

## Dental Practitioners' Knowledge and Application of Ethical and Legal Standards in Andhra Pradesh: A Cross-Sectional Analysis

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### Abstract

This study was undertaken in Andhra Pradesh, India, to assess how dental practitioners understand and implement the 2014 Dental Code of Ethics regulations and the 2019 Consumer Protection Act, highlighting the necessity for dentists to be acquainted with the ethical and legal standards that govern their profession. To investigate the knowledge and practice of ethical and legal standards among dentists, a cross-sectional survey was conducted involving 384 dental professionals in Andhra Pradesh, India. Participants completed a 25-question survey focused on the Dental Code of Ethics regulations and the Consumer Protection Act, and the resulting data were processed and analyzed using IBM SPSS Statistics for Windows, Version 25.0. In this study, only 53 dental practitioners (13.8%) were aware of the 2014 revision of the Dental Code of Ethics. Nearly half of the participants (190, 49.5%) correctly identified the mandatory duration for retaining patient records. A large proportion of dentists, 278 (72.4%), reported receiving gifts or cash commissions from laboratories, radiologists, or pharmacists, and 306 (79.7%) employed dental technicians who were not officially registered. Furthermore, 297 practitioners (77.3%) acknowledged dispensing or selling medications directly to patients in their clinics. Awareness of the updated Consumer Protection Act of 2019 was lacking in 194 participants (50.5%). This study shows that dentists lack sufficient familiarity with the 2014 Dentists (Code of Ethics) Regulations and the 2019 Consumer Protection Act. It stresses the importance of introducing dedicated training initiatives and updating dental education to better incorporate ethical and legal principles in everyday clinical practice.

**Keywords:** Medicolegal issues, Consumer protection act, Consent, Code of ethics, Dental practice

### Introduction

Dental professionals are bound by a combination of ethical standards and legal regulations that govern their conduct [1]. Ethics in dentistry refer to the principles that guide dentists in their interactions with patients, colleagues, and society, ensuring care is delivered responsibly and professionally [2, 3]. In India, the Dental Council of India (DCI) serves as the statutory authority overseeing dental practice. It first introduced the Dentists

(Code of Ethics) in 1976 [3]. However, with the notable increase in dental negligence cases over the past two decades [4], the DCI updated these rules in 2014, now known as the Dentists Regulations 2014 [3]. The revision expanded on the duties of dentists in general, their responsibilities to patients, consultation practices among dental specialists, and professional obligations toward one another [5]. Compliance with these regulations is mandatory for all practicing dentists [1-3].

Dental law, or dental jurisprudence, defines the legal framework within which dental practitioners operate. One key legislation is the Consumer Protection Act (COPRA), enacted in 1986 to safeguard the rights of consumers [6-9]. In 2019, COPRA was amended to provide clarity on complaint jurisdiction, compensation procedures, appeal timelines, and the role of the national regulator in addressing consumer rights violations [10].

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The growing awareness and expectations of patients regarding healthcare have contributed to a rise in malpractice claims against dentists [4]. Understanding these medico-legal aspects is therefore crucial for dentists to protect themselves from legal consequences [6-9].

Despite its importance, formal education in dental ethics is often limited, leaving practitioners to rely on personal experience or mentorship from senior colleagues [1]. Financial pressures, such as repaying student loans or covering the costs of establishing a practice, can sometimes overshadow ethical considerations, potentially compromising patient care [1, 11]. Developing a sound understanding of both ethical responsibilities and legal obligations is essential for maintaining professional standards in dental practice [1, 12]. Currently, there is limited research exploring dentists' knowledge and application of the Dentists Regulations 2014 and COPRA 2019. This study was undertaken to evaluate the awareness and implementation of these updated ethical and legal guidelines among dental practitioners in Andhra Pradesh, India.

## Materials and Methods

A cross-sectional survey was carried out to evaluate the level of knowledge and adherence to the Dentists (Code of Ethics) Regulations 2014 and the Consumer Protection Act (COPRA) 2019 among dental professionals practicing in Andhra Pradesh. The research protocol received approval from the Institutional Ethics Committee of Vishnu Dental College (Reference No: IECVDC/2021/F/PHD/Q/101). A non-probability convenience sampling technique was used to recruit participants. Data collection took place between April 2022 and September 2022. The required sample size was determined using the single population proportion formula, assuming a 95% confidence level, a Z-score of 1.96, and a 5% margin of error, which yielded a minimum requirement of 384 respondents. All participants were fully informed about the purpose and design of the study, and written informed consent was collected prior to their completion of the questionnaire.

A self-administered questionnaire was created following extensive discussions with two senior dental researchers across three separate review cycles. Any discrepancies were resolved through consultation with additional experts to achieve consensus. The instrument was

intentionally kept concise and consisted solely of closed-ended items to encourage higher response rates. A pilot study involving 75 dental practitioners was performed to assess clarity, wording, question flow, and internal consistency. Reliability was evaluated using Cronbach's alpha, resulting in a satisfactory value of  $\alpha = 0.82$ . The pilot group was diverse in terms of age, gender, specialty, and clinical experience. Individuals who participated in the pilot were excluded from the main analysis to prevent bias. Participant anonymity was strictly maintained, with no collection of personally identifiable information.

The questionnaire was constructed by drawing directly from the provisions of the Dentists (Code of Ethics) Regulations 2014 and COPRA 2019 [5, 10]. It was divided into two main parts: the first gathered socio-demographic information such as age, gender, academic qualifications, and years of professional experience; the second comprised 25 items assessing knowledge and application of the aforementioned regulations and act. Data were analyzed using IBM SPSS Statistics version 25.0 (IBM Corp., Armonk, NY). Descriptive statistics, expressed as percentages, were computed for all responses provided by the dental practitioners.

## Results and Discussion

**Table 1** presents the socio-demographic characteristics of the participants. Of the 384 dental professionals surveyed, 195 (50.8%) were male and 189 (49.2%) were female. The majority (284 individuals, 74%) possessed a postgraduate (master's) degree. Participants' ages ranged from 25 to 65 years, with an average age of 38.46 years (SD  $\pm$  11.71). Over half of the respondents (214, 55.7%) had fewer than five years of clinical experience.

**Table 1.** demographics of the study population (n=384)

Characteristic	Category	Number (%)
Gender	Male	195 (50.8%)
	Female	189 (49.2%)
Educational Qualification	Bachelor of Dental Surgery (BDS)	100 (26.0%)
	Master of Dental Surgery (MDS)	284 (74.0%)
Years of Clinical Practice	0–5 years	214 (55.7%)
	6–10 years	109 (28.4%)
	More than 10 years	61 (15.9%)

**Table 2** illustrates dental practitioners' awareness of the Dentists Regulations 2014. Only a minority of

respondents—fifty-three participants (approximately fourteen percent)—were directly aware of the regulations, whereas a larger portion, two hundred sixty-five practitioners (around sixty-nine percent), correctly identified that the DCI was responsible for issuing them. The significance of maintaining patient records was recognized by most dentists, with three hundred twenty-one participants (nearly eighty-four percent) acknowledging its necessity. However, awareness of the exact duration for mandatory record retention was limited, as only one hundred fifty-nine practitioners (about fifty percent) responded correctly. Similarly, roughly half of the participants (one hundred ninety, fifty percent) were unaware that using abbreviations of association or organization memberships as suffixes is considered unethical.

When asked about provisions for providing complimentary consultations to fellow dentists and their family members, two hundred twenty-four practitioners

(approximately fifty-eight percent) answered correctly. Regarding the engagement of agents, most dentists (two hundred sixty-seven, nearly seventy percent) regarded such practices as unethical. Only a quarter of respondents (ninety-seven, twenty-five percent) felt that advertising, offering discounts, or providing financial incentives to patients was acceptable. Most participants (two hundred eighty, nearly seventy-three percent) agreed that attaching their names to commercial products, such as toothpaste or toothbrushes, was unethical.

Questions about emergency care revealed that a majority of practitioners—three hundred nine participants (around eighty-one percent)—were aware of the obligation to provide standard care during a cardiac episode and the requirement for basic life support training. Finally, almost all respondents—three hundred seventy dentists (over ninety-six percent)—recognized that refusing treatment based on a patient's color, caste, religion, nationality, or infectious status is unethical.

**Table 2.** Dental practitioners' replies to items evaluating their knowledge of the 2014 dentists (Code of Ethics) regulations

S.No	Question	Respondents' Answers (N (%))
1	The Dentist (Code of Ethics) Regulations first came into force in the year:	a) 1948 → 275 (71.6%) b) 1958 → 39 (10.2%) c) 1976 → 46 (12.0%) d) 2022 → 24 (6.2%)
2	The Dentist (Code of Ethics) Regulations were last revised in the year:	a) 1948 → 7 (1.8%) b) 1958 → 26 (6.8%) c) 2014 → 53 (13.8%) d) 2022 → 298 (77.6%)
3	The Dentist (Code of Ethics) Regulations are issued by:	a) Indian Council of Medical Research → 0 (0%) b) Indian Council of Dental Research → 41 (10.7%) c) Indian Dental Association → 78 (20.3%) d) Dental Council of India → 265 (69.0%)
4	According to the Code of Ethics, is preservation of patient records mandatory?	a) Yes → 321 (83.6%) b) No → 63 (16.4%)
5	If yes, what is the minimum period for preservation of patient records? (n=321)	a) 3 years → 159 (49.5%) b) 4 years → 55 (17.1%) c) 5 years → 64 (20.0%) d) 6 years → 43 (13.4%)
6	Are dentists allowed to suffix their name with abbreviations indicating membership of associations/organizations?	a) Yes → 190 (49.5%) b) No → 194 (50.5%)
7	Is it mandatory to provide free treatment/consultation to fellow dentists and their family members?	a) Yes → 160 (41.7%) b) No → 224 (58.3%)
8	Can dentists use touts/agencies/canvassers to attract patients in a commercial manner?	a) Yes → 117 (30.5%) b) No → 267 (69.5%)
9	Are dentists allowed to advertise or issue press releases about incentives, discounts, free services, etc.?	a) Yes → 97 (25.3%) b) No → 287 (74.7%)
10	Can a dental surgeon's name be used for endorsing/marketing commercial products (toothpaste, toothbrush, mouthwash, etc.)?	a) Yes → 104 (27.1%) b) No → 280 (72.9%)
11	Are dental surgeons required to provide standard care (including resuscitation equipment and adequate BLS training) in case of medical emergencies?	a) Yes → 309 (80.5%) b) No → 75 (19.5%)

12	Do dental surgeons have the right to refuse treatment on grounds of race, caste, religion, nationality, or contagious diseases (HIV, HPV, etc.)?	a) Yes → 14 (3.6%) b) No → 370 (96.4%)
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**Table 3** presents the extent to which dental practitioners comply with the Revised Dentists (Code of Ethics) Regulations 2014. A large proportion of practitioners (72.4%, n = 278) reported receiving gifts or cash incentives from laboratories, radiologists, or pharmacists. More than half (53.6%, n = 206) had never shared patient case summaries when referring patients to specialists. Many practitioners (79.7%, n = 306)

employed dental lab technicians who were not formally registered. Furthermore, 77.3% (n = 297) either dispensed or sold medications directly to patients within their clinics. Despite these concerns, a majority (87.2%, n = 335) consistently provided patients with comprehensive information regarding diagnoses, treatment plans, outcomes, and costs.

**Table 3.** Survey responses on compliance with the (Code of Ethics) revised dentists regulations 2014

S.No	Question	Response (%)
1	Have you accepted any gifts or vouchers from a laboratory, radiologist, or pharmacist in return for patient referrals?	Yes: 278 (72.4%) No: 106 (27.6%)
2	When referring a patient to a specialist for advanced care, do you provide a case summary?	Yes: 178 (46.4%) No: 206 (53.6%)
3	Is your dental laboratory technician qualified and registered according to DCI standards?	Yes: 78 (20.3%) No: 306 (79.7%)
4	When prescribing medications, do you clearly mention both the brand and generic names?	Yes: 204 (53.1%) No: 180 (46.9%)
5	Do you provide patients with complete information regarding diagnosis, treatment, expected outcomes, and costs before delivering dental services?	Yes: 335 (87.2%) No: 49 (12.8%)
6	Do you supply or sell medications directly to patients in your clinic or office?	Yes: 297 (77.3%) No: 87 (22.7%)

**Table 4** highlights the level of awareness among dental practitioners regarding the Consumer Protection Act (COPRA) 2019. About half of the participants (50.5%, n = 194) had no knowledge of the Act. Only 39.1% (n = 150) correctly identified that the district forum's compensation limit is up to Rs 1 crore. Awareness that health services fall under the Act was limited to 40.6% (n = 156) of practitioners. Most respondents (62%, n = 238)

did not know the deadline for filing an appeal against a district forum decision. Around half (51%, n = 196) recognized that professional indemnity insurance provides financial protection against legal liabilities. Awareness of the Central Consumer Protection Authority, which oversees consumer rights enforcement, was very low, with only 14.8% (n = 57) of practitioners aware of its role.

**Table 4.** Survey responses on dentists' familiarity with the 2019 amendments to the consumer protection act

S.No	Question	Response (%)
1	Are you familiar with the Consumer Protection Act 2019?	Yes: 190 (49.5%) No: 194 (50.5%)
2	Which location determines where a complaint can be filed?	Where the service provider has an office: 237 (61.7%) Where the complainant resides or works: 147 (38.3%)
3	According to COPRA 2019, what is the maximum compensation the district forum can award?	20 lakhs: 150 (39.1%) 1 crore: 234 (60.9%)
4	Are health services excluded from the Consumer Protection Act?	Yes: 156 (40.6%) No: 228 (59.4%)
5	What is the timeframe for filing an appeal against a district forum decision?	30 days: 146 (38%) 45 days: 238 (62%)
6	Are you aware of professional indemnity insurance that protects against financial liabilities?	Yes: 196 (51%) No: 188 (49%)

7	Which national authority oversees consumer rights violations, unfair trade practices, and misleading advertisements?	National Consumer Dispute Redressal Commission: 327 (85.2%) Central Consumer Protection Authority: 57 (14.8%)
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This study is, to our knowledge, the first to examine both the awareness and practical application of the Dentists Regulations 2014 and COPRA 2019 among dental practitioners in Andhra Pradesh, India. The recently introduced regulations explicitly discourage unethical conduct, including advertising, solicitation, publicity, engagement with patents or copyrights, operating open chemist shops, offering commissions or rebates, endorsing products, promoting secret remedies, and accepting gifts [5]. Despite the legal obligation to understand and follow these guidelines, a substantial proportion of dental practitioners demonstrated limited familiarity with many provisions of the revised regulations. Similar patterns have been reported in prior research from Chennai [6], Delhi [13], Pune [14], Bangalore [15], and Mathura [16]. These observations emphasize the importance of integrating dental ethics education into undergraduate curricula, as well as encouraging dental professionals to participate in continuing education programs focused on ethical practice [17].

Some practitioners, however, were aware of certain specific provisions, such as the prohibition on denying treatment based on race, color, or infectious disease status; the requirement to provide appropriate care in cases of cardiac emergencies; and restrictions against using one's name in commercial products such as toothpaste or toothbrushes. These findings are consistent with observations by Chopra [13]. Variations in awareness may reflect differences in prior training, clinical experience, or exposure to ethical dilemmas. Practitioners who have faced such dilemmas may seek additional knowledge through workshops, seminars, or other professional development activities [18].

Regarding COPRA 2019, more than half of the respondents were not familiar with the updated act and its provisions. This contrasts with a study in Ghaziabad [19], where 84.8% of participants were aware of COPRA 1984. Similarly, Singh *et al.* [20] found that medical professionals generally had higher awareness of medico-legal issues compared to dental professionals. Low awareness among dental practitioners has also been documented in Chennai [21], Pune [22], and Gujarat [23]. Given the limited literature on COPRA 2019, comparisons were made with knowledge of COPRA

1984, and these should be interpreted cautiously. As consumer rights awareness increases, dental practitioners must maintain up-to-date knowledge of COPRA 2019 to provide safe, legally compliant care and reduce the risk of litigation [24, 25].

The study has several limitations. Awareness and practices were self-reported rather than objectively assessed, potentially affecting accuracy. The findings may not represent all dental practitioners in Andhra Pradesh due to convenience sampling, and recall bias may have influenced responses. Considering these limitations, a nationwide study with a representative sample would provide a clearer understanding of awareness and adherence to Dentists Regulations 2014 and COPRA 2019.

### Conclusion

In conclusion, the study indicates that knowledge of the Dentists (Code of Ethics) Regulations 2014 and COPRA 2019 among practitioners was limited. These results highlight the need for structured training programs and educational initiatives to enhance understanding of ethical and legal responsibilities. Emphasizing legal and ethical education at the undergraduate level can foster professional conduct that aligns with regulations while promoting high-quality patient care.

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