**Knowledge Attitude and Awareness Regarding Cultural Competence among Dental Students Providing Healthcare Services**

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Original Article

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**Crossref doi:** <https://doi.org/10.36437/ijdrd.2025.7.2.C>

**ABSTRACT**

“Cultural competence is necessary for dental students to provide qualified, skillful, and effective patient care in diverse healthcare settings in India. This study aims to assess the level of cultural competence among dental students and explore its relationship with their clinical performance. A method of combining surveys was made to collect data from dental students. The results explains about the significant gaps in cultural knowledge, awareness, and skills among dental students, which can impact their ability to deliver culturally sensitive care. This study will specifically increase the importance of integrating cultural competence education into dental treatments, enabling students to provide high-quality care that respects all the diverse backgrounds and needs of patients.”

**Aim:** To assess awareness regarding cultural competence among undergraduate Dental students.

**Objectives**

To assess awareness about the cultural competence among undergraduate Dental students based on age.

To Assess awareness about the cultural competence among undergraduate Dental students based on gender.

To assess awareness about the cultural competence among undergraduate Dental students based on year of study.

**Method:** A cross-sectional study was conducted among dental students (III, IV, Interns) using an offline paper print was designed and distributed to students in order to fill out Descriptive studies, and chi-square tests were calculated using SPSS version.

**Keywords:** Cultural Competence, Cultural Intelligence, Healthcare Providers/Healthcare Professionals.

**Introduction**

Cultural competence in healthcare explains the ability of providers to understand and respond effectively to the cultural and linguistic needs of patients. This includes being aware of one’s own biases and cultural assumptions, being knowledgeable about the health beliefs, values, and practices of diverse patient populations.

“With increasing diversity in patient populations, healthcare providers must be able to address the unique cultural, social, and linguistic needs of their patients. Dental care is no exception. As future oral health professionals, dental students must possess the skills, knowledge, and attitudes necessary to provide culturally competent care.

As dental students transition from classrooms to hospitals, they encounter patients from diverse backgrounds, each with different needs and expectations. This knowledge gap can lead to misunderstandings, miscommunications, and inadequate care, ultimately compromising patient outcomes and satisfaction.

**Methodology**

**A) Study design and area:** A cross-sectional study was carried out at the dental college and hospital Khammam.

**B) Study Population:** The health care students including those of III, IV, Interns year and interns who responded to the online questionnaire sent through social media.

**C) Study Instrument:** A self-administered questionnaire was designed based on knowledge attitude and practice had total 13 questions and through offline forms pro link. Each participant has to fill their demographic data like Name, age, and year of study. Participant has to select one option from the answers provided against questions the questions were based on knowledge and awareness regarding Cultural competence among dental students providing healthcare services

**D) Pilot Study:** A pilot study was conducted on a group of students to assess the validity and reliability of the study.

**E) Sampling Method:** The sampling method used is convenience method.

**F) Inclusion Criteria:** The students who were interested in the study and who are willing to participate.

**G) Exclusion Criteria:** students who are not willing to participate are excluded.

**H) Organizing the Study:** The purpose of the study was explained in short note participants were asked to select one option from the answers provided against the questions.

**I) Statistical Analysis:** Data from the filled questionnaire was conducted in a tabular form in an Excel worksheet and evaluated for analysis. The analysis was performed by SPSS version 29.

**Result**

A total of 200 students took part with females of 78%and males of 22%. The age of participants ranges from 21 -25. In this study, females have more knowledge than males. Interns have more knowledge than IV year students followed by III year students.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **AGE** | | | | | |
|  | N | Minimum | Maximum | Mean | Std. Deviation |
| Age: | 200 | 19 | 26 | 23.46 | 1.893 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Gender** | | **Frequency** | **Percent** |
| Valid | MALE | 44 | 22.0 |
|  | FEMALE | 156 | 78.0 |
|  | Total | 200 | 100.0 |

|  |  |  |  |
| --- | --- | --- | --- |
| **Year of the Study** | | **Frequency** | **Percent** |
| Valid | III BDS | 80 | 40.0 |
|  | IV BDS | 60 | 30.0 |
|  | INTERN | 60 | 30.0 |
|  | Total | 200 | 100.0 |

**Distribution and comparison of responses based on gender**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Response** | **Males** | | **Females** | | **Chi-Square value** | **P value** |
|  |  | n | % | n | % |  |  |
| Q1 | 1 | 10 | 26.3 | 28 | 73.7 | 5.464 | 0.05\* |
|  | 2 | 14 | 31.8 | 52 | 33.3 |  |  |
|  | 3 | 12 | 27.2 | 56 | 35.8 |  |  |
|  | 4 | 8 | 28.5 | 20 | 71.4 |  |  |
| Q2 | 1 | 9 | 20.4 | 25 | 16.0 | 7.577 | 0.016\* |
|  | 2 | 19 | 43.1 | 41 | 26.2 |  |  |
|  | 3 | 11 | 25.0 | 54 | 34.6 |  |  |
|  | 4 | 5 | 11.3 | 36 | 33.0 |  |  |
| Q3 | 1 | 4 | 6.7 | 15 | /10.4 | 6.481 | 0.090 |
|  | 2 | 5 | 15.4 | 20 | 12.1 |  |  |
|  | 3 | 3 | 4.1 | 15 | 22.6 |  |  |
|  | 4 | 32 | 75.1 | 96 | 56.8 |  |  |
| Q4 | 1 | 16 | 42.1 | 22 | 17.9 | 19.818 | 0.0001\* |
|  | 2 | 15 | 40.5 | 25 | 19.5 |  |  |
|  | 3 | 9 | 15.4 | 70 | 51.3 |  |  |
|  | 4 | 4 | 4.2 | 34 | 25.1 |  |  |
| Q5 | 1 | 16 | 35.7 | 90 | 64.3 | 8.765 | 0.06 |
|  | 2 | 24 | 54.3 | 54 | 25.7 |  |  |
|  | 3 | 4 | 12.1 | 22 | 11.6 |  |  |
|  | 4 | 0 | 0 | 0 | 0 |  |  |
| Q6 | 1 | 15 | 63.7 | 25 | 46.3 | 5.057 | 0.158 |
|  | 2 | 7 | 47.6 | 33 | 52.4 |  |  |
|  | 3 | 10 | 62.5 | 85 | 67.5 |  |  |
|  | 4 | 12 | 67.7 | 10 | 32.3 |  |  |
| Q7 | 1 | 18 | 57.1 | 21 | 42.9 | 6.578 | 0.07 |
|  | 2 | 15 | 54.9 | 37 | 45.1 |  |  |
|  | 3 | 11 | 10.0 | 98 | 90.0 |  |  |
| Q8 | 1 | 5 | 10.4 | 95 | 56.6 | 7.167 | 0.09 |
|  | 2 | 19 | 39.6 | 23 | 14.5 |  |  |
|  | 3 | 15 | 35.7 | 12 | 11.7 |  |  |
|  | 4 | 5 | 10.4 | 26 | 17.5 |  |  |
| Q9 | 1 | 19 | 29.1 | 57 | 46.9 | 1.211 | 0.750 |
|  | 2 | 15 | 30.6 | 26 | 39.4 |  |  |
|  | 3 | 10 | 25.4 | 73 | 54.6 |  |  |
| Q10 | 1 | 24 | 52.2 | 22 | 15.8 | 8.275 | 0.041\* |
|  | 2 | 9 | 30.4 | 19 | 19.6 |  |  |
|  | 3 | 11 | 6.9 | 115 | 93.1 |  |  |
| Q11 | 1 | 26 | 59.0 | 41 | 26.2 | 6.474 | 0.04\* |
|  | 2 | 8 | 18.1 | 80 | 51.2 |  |  |
|  | 3 | 10 | 22.7 | 35 | 22.4 |  |  |
|  | 4 | 0 | 0 | 0 | 0 |  |  |
| Q12 | 1 | 20 | 13.5 | 26 | 16.5 | 6.303 | 0.98 |
|  | 2 | 12 | 19.3 | 97 | 20.7 |  |  |
|  | 3 | 12 | 64.9 | 33 | 25.1 |  |  |
| Q13 | 1 | 10 | 29.2 | 54 | 36.8 | 2.483 | 0.478 |
|  | 2 | 14 | 32.1 | 18 | 17.5 |  |  |
|  | 3 | 14 | 32.1 | 63 | 43.5 |  |  |
|  | 4 | 6 | 5.4 | 19 | 21.6 |  |  |

**P≤0.05 is statistically significant**

**Distribution and comparison of responses based on year of the study**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Item** | **Response** | **III BDS** | | **IV BDS** | | **INTERN** | | **Chi-Value** | **P-Value** |
|  |  | n | % | n | % | n | % |  |  |
| Q1 | 1 | 10 | 12.5 | 20 | 33.3 | 8 | 13.3 | 6.375 | 0.001\* |
|  | 2 | 45 | 56.2 | 30 | 50.0 | 42 | 70.0 |  |  |
|  | 3 | 5 | 6.2 | 4 | 6.6 | 3 | 5.0 |  |  |
|  | 4 | 20 | 25.0 | 6 | 10.0 | 7 | 11.6 |  |  |
| Q2 | 1 | 7 | 8.7 | 10 | 16.6 | 14 | 23.3 | 7.842 | 0.05” |
|  | 2 | 36 | 45.0 | 36 | 60 | 24 | 40.0 |  |  |
|  | 3 | 20 | 25.0 | 12 | 20 | 14 | 23.3 |  |  |
|  | 4 | 17 | 21.2 | 2 | 3.3 | 8 | 13.3 |  |  |
| Q3 | 1 | 46 | 53.3 | 6 | 15 | 6 | 15 | 11.192 | 0.513 |
|  | 2 | 14 | 20.6 | 16 | 23.5 | 3 | 4.4 |  |  |
|  | 3 | 18 | 21.7 | 14 | 16.9 | 9 | 10.8 |  |  |
|  | 4 | 10 | 15.9 | 11 | 25 | 7 | 15.9 |  |  |
| Q4 | 1 | 6 | 15.8 | 6 | 15.8 | 4 | 10.5 | 17.051 | 0149 |
|  | 2 | 6 | 16.2 | 11 | 29.7 | 1 | 2.7 |  |  |
|  | 3 | 26 | 23.4 | 33 | 34.5 | 34 | 43.5 |  |  |
|  | 4 | 42 | 36.5 | 8 | 12.6 | 25 | 34.6 |  |  |
| Q5 | 1 | 5 | 14.3 | 5 | 14.3 | 25 | 44.3 | 18.317 | 0.106 |
|  | 2 | 15 | 23.8 | 17 | 27.6 | 23 | 42.8 |  |  |
|  | 3 | 60 | 61.6 | 38 | 58.5 | 12 | 13.6 |  |  |
|  | 4 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |
| Q6 | 1 | 9 | 16.7 | 8 | 14.8 | 8 | 14.8 | 42.592 | **0.07** |
|  | 2 | 15 | 23.8 | 16 | 25.4 | 1 | 1.6 |  |  |
|  | 3 | 42 | 8 | 20 | 22.7 | 9 | 10.2 |  |  |
|  | 4 | 14 | 45.2 | 16 | 21.9 | 7 | 22.6 |  |  |
| Q7 | 1 | 18 | 20.1 | 9 | 18.4 | 11 | 22.4 | 19.802 | 0.071 |
|  | 2 | 16 | 19.5 | 18 | 22.5 | 7 | 8.5 |  |  |
|  | 3 | 46 | 54.7 | 25 | 32.6 | 20 | 21.5 |  |  |
| Q8 | 1 | 40 | 59.4 | 21 | 41.6 | 13 | 23.3 | 15.579 | 0.06 |
|  | 2 | 22 | 30.6 | 19 | 39.4 | 25 | 36.9 |  |  |
|  | 3 | 11 | 6.8 | 11 | 12.6 | 12 | 18.6 |  |  |
|  | 4 | 7 | 5.7 | 9 | 11.5 | 10 | 16.6 |  |  |
| Q9 | 1 | 48 | 12.5 | 6 | 9.4 | 13 | 20.3 | 22.714 | **0.07** |
|  | 2 | 11 | 16.7 | 15 | 22.7 | 6 | 9.1 |  |  |
|  | 3 | 21 | 20.3 | 20 | 27 | 4 | 5.4 |  |  |
| Q10 | 1 | 5 | 10.9 | 5 | 10.9 | 10 | 21.7 | 19.322 | 0.081 |
|  | 2 | 10 | 20.8 | 12 | 25.5 | 3 | 6.2 |  |  |
|  | 3 | 30 | 50.6 | 13 | 26.7 | 17 | 54.6 |  |  |
| Q11 | 1 | 61 | 76.2 | 15 | 25.0 | 20 | 33.3 | 5.536 | **0.04\*** |
|  | 2 | 11 | 13.7 | 25 | 41.6 | 28 | 46.6 |  |  |
|  | 3 | 8 | 10.0 | 20 | 33.3 | 12 | 20.0 |  |  |
|  | 4 | 0 | 0 | 0 | 0 | 0 | 0 |  |  |
| Q12 | 1 | 6 | 13 | 5 | 10.9 | 10 | 21.7 | 29.118 | **0.04\*** |
|  | 2 | 10 | 8.5 | 7 | 13.6 | 4 | 17.4 |  |  |
|  | 3 | 17 | 18.1 | 31 | 53.5 | 5 | 15.3 |  |  |
| Q13 | 1 | 36 | 29.5 | 13 | 20.6 | 11 | 17.5 | 4.246 | 0.284 |
|  | 2 | 10 | 20.8 | 8 | 16.7 | 4 | 8.3 |  |  |
|  | 3 | 22 | 22.6 | 30 | 50.0 | 25 | 44.6 |  |  |
|  | 4 | 12 | 21.4 | 9 | 17.5 | 20 | 31.5 |  |  |

**P≤0.05 is statistically significant**

**Discussion**

Cultural competence is an important aspect of patient care, particularly in dentistry, where patient comfort and trust will influence treatment outcomes. For dental students, developing cultural competence is not just an academic requirement but an essential skill that shapes how they engage with diverse patient populations. Dental professionals often encounter patients from various cultural, linguistic, and socio-economic backgrounds. Cultural competence involves the ability to understand, respect, and effectively respond to the cultural and linguistic needs of patients. When responses were analysed by gender, females demonstrated higher levels of correct answers than males with a correct response rate of 78% and males 18.2% respectively.

**Conclusion**

In conclusion, cultural competence is an important component in dental education that extends beyond clinical expertise to encompass empathy, respect, and effective communication. As future dental professionals, students must recognize that patients come from diverse backgrounds, each with unique beliefs, values, and health practices that influence their oral health behaviors and treatment preferences. Developing cultural competence not only increases patient trust and satisfaction but also improves clinical outcomes by encouraging a more inclusive and patient-centered approach to care. Therefore, integrating cultural competence into dental curricula is important to prepare students to give high-quality, respectful, and equitable care to all patients, regardless of their cultural or linguistic background.

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**How to cite this Article:** **S. Navya Sri, K. V. N. R. Pratap, T. Madhavipadma, Surbhit Singh, V. Srujan Kumar, M. Swetha;** *Knowledge Attitude and Awareness Regarding Cultural Competence among Dental Students Providing Healthcare Services;* Int. J. Drug Res. Dental Sci., 2025; 7(2): 26-31, **doi:** <https://doi.org/10.36437/ijdrd.2025.7.2.C>

**Source of Support:** Nil, **Conflict of Interest:** Nil.

**Received:** 23-1-2025 **Revised:** 27-3-2025 **Accepted:** 04-04-2025