the student learning outcomes in future we suggest speech and hearing administration and faculty to take necessary measures such as combining synchronous and asynchronous modes, creating virtual cases, and facilitating a team and case-based approach when conducting online clinical training.

Conflict of Interest

The authors have no conflicts of interest to declare.

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