

Short Communication

Dental students' perception towards online MCQ tests

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ABSTRACT

Background & Objectives: College of Dental Surgery, Universal College of Medical Sciences (UCMS), Bhairahawa, Nepal conducted online assessment MCQ tests during covid-19 lock down

period. This study was taken up to measure/assess the BDS students' perception towards online assessment MCQ tests conducted during the COVID-19 lockdown period.

Materials and Methods: A descriptive, cross-sectional study was conducted by administering Google Forms questionnaire to BDS students of College of Dental Surgery, UCMS during the period the period of 2 October 2021 to 30 December 2021, using non-probability purposive sampling. General information proforma for socio-demography, and a questionnaire on the lines of Likert's summated rating scale to assess the perception of BDS students towards online assessment was constructed. Simple frequency tables, cross tables, and mean tables have been used to analyze data. Characteristics of the sample were categorized using mean and standard deviation.

Results: The overall mean and standard deviation for perception of online assessment tests were 3.31 and 0.77 respectively. The results indicate

that BDS students were satisfied with online assessment tests.

Conclusion: Online assessment tests were well received by BDS students. The online assessment tests enhance student learning by allowing immediate feedback. Online tests should be conducted in dental colleges on a regular basis.

Keywords: BDS students, Online assessment, MCQ test, Perception.

INTRODUCTION

The COVID-19 pandemic forced all dental colleges to adopt online teaching and learning methods, and College of Dental Surgery, Universal College of Medical Sciences (UCMS), Bhairahawa, Nepal also conducted online classes, and subsequently online assessment Multiple choice question (MCQ) tests [1,2]. The advantages of MCQ tests include their reliability and content validity and their ability to reduce reliance on skills related to writing and self-expression, and easily understood by students.³ The study was taken up to know how dental students perceive online assessment MCQ tests, and to improve the effectiveness of online assessment tests. The aim of this study was to measure the undergraduate dental (BDS) students' (1st and 2nd year) perception towards online assessment MCQ tests conducted during the COVID-19 lockdown period.

MATERIALS AND METHODS

A descriptive, cross-sectional study was conducted during COVID-19 lockdown period by administering Google Forms questionnaire to 1st and 2nd year BDS students of College of Dental Surgery, Universal College of Medical Sciences (UCMS), Bhairahawa, Nepal during

the period the period of 2 October 2021 to 30 December 2021, using non-probability purposive sampling. Google Forms questionnaire was sent to 20 students of 1st year BDS, and 40 students of 2nd year BDS. Among them 35 BDS students who filled and sent the questionnaire within three months were included in data analysis. General information proforma elicits the socio-demographic characteristics such as gender, age, locality of residence (urban/rural), parent's occupation, and nationality of the respondents. A Google Form questionnaire to measure/assess the perceptions of BDS students towards online assessment was constructed on the lines of Likert's summated rating scale. The statements relating the areas such as social, psychological, academic, administrative, curricular, and economic aspects were constructed by collecting from relevant literature and BDS students' opinion about dental profession, and screened and validated after thorough scrutiny. Ambiguous statements were modified or rejected. Thus, the content validity of the tool was assumed [3].

The perspective of online assessment test was graded in terms of things using five options: strongly agree, agree, neutral, disagree, and strongly disagree. Among the 22 questionnaire items, 17 were favorable to online assessment tests, scoring 5 for strongly agree, 4 for agree, 3 for neutral, 2 for disagree, and 1 for strongly disagree. The other five questionnaire items were against (unfavorable) to online assessment test, scoring 1 for strongly agree, 2 for agree, 3 for neutral, 4 for disagree, and 5 for strongly disagree [3].

The collected data were entered into Microsoft Excel and exported SPSS version 22

for analysis. Simple frequency tables, cross tables, and mean tables have been used to analyze data. Characteristics of the sample were categorized using mean and standard deviation.

RESULTS

The socio-demographic characteristics of the students were depicted in Table 1. The age distribution of the students showed that more than ninety percent (94.3%) of them belonged to age group greater than 20 years. More than half (77.1%) of the students were female. Nearly one third (22.9%) of the students reside in rural areas. More than two fifth (34.3%) of the students' parents were engaged in agriculture. All participated students were Nepali (100%).

Table 1: BDS students' demographic information

| Parameters | Frequency (n=35) | Percentage |
|------------------------------|------------------|------------|
| Age | | |
| ≤ 19 years | 2 | 5.7 |
| > 20 years | 33 | 94.3 |
| Gender | | |
| Male | 8 | 22.9 |
| Female | 27 | 77.1 |
| Residence | | |
| Rural | 8 | 22.9 |
| Urban | 27 | 77.1 |
| Parent's occupation | | |
| White-collared | 23 | 65.7 |
| Agriculture | 12 | 34.3 |
| Socio-economic status | | |
| Middle class | 2 | 5.7 |
| High income group | 33 | 94.3 |
| Nationality | | |
| Nepali | 35 | 100 |
| Indian | 0 | 0 |
| Foreign | 0 | 0 |

The dental students' perception of online assessment tests during the COVID-19 pandemic is depicted in Table 2. Perception of online assessment tests had an overall mean and standard deviation of 3.31 and 0.77, respectively. The level of perception towards online assessment tests was recorded using grand mean of overall perception related item as per previous study [4]. When an individual's mean is greater than or equal to the grand mean (3.31), the perception of online assessment exams is rated as good, and it is rated as poor when the opposite is true. In terms of the respondents' mean scores, 13 of the questionnaire items have near to high perception ratings, whereas 9 of the questionnaire items have low perception scores.

DISCUSSION

The online MCQ (Multiple Choice Questions) tests can be used in any type of assessment, in order to evaluate the student's capacity to remember exact data, to interpret data or to analyze a proposed material. Online assessment tests were conducted even in the pre-COVID-19 times and were found to be well received by the students [4]. This study was done to assess the BDS students' perceptions towards online assessment MCQ tests conducted during COVID-19 lock down period. In terms of the respondents' mean scores, 13 of the questionnaire items (2, 3, 5, 6, 9-12, 14, 18-20, 22) have near to high perception ratings whereas the rest 9 of the questionnaire items have low perception scores (Table 2). The results indicate that students were satisfied with more than half of the questionnaire items regarding online assessment tests. This is in agreement with the study by Dascalu CG et al [5], Emmadisetty S et al [6], and Ventouras E et al [7].

Table 2: BDS students' perceptions towards online MCQ tests

| | Questions | Number (N=35) (Percentage) | | | | | Mean | Standard deviation | Level of perception |
|----|--|----------------------------|---------------|---------------|---------------|--------------|------|--------------------|---------------------|
| | | SA | A | N | D | SD | | | |
| 1 | Online tests helps in learning the subject | 0 (0.00) | 17 (48.57) | 11 (31.43) | 6 (17.14) | 1 (2.86) | 0.88 | 0.22 | Low |
| 2 | Online tests are as important as classroom tests | 4 (11.43) | 16 (45.71) | 7 (20.00) | 6 (17.14) | 2 (5.71) | 0.92 | 0.18 | Low |
| 3 | Multiple choice question type of online assessment is easier to score marks | 7 (20.00) | 26 (74.28) | 1 (2.86) | 1 (2.86) | 0 (0.00) | 1.11 | 0.34 | High |
| 4 | MCQ type of online assessment is just mere recall of answer; it does not allow me for critical thinking | 1 (2.86) | 17 (48.57) | 8 (22.86) | 7 (20.00) | 2 (5.71) | 0.85 | 0.21 | Low |
| 5 | Online assessment is a good method for evaluation | 1 (2.86) | 11 (31.43) | 13 (37.14) | 10 (28.57) | 0 (0.00) | 1.10 | 0.12 | High |
| 6 | Online tests should be conducted on a regular basis | 3 (8.57) | 14 (40.00) | 12 (34.29) | 4 (11.43) | 2 (5.71) | 0.90 | 0.17 | Low |
| 7 | Taking up online test is, in practice, more difficult than class room tests | 2 (5.72) | 13 (37.14) | 10 (28.57) | 10 (28.57) | 0 (0.00) | 0.86 | 0.15 | Low |
| 8 | Home environment is more distracting and not suitable for taking online tests | 8 (22.86) | 16 (47.71) | 6 (17.14) | 5 14.29% | 0 (0.00) | 1.02 | 0.20 | High |
| 9 | Time limit was sufficient to answer and finish the test and prevent from copying | 3 (8.71) | 21 (60.00) | 5 (14.29) | 5 (14.29) | 1 (2.86) | 0.96 | 0.26 | Low |
| 10 | The time was not wasted once the test was started, since it had to be completed within a set time | 3 (8.71) | 27 (77.14) | 4 (11.43) | 1 (2.86) | 0 (0.00) | 1.05 | 0.35 | High |
| 11 | Adherence to time schedule is as strict in online tests as in class room tests | 3 (8.71) | 23 (65.71) | 6 (17.14) | 2 (5.71) | 1 (2.86) | 1.00 | 0.29 | High |
| 12 | Online assessment is advantageous in being able to see grade and feedback immediately after finishing the test | 1 (2.86) | 23 (65.71) | 6 (17.14) | 4 (11.43) | 1 (2.86) | 0.95 | 0.29 | Low |
| 13 | Feedback from online assessment is not as adequate as class room assessment | 9 (25.71) | 23 (65.71) | 2 (5.71) | 1 (2.86) | 0 (0.00) | 1.12 | 0.31 | High |
| 14 | It is hard to concentrate on the questions when doing online test | 6 (17.14) | 14 (40.00) | 7 (20.00) | 8 (22.86) | 0 (0.00) | 0.95 | 0.16 | Low |
| 15 | Online assessment is as reliable in assessment of knowledge as classroom assessment | 0 (0.00) | 10 (28.57) | 11 (31.43) | 12 (34.29) | 2 (5.71) | 0.76 | 0.14 | Low |
| 16 | It is easier to cheat in online tests than paper based classroom tests | 9 (25.71) | 10 (28.57) | 7 (20.00) | 7 (20.00) | 2 (5.71) | 0.94 | 0.14 | Low |
| 17 | Online tests are fairer than paper based exams as no one can manipulate it | 2 (5.71) | 10 (28.57) | 8 (22.86) | 10 (28.57) | 5 (14.29) | 0.76 | 0.10 | Low |
| 18 | Feedback on the performance that I receive after online tests has motivated me to study | 1 (2.86) | 20 (57.14) | 4 (11.43) | 9 (25.71) | 1 (2.86) | 0.89 | 0.25 | Low |
| 19 | Online tests are less stressful than classroom tests | 6 (17.14) | 22 (62.86) | 4 (11.43) | 2 (5.71) | 1 (2.86) | 1.04 | 0.28 | High |
| 20 | Marking / evaluation is more accurate because computers don't suffer from human error | 3 (8.71) | 26 (74.29) | 2 (5.71) | 3 (8.71) | 1 (2.86) | 1.02 | 0.34 | High |
| 21 | Network issues are a matter of serious concern in the conduct of online tests | 23 (65.71) | 12 (34.29) | 0 (0.00) | 0 (0.00) | 0 (0.00) | 1.25 | 0.39 | High |
| 22 | Good IT skills will help me do online exams easier and faster | 8 (22.86) | 22 (62.86) | 4 (11.43) | 1 (2.86) | 0 (0.00) | 1.04 | 0.28 | High |

(Total score=129.73, Grand mean=1.00

SA=Strongly Agree, A=Agree, N=Neutral, D=Disagree, SD=Strongly Disagree)

In our study BDS students felt that home environment is not distracting and more suitable for taking online tests, which completely differs from the studies of Iftikhar S et al [8], Snekalatha S et al [9], and Gopalakrishnan S et al [10], where MBBS students felt home environment was more distracting than the class room and was considered not suitable for taking online tests. In this study majority of BDS students felt online assessment tests are not as reliable as class room tests, which totally differs from the study made by Snekalatha S et al [9], where MBBS students felt online assessment tests are as reliable as class room tests, but in a study by Iftikhar S et al [8], it was reported that medical students did not consider online tests as reliable. In this study, most of the students felt that it is easier to score marks, which is in agreement with the findings by Iftikhar S et al [8], and Ranganath R et al [11]. In a study by Aisyah S et al [12], it was reported that 95% of the students could not do online test in the stipulated time, which is in correlation with our findings.

In the present study, majority of students felt that internet connectivity issues were a matter of concern in conducting online assessment tests. Studies by Snekalatha S et al [9], Reddy KR [12], Maharjan BR et al [13], Fathima SS et al [14], and Kumar LR et al [15], and have also reported similar issues which is in agreement with our study. Majority of students agreed that IT skills helped them to do online assessment tests easier and faster, but lack of information communication and technology (ICT) skill did not affect their performance in online tests. These findings were similar to the findings by Ranganath R et al [13], Maharjan BR et al [11], and Abdelrahman KM et al [16].

In this study, most of the students appreciated the feasibility and quickness of feedback in the online assessment tests, and the feedback had motivated them to study and helped them in learning process. This was similar to the findings by Snekalatha S et al [9], Maharjan BR et al [11], Nigam B et al [17], and Jana I et al [18]. Majority of students felt that copying and malpractice, and cheating in online tests is easier than regular examinations, which is in agreement to the findings made by Snekalatha S et al [9], Gopalakrishnan S et al [10], Maharjan BR et al [11], Aisyah S et al [12], and Mellar H et al [19]. The study is confined to only BDS students and one dental college only.

CONCLUSION

The study concluded that online assessment MCQ tests were well received by BDS students, and appreciated the usefulness in enhancing student learning by allowing immediate feedback, with several practical challenges such as internet connectivity issues, and cheating. For BDS students participated in this study home environment was not distracting and more suitable for taking online tests. Online assessment MCQ tests should be conducted in dental colleges on a regular basis, with strict monitoring, to make it more reliable.

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