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# Knowledge, attitude, and practice regarding informed consent among dental professionals in Madina City, Saudi Arabia: A cross-sectional study

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## Abstract

**AIM:** The aim of this study was to assess the knowledge, attitude, and practice (KAP) of dental professionals regarding informed consent (IC) in Madina City.

**METHODS:** A descriptive cross-sectional design using a self-administered questionnaire was conducted. The questionnaire was tested for validity and reliability before it was distributed using Google Forms through WhatsApp among a sample of 299 dental professionals working in Madina City. IBM Statistical Package for Social Sciences (SPSS) version 26 was used for analysis.

**RESULTS:** Two-hundred ninety-nine responses were collected. Sixty percent scored less than the group average regarding knowledge, and 52% scored less than the group average regarding attitude. Regarding practice, 57% scored below the group average. Saudi dentists and those who work in the Ministry of Health (MOH) had better knowledge scores than other tested groups. Dentists working in the MOH had better attitude and practice scores than those who work in the private sector. Regarding attitude and practice, consultants achieved better scores than registrars and general dentists. More than 90% indicated that the main reason for obtaining an IC is to protect themselves from legal actions.

**CONCLUSION:** The KAP of surveyed dental professionals in Madina is suboptimal and needs improvement.

## Keywords:

Bioethics, dental professionals, informed consent, Saudi Arabia

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## Introduction

The dentist–patient relationship has been facing significant changes over the last few decades. The conventional paternalistic approach to treating patients has been replaced by a framework of mutual participation in which patient involvement, education, and shared process of decision-making constitute the new approach.<sup>[1,2]</sup>

These changes have emerged due to the rapid advancement in healthcare

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systems and increased patient awareness generated by better education, mass media, and increasing individualism.<sup>[3]</sup> With these developments, patients' rights have never played a more essential role in clinical society than today.<sup>[1]</sup> The increasing global attention given to patients' rights is generally reflected in several conventions and declarations (such as the Convention on Human Rights and Medicine and the Declaration on the Promotion of Patient Rights<sup>[4]</sup>).

Informed consent is the process of obtaining permission before conducting a healthcare treatment or intervention on an individual for

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conducting a certain process or research on this individual, or for disclosing this individual's personal information.<sup>[5]</sup> A healthcare practitioner should seek patient consent to receive treatment before providing it. Free consent is a cognate concept enshrined in the International Covenant on Political and Civil Rights. This was adopted by the United Nations in 1966 and applied in 1976. Article (7) prohibits experiments and processes conducted without obtaining voluntary consent to perform scientific or medical experimentation involving the individual or subject.<sup>[6]</sup> For many years, only nonmaleficence, beneficence, and confidentiality played a significant role in ethics and treating individuals. Hippocrates allowed practitioners to decide the patient's best interest in a paternalistic fashion. The earliest expression of IC can be found in the Nuremberg Code of Ethics. The code mandates the acquisition of voluntary IC from individuals.<sup>[7]</sup> The Declaration of Helsinki also emphasized the essentiality of obtaining freely voluntary IC for clinical research in 1964. In the field of dentistry, obtaining such consent from patients was presented in the 1980s. Since then, this process has undergone a shift to a patient autonomy-focused model from a paternalistic-focused model.<sup>[8]</sup>

### Literature review

Salve *et al.*<sup>[9]</sup> found that 45% had poor awareness and knowledge regarding dentistry-related ethical aspects among Indians. Gupta and Purohit<sup>[10]</sup> found that most participants were aware of the concept of IC (91%). Other participants stated that they acquire an oral form of IC (45%), and almost all dentists stated that they must always acquire consent when they treat young people or children (91%). Avramova and Yaneva<sup>[11]</sup> found that 97.5% of participants thought that IC is necessary, yet only 87.5% reported that they obtain an IC. It has been reported that only 37.5% obtained written IC. Interestingly, they did not obtain consent from their colleagues (36.25%), relatives (18.75%), and longtime patients (12.5%).

Kotrashetti *et al.*<sup>[12]</sup> found that 63.6% of participants reported obtaining written consent before treatment. About 41% found that obtaining an IC is time-consuming. Less than one-quarter (18.2%) refused to give a copy of the consent form to the patient. Seventy percent reported that consent forms are to protect the doctor. Veeresh *et al.* criticized dentists' level of knowledge regarding IC.<sup>[13]</sup> In another study in Pakistan, only 52% obtained consent with verbal consent as the most preferred mean of obtaining IC in 84.4% of the sample, while the written form was the least practiced method (1.8%).<sup>[2]</sup>

In a survey in Bangladesh,<sup>[14]</sup> although 100% of dentists considered that it is necessary to obtain consent of any type for all types of surgical procedures, only 30% of dentists obtained consent in all cases with only 14% being written consent. Sixty-four percent of general practitioner

dentists thought that consent forms offer protection to the doctors, while only 6% thought that an IC would protect the patient, and 30% stated that it protected both. Gongura *et al.*<sup>[15]</sup> found that 45% obtained only verbal consent, and 78% of them were aware of the importance of an IC in medicolegal aspects. In England, Chate<sup>[16]</sup> evaluated the level of knowledge and understanding of IC among consultant orthodontists and found it deficient. A systematic review on IC in dental care and research for adults<sup>[17]</sup> concluded that a knowledge gap between understanding and implementing consent forms exists.

A study was conducted concerning lawsuit cases of professional misconduct, which emerged in Riyadh in 1997. It was stated that 29 dental complaints were documented, and only a single case had documented IC.<sup>[18,19]</sup> Alkindi<sup>[20]</sup> conducted a survey with 83 patients regarding IC practice in oral surgery, and it was found that about 80% of the sample mentioned that they obtain IC with 53% obtaining only verbal consent. Alkindi's sample consisted of 40% specialist dentists (oral surgeons), which may have added 80% to the use of IC. Oral surgery is also used for the surgical removal of mandibular third molars, a procedure that is known to be accompanied by several complications. This practice may have added to 80% of use.

The current literature lacks information about routine IC practices among dentists in Saudi Arabia, while on an international level, several publications have highlighted deficiencies and misunderstandings regarding IC.

The aim of the study was to assess the attitude, knowledge, and practice of dental professionals regarding IC in Madina City.

### Material and Methods

A descriptive cross-sectional design using a self-administered questionnaire was employed, and the sample size was calculated using the Cochran formula,<sup>[21]</sup> requiring a sample size of 246 dentists. Due to the widespread use of smartphones and associated applications, a link to the questionnaire was created using Google Forms, which was then sent through WhatsApp to all WhatsApp groups of dentists working in Madina City from the period of November 1, 2021, to November 30, 2021.

A literature review was conducted searching for a validated questionnaire that can be used to achieve the research objectives, and unfortunately, the reviewed literature lacks it. Different questionnaires were found concerning ethics in dentistry, and items relevant to our research were acquired and modified to fit our research.<sup>[12,13]</sup>

After the development of the initial questionnaire, it was given to three senior dentists for review. Based on expert comments, some questions were removed, and others were added along with rephrasing some questions to make them easier to understand.

The questionnaire consisted of four sections: (1) Section 1 contained questions about demographic data, (2) Section 2 contained 11 questions to assess knowledge and was based mainly on the Saudi guidelines of IC, (3) Section 3 contained six questions to assess attitude, and (4) Section 4 assessed IC practices using 10 questions [Tables 1-3]. Participants were informed about the background and aim of the study. All questions must have been answered so that the form can be submitted, and this process was added to avoid incomplete responses.

A content validity index was used in the validation of the questionnaire, and four determinants were suggested to assess the content validity index, namely, relevance, simplicity, clarity, and ambiguity.<sup>[22]</sup> Five expert clinicians were responsible for assessing the previously mentioned points using the 4-point Likert scale, after reviewing the aim and objectives of the study. The scoring system was as follows: 4 = highly relevant, 3 = quite relevant, 2 = somewhat relevant, and 1 = not relevant.<sup>[23]</sup> The content validity of each item is achieved when the average item score is 0.75 or more.<sup>[24]</sup> Two methods were used to assess the reliability of questionnaires: (1)

test-retest and (2) internal consistency. The data were analyzed using SPSS version 26. Statistical significance was set at  $P < 0.05$ .

**Pilot study**

Questionnaires were distributed among 10 subjects who were not included in the final study. The participants were requested to identify problems related to the questionnaire (clarity, difficulty in understanding questions, and length). Based on their responses, some

**Table 1: Characteristics of dentists (n=299)**

	Variable	Frequency	Percentage
Nationality	Saudi	237	79.3
	Other	62	20.7
Current position	General dentist or resident	203	67.9
	Registrar	50	16.7
	Consultant	46	15.4
Gender	Male	169	56.5
	Female	130	43.5
Workplace	Ministry of health	112	37.5
	Private	139	46.5
	Others	48	16.1
Age	Less than 30	82	27.4
	From 30 to 39	122	40.8
	From 40 to 49	71	23.7
	More than 49	24	8.0
Years of experience	From 0 to 5	114	38.1
	From 6 to 10	53	17.7
	From 11 to 15	51	17.1
	Over 15	81	27.1

**Table 2: Knowledge, Attitude and Practice scores of participants**

	n	Minimum	Maximum	Mean	SD
Knowledge score	299	9	100	55	17
Attitude score	299	30	100	65	15
Practice score	299	18	100	65	19

**Table 3: Participants' answers to knowledge questions**

Item	Option	Frequency	Percentage
1- Do you know what informed consent is?	No	11	3.7
	Yes	287	96.0
	Not sure	1	0.3
2- Do you know the Saudi guidelines for informed consent?	No	208	69.6
	Yes	91	30.4
3- In which of the following procedures, written informed consent shall be obtained? (Obtaining photographs of the patient)	No	6	2
	Yes	276	92.3
	I don't know	17	5.7
4- In which of the following procedures, should written informed consent be obtained? (Such as utilizing tissues that have been removed during operations)	No	35	11.7
	Yes	226	75.6
	I don't know	38	12.7
5- Who has the right to sign an informed consent for a child in the absence of the father?	Mother	219	73.2
	Grandfather	67	22.4
	I don't know	13	4.3
6- What is the age of maturation according to Saudi guidelines for informed consent?	15	26	8.7
	18	214	71.6
	21	12	4.0
7- Who should be approached for giving informed consent for the treatment of 15-year-old boy?	I don't know	47	15.7
	Boy	16	5.4
	Father	159	53.2
8- The validity period of informed consent for photography of a patient must not exceed which of the following?	Both, the father and the boy	124	41.5
	15 days	20	6.7
	30 days	32	10.7
9- What is the percentage of occurrence of minor complications that has to be mentioned during informed consent obtaining?	45 days	8	2.7
	I don't know	239	79.9
	>1%	42	14.0
10- Can informed consent be taken after the treatment?	>5%	30	10.0
	>10%	22	7.4
	I don't know	205	68.6
11- Does the patient have the right to get a copy of the informed consent?	No	238	79.6
	Yes	28	9.4
	I don't know	33	11
11- Does the patient have the right to get a copy of the informed consent?	No	46	15.4
	Yes	222	74.2
	I don't know	31	10.4

questions were rephrased and the option “I don’t know” was added to some other questions.

**Ethical considerations**

The study was ethical and was approved by the Regional IRB Committee in the General Directorate of Health Affairs in Madina City (IRB 168-2021). The first page of the questionnaire included an explanation of the research, and the first question was about consenting to participate in this study, and only those who agreed to participate were included. The questionnaires were distributed anonymously, and responses were collected automatically without any identifiable information.

**Results**

Two-hundred and ninety-nine questionnaires were collected, and the content validity index was 88.9%, indicating good validity. In the assessment of reliability, 14 subjects were asked to answer the questionnaire twice at a 10-day interval, and Pearson’s correlation coefficient was calculated and found to be high, indicating good reliability [Table 4].

To test internal consistency, Cronbach’s alpha was calculated, and it was found to be 0.74. A value above 0.67 is considered acceptable.<sup>[25]</sup>

The demographic characteristics of respondents are shown in Table 1.

**Knowledge assessment**

The average knowledge score was 55 ± 17, and 60.2% of participants scored less than the sample average, while 39.8% scored more [Tables 2 and 3].

**Attitude assessment**

The average attitude score was 65 ± 15. More than half (52.17%) scored less than the group average, while 47.82% scored more than the average [Tables 2 and 5].

**Practice assessment**

The practice score mean was 65 ± 19, and 57.19% scored less than the group mean, and 42.80% scored more than the mean [Tables 4 and 6].

A one-way analysis of variance (ANOVA) test was used to compare the KAP scores across workplaces and

positions, while the Bonferroni post hoc test was used for pairwise comparisons [Tables 7 and 8].

**Discussion**

In this study, a self-administered questionnaire was used in a cross-sectional study conducted on dental professionals in Madina City to evaluate the KAP regarding IC.

The average knowledge score was 55 ± 17 with 60.2% of the sample scoring less than the average and 39.8% scoring more than the average. This finding is in agreement with Gupta *et al.* and Veeresh *et al.*, who reported an unbalanced knowledge among investigated dentists.<sup>[10,13]</sup>

In contrast, Alagesan *et al.*<sup>[26]</sup> found that 79.14% were well-informed. Yet, the sample included only 25 orthodontists, and it included specialized dental professionals in only one specialty. Hussain *et al.*

**Table 5: Participants’ answers to attitude questions**

Item	Options	Frequency	Percentage
1- What is your opinion regarding the following? (Verbal consent is adequate for routine dental treatment?)	Strongly agree	127	42.5
	Agree	82	27.4
	Neutral	29	9.7
	Disagree	38	12.7
	Strongly disagree	23	7.7
2- What is your opinion regarding the following? [Informed consent should be taken only in invasive dental procedures]	Strongly agree	55	18.4
	Agree	92	30.8
	Neutral	49	16.4
	Disagree	69	23.1
3- What is your opinion regarding the following statement? (Informed consent is necessary for every patient undergoing treatment in your clinic?)	Strongly agree	129	43.1
	Agree	86	28.8
	Neutral	42	14
	Disagree	42	14
4- What is your opinion regarding the following? [Obtaining informed consent helps with treatment?]	Strongly agree	111	37.1
	Agree	100	33.4
	Neutral	54	18.1
	Disagree	30	10
	Strongly disagree	4	1.3
5- What is your opinion regarding the following? [There are negative effects in obtaining informed consent?]	Strongly agree	27	9.0
	Agree	61	20.4
	Neutral	70	23.4
	Disagree	82	27.4
	Strongly disagree	59	19.7
6- Would you give a copy of the informed consent if the patient asked for it?	No	26	8.7
	Yes	170	56.9
	Ask why before giving	103	34.4

**Table 4: Reliability assessment using Pearson’s correlation coefficient**

	Pearson’s correlation coefficient	P
Knowledge score	0.925	<0.001
Attitude score	0.954	<0.001
Practice score	0.975	<0.001

**Table 6: Participants' answers to practice questions**

Question	Answer	Frequency	Percentage
1- Do you take informed consent for your patients?	Never	11	3.7
	Sometimes	128	42.8
	Always	160	53.5
2- What type of informed consent do you take usually?	Verbal consent	154	51.5
	Written consent	141	47.2
	Never	4	1.3
3- What type of consent form do you use?	General consent	165	55.7
	Treatment-specific consent	122	41.2
	Other	9	3
4- Do you have specific forms of informed consent for all procedures done in your clinic?	No	183	61.2
	Yes	116	38.8
5- Do you take informed consent from your longtime patients?	Never	62	20.7
	Sometimes	145	48.5
	Always	92	30.8
6- Do you take consent from your relative patients?	Never	106	35.5
	Sometimes	112	37.5
	Always	81	27.1
7- What is your main reason for obtaining informed consent?	Protect me against legal actions	270	90.3
	Protect patient rights	20	6.7
	Other	9	3
	Never	2	0.7
8- Do you discuss all treatment options before starting treatment?	Sometimes	106	35.5
	Always	191	63.9
	Never	2	0.7
9- Do you explain the risk/complication to the patient before starting the treatment?	Sometimes	64	21.4
	Always	233	77.9
	Never	2	0.7
10- Do you take consent for nonsurgical procedures?	No	73	24.4
	Yes	84	28.1
	Sometimes	142	47.5

found good awareness regarding IC among dental practitioners in a small convenient sample in Lahore, Pakistan.<sup>[27]</sup> Moreover, Alkindi *et al.* found good knowledge regarding IC among Saudis with 40% of the sample being specialist oral surgeons who were surveyed about the surgical removal of mandibular third molars, which is known to be associated with increased risks.<sup>[28]</sup> Due to the associated risks and the higher qualification of the participants, it is expected to have better awareness regarding IC in their study. In another study in Chennai, India, it was found that 67.7% of participants had good knowledge, 28.1% had fair knowledge, and only 4.2% had poor knowledge regarding IC<sup>[29]</sup> in contrast to our results.

Only 30% were aware of the Saudi guidelines for IC.<sup>[30]</sup> This finding was reflected in the low knowledge score. This finding is in agreement with Sikka *et al.*, who found

**Table 7: Comparison of knowledge, attitude, and practice (KAP) scores across the workplaces**

KAP	Workplace	n	Mean	SD	P
Knowledge score	MOH	112	58	17	0.002
	Private	139	51	17	
	Others	48	57	15	
Attitude score	MOH	112	70	10	<0.001
	Private	139	58	15	
	Others	48	71	17	
Practice score	MOH	112	72	17	<0.001
	Private	139	55	16	
	Others	48	76	18	

**Table 8: Comparison of KAP scores across positions**

KAP	Position	n	Mean	SD	P
Knowledge score	General dentist/resident	203	55	16	0.664
	Registrar	50	54	16	
	Consultant	46	57	18	
Attitude score	General dentist/resident	203	62	15	<0.001
	Registrar	50	66	15	
	Consultant	46	74	14	
Practice score	General dentist/resident	203	60	18	<0.001
	Registrar	50	70	21	
	Consultant	46	78	16	

low awareness of rules and regulations in a sample of the Indian population.<sup>[31]</sup>

Some (15.4%; n = 46) rejected giving the patient a copy; this finding is in contrast to results by Dastagir in which 86% of dentists were not aware that one copy of the IC should be given to the patient.<sup>[14]</sup>

Dentists working in MOH hospitals showed statistically significant (P-value = 0.02) better knowledge (M = 58 ± 17) than dentists who work in private clinics (M = 51 ± 17) [Table 7]. The solo practice and small polyclinics in which dentistry is usually practiced in the private sector are totally different from the well-structured and established dental clinics in MOH clinics in which policies and procedures are unified and closely supervised by MOH, and perhaps, this difference has influenced the knowledge of dentists working in the MOH.

### Participants' attitude

The overall average score for attitude was 65 with 52% (n = 156) of participants scoring less than the average (poor attitude) and 48% (n = 143) of the participants scoring more than the average. This finding is similar to the findings of Shreelakshmi *et al.*,<sup>[29]</sup> who found that 42.7% of dentists had a good attitude, and 44.8% had a fair attitude.

In this study, about half of the participants stated that they strongly agree (18.4%) or agree (30.8%) that IC

should be obtained only in invasive dental procedures. This finding is in agreement with Tahir *et al.*,<sup>[32]</sup> who found that 43.6% of participants believed that IC is important in surgery. Similarly, Dastagir<sup>[14]</sup> surveyed dentists and acquired their opinions about the procedure that required obtaining an IC, and 100% answered for surgical procedures, 82% for orthodontic patients, 64% for prosthodontics, 40% for endodontics, and 4% for scaling. This shows the association between the increased procedure risk and IC obtaining percentage. This attitude can be related to the overall misconception of using IC to protect the practitioner.

More than two-thirds (70.5%, n = 211) of participants agreed that obtaining an IC will help with treatment. This finding is in agreement with Veeresh *et al.*, who found that 68% of participants thought that IC helped with treatment.<sup>[13]</sup> Similar results (74%) were also found by Gupta *et al.*<sup>[10]</sup> The opinion that IC does not help with the treatment might be related to the increased load of patients, fear of refusing the proposed treatment, and lack of options for treatment.<sup>[2]</sup>

Almost 30% (29.4% [n = 88]) of participants thought that the negative effects of obtaining IC are present. This finding is in agreement with Khan *et al.*,<sup>[33]</sup> who found that about 37% of participants thought that obtaining consent would make practicing dentistry difficult, and the same was reported by 80% of participants in another study that obtaining IC is time-consuming.<sup>[14]</sup>

Among the participants, 8.7% (n = 26) refused to give a copy of the IC to the patient and 34.4% (n = 103) agreed to give a copy only after asking the reason for the request. This behavior was also noticed by Kotrashetti *et al.*,<sup>[12]</sup> who found that 18% of dentists refused to give a copy of the consent form, while 46% were willing to give a copy only after asking the reason for the request. In the Dastagir study, only 4% were willing to give a copy of the IC to the patient.<sup>[14]</sup>

Better attitude scores were observed among dentists who work in MOH hospitals (M = 70, SD = 10) in comparison with those who work in private hospitals (M = 58, SD = 15; P value < 0.01) [Table 7]. This finding could be attributed to the nature of the governmental sector, being directly supervised by MOH.

A statistically significant difference was noted where consultants showed better attitude (M = 74, SD = 14) when compared to general dentists or residents (M = 62, SD = 15) and registrars (M = 66 ± 15; P value < 0.01). This could be explained by the higher education that consultants receive, which is reflected in their attitude. This is in agreement with Veeresh *et al.*,<sup>[13]</sup> who found an effect of level of education in participants' responses.

## Practice

About half of the participants (53.5%, n = 160) always obtain an IC from their patients, and 3.7% (n = 11) never do, while 42.8% (n = 128) obtained an IC sometimes. Comparatively similar results (42%) were reported in Bulgaria.<sup>[11]</sup> The percentage of those who never obtain an IC was much lower than 18%, which was reported by Shreelakshmi *et al.*<sup>[29]</sup> in their study on private dental practitioners and reported by Tahir *et al.*, who found 21.9% not obtaining consent.<sup>[32]</sup>

This finding is in accordance with the 6% reported by a study by Avramova and Yaneva in 2011 for those who never obtain an IC.<sup>[11]</sup> Also, it has been reported that about 10% of in-office dentists were not obtaining consent for every procedure in a study by Yusra in Karachi, Pakistan.<sup>[34]</sup>

In this study, more than half of the participants (51.5%, n = 154) reported obtaining verbal consent, while 47.2% (n = 141) were obtaining written consent. This is in agreement with Gongura *et al.*,<sup>[15]</sup> who found that 45% were only using verbal consent. The same practice was noticed by Dastagir (46%),<sup>[14]</sup> Gupta and Purohit (50%),<sup>[10]</sup> and Avramova and Yaneva, where 46% used verbal consent while about 54% used written consent.<sup>[11]</sup> This is different from that was reported by Khan, who found that 82.6% were using verbal consent while only 15.2% were using written consent.<sup>[33]</sup> Wardah *et al.* reported that 84.4% obtained verbal consent, while only 1.8% obtained written consent in a sample in Peshawar, Khyber Pakhtunkhwa, Pakistan.<sup>[2]</sup> Another study in Pakistan demonstrated that 63% of participants obtained verbal IC, while 21% used written IC.<sup>[27]</sup> The result is in contrast to a study by Shreelakshmi, who found that about 80% of dental professionals obtained written IC.<sup>[29]</sup> The use of verbal consent might be more practical and less time-consuming than written consent, which is time-consuming and needs to be saved in the patient file. Although verbal consent is ethically acceptable, it could be problematic from a legal point of view in malpractice claims against dentists.

When asked about longtime patients, 20.7% (n = 62) refused to obtain an IC, while 30.8% (n = 92) always obtained an IC. Gupta and Purohit reported similar results (27%),<sup>[10]</sup> and to a lesser extent, the same was reported by another two researchers (Avramova and Yaneva, 12.5%; Dastagir, 8%).<sup>[11,14]</sup> More than one-third (35.5%, n = 106) of the participants refused to obtain consent from their relatives. This finding is in agreement with Avramova,<sup>[11]</sup> who found that 36% of dentists did not obtain consent from their relatives. Similar behavior was reported in which 54% of dentists would not ask for consent from their relatives.<sup>[27]</sup> This finding is in contrast to Dastagir, who found that 14%

of the sample obtained consent from their relative patients.<sup>[14]</sup> Not obtaining IC from relatives and longtime patients' practices seen in this study might be explained in part by the response of the majority (90%) of participants who reported that the reason for obtaining IC is to protect the practitioner against legal actions as it is less likely that relatives or longtime patients will sue the treating dentist. However, this behavior is not limited to the participants in this study since Kotrashetti *et al.*<sup>[12]</sup> found that 70% of dentists thought that the purpose of an IC is to protect the dentist only. This finding is also in agreement with Tahir *et al.*, who found that 68% of their sample thought that consent is necessary to protect the dentist.<sup>[32]</sup> This finding also matches the findings by Dastagir,<sup>[14]</sup> who found that 64% of surveyed dentists thought that IC is used to protect the dentist. Furthermore, a study in 2010 by Kotrashetti *et al.* found that 70% of participants declared that consent is necessary to protect the doctor.<sup>[12]</sup> The misunderstanding of the majority that IC is meant to protect themselves against legal actions questions their ability to obtain valid consent in which the patient's best interests are considered and given the highest priority.

In nonsurgical procedures, 24.4% (n = 73) did not obtain consent. This behavior was reported in a previous study where 29.7% of dentists obtained consent only in complicated cases.<sup>[29]</sup> Another study in Pakistan demonstrates that only 5% considered obtaining an IC for all procedures.<sup>[27]</sup> Informed consent when perceived as a mean to protect the dentist from legal action will not be very important in nonsurgical procedures that are usually accompanied by minor or fewer complications; unfortunately, this view was evident among the studied sample (24%). Farhat *et al.* found that only 20% of dentists obtained an IC for all procedures.<sup>[2]</sup> The practice score increased as qualification increased; registrars scored better than general dentists, and consultants performed better than registrars. The more senior dentists showed better practice, a finding that might be related to the higher education that registrars and consultants usually have [Table 8].

## Conclusion

This study aimed at assessing the KAP of dental professionals regarding ICs in Madina City, and within the limitations of this study, several points can be concluded as follows:

- (1) The KAP of dentists regarding IC needs improvement for all participants. Dentists working in MOH showed better knowledge and attitude regarding IC, and consultants also showed better performance than registrars and general dentists.
- (2) More than 90% obtained consent to protect themselves against legal actions. More than 50% used verbal

consent, which could be problematic in malpractice litigation.

More than two-thirds of the participants were not aware of the published Saudi guideline for IC. This finding is alarming as appropriate IC cannot be obtained in the absence of this important information and may render the IC legally invalid.

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## Conflicts of interest

There are no conflicts of interest.

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