

Ethical Conventions: A Study on Dental Practitioner's Knowledge and Practice of Ethics in their Line of Work in Bangalore, India

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ABSTRACT

Introduction: Dentistry, being one of the healing professions, has an obligation to society that its members will stick on to high ethical standards of conduct. In India, studies done to assess whether the dental practitioners adhere to ethics in their line of work are very meager.

Aim: The present study was conducted to assess the knowledge and practice of ethics in their line of work among practicing dentists from various dental colleges in Bangalore, India.

Materials and Methods: A descriptive cross-sectional survey was conducted among 258 practicing dentists attached to various dental colleges in Bangalore city of Karnataka, India. Independent sample t-test was used to compare the knowledge and practice scores according to gender and qualification. One

way ANOVA was used to compare knowledge and practice score according to practice type and practice period.

Results: Mean knowledge score among males is 8.9 as compared to 9.43 among females and mean practice scores among males was 8.25 as compared to 8.29 in females. Statistically significant differences were found in the mean knowledge and practice scores among graduate dentists and specialists. Mean knowledge score among graduate dentists was 8.44 as compared to 9.36 among specialists and mean practice scores among graduate dentists was 7.7 as compared to 8.53 in specialists.

Conclusion: A significant association between the knowledge and practice scores was observed, implying that with an increase in knowledge, there was also an increase in the practices of ethics among study population.

Keywords: Dentistry, Ethical issues, Professional education, Specialists

INTRODUCTION

I will follow that system of regimen which, according to my judgment, I consider for benefit of my patients, and abstain from whatever is deleterious Whatever, in connection with my professional service, or not in connection with it, I see or hear, which ought not to be spoken of, I will not divulge, as reckoning that all such should be kept secret", these are the lines from ancient Hippocratic Oath, which is a vow taken by professionals who are delegated with the care and safety of others. Dentistry being one of the healing arts, has derived its code of behavior which is nothing but the Dental Ethics from the Hippocratic Oath [1,2].

Dental ethics is defined [3] as "a philosophy of human conduct, a way of stating and evaluating principles by which problems of behavior can be solved". The ethics of any profession are self-imposed and voluntarily accepted and not enforced by legislation. It is required to establish and maintain honorable patterns of behavior recognized by members of the community [4].

Though dental ethics is an unwritten code, there are certain guidelines that have been laid down for information of members of the profession [5-7]. In India, the Dental Council of India (DCI) is the statutory body entailed with maintaining ethics among dental professionals. The code of ethics for dentists enumerates duties and rights of a dental practitioner [8].

Even so, specifying code of ethics in the DCI code of regulations does not indicate that dental practitioners will practice dentistry in an ethical manner [9,10]. Hence, the aim of this study was to assess the knowledge and practices of ethics in their line of work among practicing dentists from various dental colleges in Bangalore, India. The objectives were to assess the knowledge regarding ethical principles and practices regarding informed

consent among practicing dentists attached to dental colleges in Bangalore city, Karnataka, India.

MATERIALS AND METHODS

A descriptive cross-sectional study was conducted among 258 practicing dentists attached to various dental colleges in Bangalore city. There were 16 dental colleges in Bangalore city, registered under the DCI [11]. Since no reference is given on the total number of practicing dentists working in dental colleges in Bangalore, the colleges were divided into four zones as north, south, east and west, two colleges were selected from each zone by lottery method. There were about 400 practicing dentists working in these colleges, all of whom were included in the study. All the practicing dentists who were present on the day of interview and those who gave informed consent were included in the study. There were 378 dentists present on the days of interview, of whom, 350 practicing dentists agreed to participate. Ethical clearance was obtained from Institutional Ethics Committee of Bangalore Institute of Dental Sciences, Bangalore, Karnataka, India, where the study was conducted. Permission was taken from principals of dental colleges and written informed consent was obtained from the subjects and the study objectives and questionnaire were briefly explained. The distributed questionnaires were collected back at the end of the day or on consecutive days. The examiner went repeatedly over again to ensure maximum participation of respondents. The study was conducted during September 2013.

The questionnaire was developed based on study objectives, taking guidance from previous literature regarding ethical issues faced in routine dental practice in the developing world [12-14]. The study tool consisted of three sections. Five questions on respondents'

personal and professional background particulars like age, gender, qualification, years of practice and type of employment. Second part of survey assessed participants' knowledge on ethical principles, which consisted of 13 questions. Third part consisted of 11 questions on their practices on informed consent.

Pilot study was conducted to assess the comprehension and reliability of the questionnaire and necessary modifications were done. The examiner issued questionnaires to a group of 20 practicing dentists and same questionnaire was issued to the same group of dentists after 10 days. Reliability was assessed using the kappa statistic, which was found to be 0.88 showing a good degree of consistency in the scores. A total of 350 questionnaires were distributed to practicing dentists, of which, 274 questionnaires were returned back. Of these, 258 questionnaires were completely filled, which were considered for analysis (Response rate = 78%).

STATISTICAL ANALYSIS

The data collected was analyzed using IBM SPSS Statistics, Version 22 (Armonk, NY: IBM Corp). Descriptive data were presented in the form of frequency, percentage, mean and standard deviation. Chi-square test was used to determine association between knowledge and practice scores. Independent sample t-test was used to compare the knowledge and practice scores according to gender and qualification. One way ANOVA was used to compare knowledge and practice scores according to practice type and practice period. Spearman's Rank Correlation test was used to test the correlation between knowledge and practice scores.

RESULTS

[Table/Fig-1] gives the distribution of study participants according to gender, qualification, practice period and type of practice. Out of 258 practicing dentists, 121 (46.9%) were males and 137 (53.1%) were females. Of the total 50 (19.4%) were graduate dentists and 208 (80.6%) were specialists.

Distribution of study participants according to their responses to knowledge and practice related questions are given in the [Table/Fig-2,3]. Among all knowledge related questions, highest percentage of correct answers were given for the question on professional confidentiality. When asked if it is required to instruct assistants on professional confidentiality 93% gave correct answer. Least percentage of correct answers were for the question on whether dentistry is a self-governing profession with the correct responses being only 26%. Among practice related questions, highest percentage of correct answers is given for the practice of detailed explanation given during orthodontic treatment (96.9%) and least percentage of correct answers was for the question on discussion about patient's clinical cases with friends or spouses (43.4%).

For knowledge and practice related questions, correct responses were given a score of '1' and wrong responses were given a

Demographic Variable		n (%)
Gender	Males	121(46.9%)
	Females	137(53.1%)
Qualification	Graduate dentist	50(19.4%)
	Specialist	208(80.6%)
Practice period	< 3 years	125(48.4)
	3-8 years	94(36.4)
	8-15 years	27(10.5)
	15 years and above	12(4.7)
Practice type	Private solo	122(47.3%)
	Private group	82(31.8%)
	Consultation	54(20.9%)

[Table/Fig-1]: Distribution of study participants according to socio-demographic details.

Gender and Qualification		Means score (SD)	Mean Difference (95% CI)	t	Sig. (2-tailed)
Knowledge	Male(n=121)	8.90(2.39)	-0.53713 (-1.12-0.04)	-1.80	0.07
	Female(n=137)	9.43(2.38)			
	BDS(n=50)	8.44(2.30)	-0.92(-1.66-(-0.18))	-2.47	0.01*
	MDS(n=208)	9.36(2.39)			
Practice	Male(n=121)	8.25(1.80)	-0.04307(-0.50-0.42)	-0.18	0.85
	Female(n=137)	8.29(1.94)			
	BDS(n=50)	7.20(2.26)	-1.33(-1.89-(-0.77))	-4.69	0.00*
	MDS(n=208)	8.53(1.68)			

[Table/Fig-2]: Comparison of knowledge and practice score of study participants according to their gender and qualification using chi-square test. *p-value <0.05 statistically significant

Practice period and type of practice		Means score (SD)	f-value	p-value
Knowledge	< 3 years (n=125)	8.61(2.58) ^a	5.757	0.001*
	3 - 8 years (n= 94)	9.52(2.20) ^b		
	8 - 15 years (n= 27)	10.03(1.69) ^b		
	> 15 years (n= 12)	10.58(1.62) ^b		
Practice	< 3 years (n=125)	7.99(2.01) ^b	2.270	0.081(NS)
	3 - 8 years (n= 94)	8.50(1.75)		
	8 - 15 years (n= 27)	8.85(1.72)		
	> 15 years (n= 12)	8.25(1.35)		
Knowledge	Private solo (n=122)	9.17(2.26)	3.587	0.029*
	Private group (n=82)	8.75(2.52) ^c		
	Consultant (n=54)	9.87(2.38) ^d		
Practice	Private solo (n=122)	8.21(1.90)	2.410	0.092(NS)
	Private group (n=82)	8.06(2.03)		
	Consultant (n=54)	8.75(1.49)		

[Table/Fig-3]: Comparison of knowledge and practice score of study participants according to their practicing period and type of practice using ANOVA. *p-value <0.05 statistically significant; p>0.05 not significant, NS; Pairwise comparison using Bonferroni post hoc test – p<0.01 statistically significant between a and b; c and d

Knowledge scores	Practice scores		Total
	Low (score ≤6)	Adequate	
Low (score ≤7)	36(63.2%)	21(36.8%)	57(22.1%)
Adequate	13(6.5%)	188(93.5%)	201(77.9%)
Total	49(19.0%)	209(81.0%)	258(100%)

[Table/Fig-4]: Association in knowledge and practice scores among study population. Chi-Square = 92.76(1), p<0.001

		Practice score
Knowledge score	Correlation Coefficient	.538**
	p- value	.000

[Table/Fig-5]: Correlation between knowledge scores and practice scores. *p-value <0.05 statistically significant

score of '0' and the total knowledge and practice scores for each respondent were calculated. [Tables/Fig-2,3] shows a comparison of the knowledge and practice scores among the study participants according to gender, qualification, practice period and practice type. Mean knowledge score among males was 8.9 as compared to 9.43 among females and mean practice scores among males was 8.25 as compared to 8.29 in females. Both mean knowledge and practice scores were higher in females as compared to males, but were not statistically significant. Whereas, statistically significant differences were found in the mean knowledge and practice scores among graduate dentists and specialists. Mean knowledge score among graduate dentists was 8.44 as compared to 9.36 among specialists and mean practice scores among graduate dentists

was 7.7 as compared to 8.53 in specialists. Interestingly, dentists with least practice experience had significantly lower knowledge scores (mean score = 8.61) as compared to those with higher practice experience which was statistically significant. Those in group practice had significantly lower knowledge scores (mean score = 8.75) as compared to consulting practitioners.

[Table/Fig-4] depicts any association between knowledge and practice scores among the study population. There was a significant association between knowledge and practice scores implying that with an increase in knowledge, there was also an increase in the practices of ethics among study population. [Table/Fig-5] shows correlation between knowledge and practice scores and it was observed that there was a highly significant correlation between the knowledge and practice in the study group.

DISCUSSION

The reputation of being a dentist comes with a responsibility to society and to fellow affiliates of profession to carry out one's professional activities in a highly ethical manner [15,16]. The Supreme Court of India has also given the following guidelines on informed consent: "A doctor must request consent of the patient before initiating treatment. The consent thus received must be real and valid. The nature and modus operandi of treatment and its purpose, benefits and effect, any alternative treatment if available, a run through of substantial risks and adverse consequences of refusing treatment must be included" [17]. In the recent past, apparent changes have been noticed regarding what is morally or ethically acceptable to the society and the dental professionals need to be constantly updated so as to maintain the highest ethical values [2]. In regard to this, the present study was conducted to assess the knowledge and practice of ethics in their line of work among practicing dentists from various dental colleges of Bangalore, Karnataka, India.

Dentistry is not a self governing profession, as the most important part of it is 'autonomy', which is nothing but conferring the patient to take rightful decisions regarding their treatment [12,17,18]. In contrast to this, in the present study least number of practicing dentists agreed with it. Knowledge on informed consent among practicing dentists was slightly lesser as compared to other studies [12,18]. This could be because, informed consent practices like using written consent for routine dental procedures or proxy consent from guardians is not regularly practiced in India.

The dentist should explain the risks and side effects associated with any of the treatment procedures, which have to be conveyed prudently. In the present study more than three fourth of the dentists explained the amount of radiation exposure before taking an X-ray. The reason could be the increasing awareness about hazards of radiation among the general population; which might have prompted the dentists to explain the same thoroughly. A 95.3% of dentists gave a detailed explanation about local anesthesia and complications associated with it. This is in accordance with the other study wherein 84.1% dentists explained the above [12]. Likewise, 96.9% of practitioners explained the procedure, duration and costs of orthodontic treatment as compared to 79.5% in the other study [9]. A 88% of the dentists noted down all the findings and the treatments to be followed on the case paper which is similar to the other study (88.6%). A 57.8% of dentists took signature of patients on the records. A 81.4% of dentists reported that they take consent before starting any procedure as compared to 100% in the other study. In recent years there have been an increased number of petitions being filed in the courts regarding medical negligence, which in turn might be the reason for taking consent from patients [5].

Mean knowledge and practice scores among specialists were higher as compared to graduate dentists, which was statistically significant. These findings are similar to the study conducted by

Anup N et al., [19]. The reason could be because of the fact that, specialists are exposed to additional ethical training during their postgraduate studies. Comparison of knowledge and practice scores among study participants showed a statistically significant increase in practice of ethical principles with an increase in knowledge about the same. This implies that if awareness of ethical principles was augmented, then the practice of ethics in their routine dental practice can also be expected to improve.

LIMITATION

Nonetheless, the study has a few limitations. The use of cluster-sampling instead of using a random sample and the fact that it is only descriptive in nature are the limitations of this study.

CONCLUSION

In spite of our best efforts, unanticipated mishaps occur in dentistry too, as in other fields of medicine. So, in recent years the need for informed consent has sprung up more than ever. That's why, there is an urgent need for including the ethical and legal issues in the professional meetings and conferences as well as incorporated in continuing education courses for practicing dentists. Also, meticulous coaching along with problem based education on dental ethics for the students in dental colleges and inclusion of ethical topics in the postgraduate curriculum is imperative. From the present study it can be inferred that both the mean knowledge and practice scores were higher in females as compared to males, but were not statistically significant. Whereas, statistically significant differences were found in the mean knowledge and practice scores among the BDS and MDS practitioners. There was a significant association between the knowledge and practice scores implying that with an increase in knowledge, there was also an increase in the practices of ethics among study population.

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Date of Submission: **Jan 01, 2016**Date of Peer Review: **Apr 01, 2016**Date of Acceptance: **May 10, 2016**Date of Publishing: **Aug 01, 2016****FINANCIAL OR OTHER COMPETING INTERESTS:** None.