



ORIGINAL ARTICLE

Knowledge and Attitude Toward Informed Consent Among Private Dental Practitioners in Bathinda City, Punjab, India

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Abstract

Objectives: A study was conducted with the purpose to assess the knowledge and attitude towards informed consent among private dental practitioners in Bathinda City, Punjab, India.

Methods: A cross-sectional survey was conducted among all private dental practitioners in Bathinda City. A self-administered structured questionnaire consisting of 14 items was used to assess their knowledge and attitude regarding informed consent. The response format was based on a 3-point Likert scale. One-way analysis of variance, independent sample *t* test, and stepwise multiple linear regression analysis were utilized for statistical analysis. Confidence level and level of significance were set at 95% and 5%, respectively.

Results: The mean scores for knowledge and attitude were 19.37 ± 31.82 and 9.40 ± 1.72 , respectively. Analysis revealed that qualification and years of experience was statistically significant among both dependent variables ($p \leq 0.05$).

Conclusion: An unbalanced knowledge of informed consent among the current dentists has suggested the need for awareness programs to fill the knowledge gaps and instill positive attitudes.

1. Introduction

Medical ethics investigate ethical issues arising in medicine and healthcare provision by applying the principles of moral philosophy. Medical ethics are often defined as “the disciplined study of morality in

medicine” [1]. This morality in medicine concerns not only research activities but also the day-to-day medical practice of the doctors’ vis-à-vis their patients. Ancient ethical codes were often compiled in the form of oaths, the most famous being the Oath of Hippocrates [2]. The foundation of medical ethics was laid at the Hippocrates

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School (400–300 BC) and since then the idea has revolutionized through different stages [3].

Contemporary medical ethics and bioethics began after the World War II as a result of contemptible issues in medical research and medical interventions [3,4]. In the developed countries, medical ethics appeared as recognizable academic discipline and became a compulsory part of medical curriculum in 1993 [5].

In current daily practice, medical specialists and the dentists come across common ethical issues. The core issues in medical ethics are the ethics of the doctor–patient relationship, patient’s confidentiality, and the need to obtain informed consent, whereas bioethics deals with all-encompassing moral issues in medicine and biomedical sciences [5,6].

Informed consent is an essential tool of standard ethical medical practice. It is the process of sharing information with patients that is essential to their ability to make rational choices among multiple options in their perceived best interest [7]. It is universally recognized as an essential safeguard to ensure the preservation of individual’s rights [8].

The basic pillars of the consent include patient autonomy, adequate disclosure of material risks, discussion of alternative treatments and sequelae, and the capacity of the patient to retain information and make a deliberate choice. So, the role of consent to treatment, in ethical terms, is to safeguard patients’ autonomy [9,10].

Informed consents, which are routinely provided in all health care environments including dental school clinics, are an important source of information to help patients make informed decisions about their proposed treatments [11,12]. The concept of informed consents is rooted in moral, cultural, and legal principles [13,14]. Informed consents are often perceived as necessary for legal protection against malpractice claims [15].

In order for informed consents to be useful, they must contain sufficient information relating to the treatment or procedure. Furthermore, the information contained in the document must also be clear and understandable to patients. Several professional organizations and government entities have recognized the importance of consents by issuing guidelines for informed consents, and minimum legal requirements also exist at the state level [16,17].

Most likely the current infrastructure in medical and dental colleges is not sufficient to deal with the problems. To design a curriculum on bioethics it is necessary to assess the knowledge and attitudes of the students who are at the initial stages of ethical practice [18].

Furthermore, general observation points to wide differences between medical and dental care offered by private and public hospitals. In view of these observations, this study was conducted to explore the knowledge and attitude about informed consent among dental professionals of Bathinda City, India.

2. Material and methods

2.1. Study design and population

A descriptive cross-sectional study was conducted among dental professionals of Bathinda City, Punjab, India in the month of June 2014. The study population consisted of all the private dental practitioners of Bathinda City.

2.2. Ethical approval

The study protocol was reviewed by the Ethical Committee of the Pacific Dental College and Hospital, Rajasthan, India and was granted ethical clearance.

2.3. Pretesting of questionnaire

A self-administered structured questionnaire was developed and tested among a convenience sample of 10 dentists, who were interviewed to gain feedback on the overall acceptability of the questionnaire in terms of length and language clarity. Based on their feedback, the questionnaire did not require any corrections. Cronbach coefficient was found to be 0.80, which showed an internal reliability of the questionnaire. Mean Content Validity Ratio (CVR) was calculated as 0.87 based on the opinions expressed by a panel of five academicians. Face validity was also assessed and it was observed that 92% of the participants found the questionnaire to be easy.

2.4. Questionnaire

A questionnaire, designed to obtain dental professionals’ knowledge and attitudes towards informed consent, consisted of three sections. Section I solicited general demographic and professional background information. Section II integrated 10 questions to collect information about knowledge regarding informed consent. Section III comprised five questions that aimed to assess the attitude towards the use of informed consent. The participant’s responses for Sections II and III were recorded using a 3-point Likert scale.

2.5. Methodology

Investigators collected the list of private practicing dentists from local sources (local Indian Dental Association (IDA) branch and telephone directory). Among the total 166 dental practitioners, a pilot study was conducted on 10 dental practitioners. These were later excluded from the main study and the final sample size was arrived at 156. On the predecided days, investigator visited the private clinics, according to area distribution, for getting the questionnaire filled. Questionnaires were distributed among all dentists ($n = 156$) who were requested to fill in the written informed consent form and were asked to rate each item of the questionnaire choosing the most appropriate response. The investigator revisited the clinics after 3 days to collect the filled

questionnaires. One hundred percent response rates were achieved by two to three follow-ups.

2.6. Statistical analysis

Completed questionnaires were coded and spreadsheets were created for data entry. The data was analyzed using SPSS version 17 (SPSS Inc., Chicago, IL, USA).

Responses to all items of Section II were recorded from 1 to 3 (yes, no, and not sure) and responses for Section III were recorded from 1 to 3 (never, sometimes, and always). Several items in Section II and Section III were recoded to ensure that a high score indicated a positive knowledge and attitude and a low score indicated a negative knowledge and attitude. Descriptive statistics were used to summarize the demographic information and the survey data was analyzed using the Student *t* test and one-way analysis of variance with *post hoc* Bonferroni test. Stepwise multiple linear regression analysis model was used to check relation between independent (age, sex, qualification, and years of work experience) and dependent variables (knowledge and attitude). Confidence level and level of significance were fixed at 95% and 5% respectively.

3. Results

As shown in Table 1, a total of 156 dentists with the mean age of 32.8 ± 5.2 years participated in the survey. Demographic data showed that the majority of the respondents were graduates (65.4%), males (59%), and in the age group of 25–35 years (71.2%). In addition, 53.2% of the dental health professional had < 5 years of work experience.

Table 2 showed the mean knowledge and attitude scores of the study population were evident as

Table 1. Demographic characteristics of dentists of study population.

Sample characteristics	Frequency (%)
Age (y)	
25–34	101 (64.7)
35–45	43 (27.6)
>45	12 (7.7)
Sex	
Male	92 (59)
Female	64 (41)
Qualification	
Masters of dental surgery (MDS)	54 (34.6)
Bachelors of dental surgery (BDS)	102 (65.4)
Work experience (y)	
<5	83 (53.2)
5–10	36 (23.1)
>10	37 (23.7)
Total 156 (100)	

19.37 ± 1.82 and 9.40 ± 1.72 respectively. Post-graduates had significantly greater knowledge and positive attitude than graduates ($p = 0.00$). When *post hoc* Bonferroni test was applied, mean knowledge score among those who had fewer than 5 years of experience (18.78 ± 1.68) was found to be significantly lesser than among those who had > 10 years of experience (19.89 ± 1.72 ; $p = 0.00$).

Table 3 shows that 97.4% of the dentists showed familiarity about informed consent. More than 65% of the dentists showed that they had knowledge about both types of informed consent, and 52.6% were not sure whether to take consent for disabled child or not. Forty-eight percent of the dentists were not previously taking consent from patient. Most of the dentists were not taking signatures for the verbal consent; and 48.1% were taking the consent prior to doing the surgical procedure.

Table 4 shows the stepwise multiple linear regression analysis to estimate the linear relationship between the dependent variables (knowledge score) and independent variables (age, sex, qualification, and work experience). The best predictors in descending order for knowledge score were qualification and work experience with the corresponding variance of 14.5% and 25.4% respectively.

Table 5 shows the stepwise multiple linear regression analysis to estimate the linear relationship between the dependent variable (attitude score) and independent variables (age, sex, qualification, and work experience). Qualification was the only best predictor for attitude score with the variance amount of 6.8%.

4. Discussion

The current study was conducted among 156 dental practitioners of Bathinda City, Punjab, India to assess their knowledge and attitude toward informed consent. To the best of our knowledge, this is the first study to examine the knowledge and attitude toward informed consent among dental practitioners of Punjab state.

In the current study, multivariate analysis revealed that knowledge showed significant association with qualification and years of work experience, whereas attitude showed significant association with qualification only.

Dental professionals who had > 10 years of work experience had more knowledge than among those who had 5–10 or < 5 years of work experience. This might be due to the fact that the expanding patient population is becoming more knowledgeable and aware of their rights, consequently taking action by contacting the consumer forum to lodge their complaints. Thus, dentists are also updating themselves to provide efficient dental care.

The study also revealed that dentists with post-graduate qualifications showed a significantly greater

Table 2. Association of mean knowledge and attitude scores with independent variables.^a

Variables	Knowledge		Attitude	
	Mean ± Standard Deviation	p-value	Mean ± Standard Deviation	p-value
Sex				
Male	19.53 ± 1.72		9.50 ± 1.61	
Female	9.50 ± 1.61	0.17	9.30 ± 1.86	0.42
Age (y)				
25–34	19.15 ± 1.73		9.32 ± 1.57	
35–44	19.23 ± 1.96		9.41 ± 1.69	
>45	19.31 ± 1.65	0.20	9.93 ± 1.78	0.80
Qualification				
Masters of dental surgery (MDS)	20.00 ± 1.88		10.03 ± 1.65	
Bachelor of dental surgery (BDS)	19.00 ± 1.70	0.00*	9.02 ± 1.70	0.00*
Work experience (y)				
<5	18.78 ± 1.68 ^b		9.20 ± 1.64	
5–10	19.18 ± 1.92		9.34 ± 1.86	
>10	19.89 ± 1.72 ^b	0.00*	9.50 ± 1.60	0.70

^aStatistical tests applied: *t* test, one-way analysis of variance; ^bStatistically significant difference; post hoc Bonferroni test. * Statistically significant difference at $p \leq 0.05$.

mean knowledge and attitude scores than those with undergraduate qualifications. This might be due to their more familiarity and use of informed consent when they were perusing their post-graduation under institutional settings.

In the current study, 97.4% of the dental professionals acknowledged that what an informed consent is. Our results are in accordance with a study conducted by Farhat et al [19] found that 99% of the participants regarded consent as an integral part of dentistry.

There were 68.6% of the dentists in our study who agreed that they had sufficient knowledge about verbal consent. Similarly, in the study conducted by Farhat et al [19] it was found that among the types of consent, 84.4% verbal consent was found to be the favored method of acquiring consent over its written form.

In our study only 48.7% of the participants sometimes obtained the consent. This was in accordance with the study conducted by Farhat et al [19], which concluded that 56.8% of practitioner's sometimes obtained consent from the patients. This could probably be due to hurry, lack of time, or negligence on the part of the dental professionals [19].

The issue of obtaining informed consent prior to treating children can be difficult [20]. It was therefore encouraging to see that nearly 80% of respondents in the current study believed in obtaining consent for a disabled child/child patient and only 15% reported that they did not obtain such informed consent for children.

In the current study, 10.9% of the dental professionals accept that they said they give a copy of the consent form to the patient. This suggests that dental professionals in our study do not see the need to respect a patient's rights or they are not aware of changing trends in obtaining consent from patients. This was also

supported by the fact that only 24.4% of the dental professionals said that they were aware that if a patient asks for a copy of the consent form, it should be handed over.

Our study revealed that 53.2% of the dental professionals agreed that they take signatures even if it is a verbal consent. This was in accordance with the study conducted by Avaramova and Krassimira [21]. This was a rather low percentage because written consent provides some evidence that patients have been informed of the details and costs of their proposed treatment [21].

In the current study, most of the dentists take consent for surgical procedures. It was not surprising that among those who reported that they did not obtain informed consent in all cases, surgical intervention was the most likely procedure to cause them to seek consent. The risks of complications following third molar extraction are well documented [22] and the use of consent forms for patients to sign prior to such surgery is widespread [22–24]. However, one study has reported that the majority of patients undergoing oral surgery did not remember the information that they had received prior to signing their consent forms [22].

The consumer movement in the 1980s led the government of India to enact the Consumer Protection Act (CPA) in 1986, paving the way for the establishment of consumer courts. The CPA is meant to protect the rights and interests of consumers, those who hire or avail of services from others. Compensation is judged and decided upon the doctrine of deficient service, unfair trade practice. The Supreme Court of India, in a landmark judgment on November 13, 1995, included the health care profession under section 2 (1) (0) of the CPA, 1986 [25].

Table 3. Frequency of responses regarding knowledge, value and opinion.

Knowledge	Yes	No	Not sure
1. Do you know what an informed consent is?	152 (97.4)	4 (2.6)	0 (0.0)
2. Do you know what verbal consent is?	107 (68.6)	19 (12.2)	27 (17.3)
3. Do you know what written consent is?	104 (66.7)	32 (20.5)	24 (15.4)
4. Should signature be taken even if it is a verbal consent?	76 (48.7)	31 (19.9)	49 (31.4)
5. Should the patient consent be taken before treatment?	83 (53.2)	35 (22.4)	38 (24.4)
6. Should the patient consent be taken after treatment?	51 (32.7)	75 (48.1)	30 (19.0)
7. Do you know that consent should be obtained for disabled/child patient?	124 (79.5)	23 (14.7)	9 (5.8)
8. Does patient's consent help with the treatment?	71 (45.5)	38 (24.4)	47 (30.1)
9. Are you aware that one copy of the informed consent form should be given to the patient if asked for?	38 (24.4)	111 (71.3)	7 (4.5)
10. Are you aware of the Consumer Protection Act?	35 (22.4)	38 (24.4)	83 (53.2)

Attitude	Never	Sometimes	Always
1. Have you been taking consent from the patient before?	49 (31.4)	76 (48.7)	31 (19.9)
2. Do you take signatures even if it is a verbal consent?	35 (22.4)	38 (24.4)	83 (53.2)
3. Do you take consent for surgical procedure?	30 (19.0)	51 (32.7)	75 (48.1)
4. Do you take consent for non-surgical procedure?	25 (16.0)	102 (65.4)	29 (18.6)
5. If patient asks to take a copy of the consent form do you provide a copy?	111 (71.2)	28 (17.9)	17 (10.9)

In our study, awareness regarding CPA was acknowledged by 22.4% of the dental professionals. This was in relation with the study conducted by Singh et al [26] among dental and medical health professionals found that the medical professionals had greater awareness of CPA when compared with dental professionals. The lack of awareness of CPA among dentists in particular implies that they are ill equipped to deal with litigations that may arise in their dental practice [26].

The current study surveyed all the private dental practitioners of Bathinda City with a 100% response rate. Moreover, the self-administered questionnaire used

in the study was previously calibrated and validated for the present study population.

The assessment of knowledge and attitude were based on dental practitioners self-report. Questionnaires were administered among all the dental practitioners in the city to provide a more comfortable environment for the participants in which to answer the questions.

Moreover, participants were assured that their responses would be used solely for this research. Limitations of the current study are we are not sure how truthfully and thoughtfully the respondents answered the questionnaire, and the level of subjectivity is not acknowledged in the current study.

The importance of consent to treatment cannot be overemphasized. It is believed that the best arguments in favor of fully informed consent are moral rather than legal. The current study concluded that dental practitioners had an unbalanced knowledge about informed consent but the attitude toward its use in clinical setting was found very dissatisfactory. To overcome this, emphasis should be given in undergraduate and post-graduate training on legal jurisprudence and legal medicine as this is essential for dentists to protect themselves from civil litigation (trespass, assault, or battery) and even criminal proceedings for common aggravated or indecent assault. This study opens new vista for more detailed research among other dental practitioners in other parts of the country.

Conflicts of interest

The authors declare that there is no conflict of interests regarding the publication of this article.

Table 4. Stepwise multiple linear regression analysis with knowledge score as dependent variable among dentists.

Model	R	R ²	F	p
1	0.381 ^a	0.145	17.507	0.000 ^a
2	0.504 ^b	0.254	17.405	0.000 ^b

^aPredictors: Constant, qualification; ^bPredictors: Constant, qualification, work experience.

Table 5. Stepwise multiple linear regression analysis with attitude score as dependent variable among dentists.

Mode	R	R ²	F	p
1	0.261 ^a	0.068	7.549	0.007 ^a

^aPredictors: Constant, qualification.

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