

Final year dental students' perception and practice of professionalism and ethical attitude in ten Sudanese dental schools: A cross-sectional survey

Nasr M. A. Elsheikh¹, Inshirah M. A. Osman², Nazik E. Husain³,
Sally M. A. Abdalrahman⁴, Hala E. Y. M. Nour⁵, Atif A. Khalil⁶,
Heitham Awadalla⁷, Mohamed H. Ahmed⁸

¹Department of Prosthodontics, Faculty of Dentistry, The National Ribat University, Khartoum, ²Department of Mental Health, Faculty of Medicine, University of Gezira, Medani, ³Department of Pathology, Faculty of Medicine and Health Sciences, Omdurman Islamic University, Khartoum, ⁴Directory of Training, Ministry of Health, Khartoum, ⁵Department of Dental Public Health, Dental Program, Al-Yarmouk Faculty, Khartoum, Sudan, ⁶Department of Nephrology, Noble's Hospital, Isle of Man, IM4 4RJ, UK, ⁷Department of Community Medicine, Faculty of Medicine, University of Khartoum, Khartoum, Sudan, ⁸Department of Medicine and HIV Metabolic Clinic, Milton Keynes University Hospital NHS Foundation Trust, Eaglestone, Milton Keynes, Buckinghamshire, UK

ABSTRACT

Introduction: Professionalism and ethics are essential components of all dental schools. Therefore, this study aimed to assess the level of professionalism among Sudanese undergraduate dental students. **Materials and Methods:** This descriptive cross-sectional study was conducted among 307 students in the final year undergraduate Dental Surgery Bachelor program with 155 public and 152 private university students. We collected data through a self-administrated, semistructured questionnaire. **Results:** Although most of the students enrolled in dental schools due to their performance at higher school (P value 0.00), this has no significant effect on their attendance and academic performance afterward (P value 0.25). The perception of the students toward ethics teaching was generally positive in both public (77.34%) and private schools (78.77%). Ethics was represented in the curriculum of both private (51.7%) and public (48.3%) dental schools as perceived by their students. 95.43% and 94.00% of public and private students, respectively, would always or sometimes work in teams, and 98.02% and 94.04% of public and private students, respectively, would always or sometimes respect patients' preference (P value 0.01). A total of 95.33% of the dental students would consult or refer patients with unexpected situations. Only 26% of all students would treat infectious diseases themselves. **Conclusion:** About three-quarters of Sudanese dental students showed a satisfactory level of perception toward the importance of teaching dental ethics and professionalism. It was reflected in an excellent attitude for teamwork and respecting patients' choices. The demand for teaching professionalism course in every dental school will increase gradually, and family physicians with interest in medical education may play a pivotal role in teaching professionalism to dental students.

Keywords: Behavior, dental students, ethics, patient choice, professionalism, Sudan, teamwork, undergraduate

Address for correspondence: Nasr M. A. Elsheikh,
Department of Prosthodontics, Faculty of Dentistry, The
National Ribat University, Nile Street, Burri, Khartoum, Sudan.
E-mail: nasr99nasr@yahoo.com

Received: 26-06-2019

Revised: 06-12-2019

Accepted: 16-12-2019

Published: 28-01-2020

Access this article online

Quick Response Code:



Website:
www.jfmpc.com

DOI:
10.4103/jfmpc.jfmpc_499_19

Introduction

It was reported that conventional medical training offers students little help in resolving the ethical dilemmas they will encounter

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: Elsheikh NM, Osman IM, Husain NE, Abdalrahman SM, Nour HE, Khalil AA, *et al.* Final year dental students' perception and practice of professionalism and ethical attitude in ten Sudanese dental schools: A cross-sectional survey. J Family Med Prim Care 2020;9:87-92.

as healthcare professionals. There was a difference between the medical and dental students in terms of their attitude and knowledge of healthcare ethics, with the former having superior knowledge of the subject and a better approach.^[1] Therefore, the incorporation of a bioethics curriculum in the initial period of the postgraduate program would be beneficial.^[1] Less information is known about the knowledge, attitude, and behavior of dental professionals for ethical principles, especially in the middle- and low-income countries.^[2] Therefore, Chandarana and Hill recommended that every dentist and dental student should know about ethics needed in daily dental practice.^[3]

One of the essential areas of ethics for a dentist is communication with patients, and this was discussed in several studies.^[4-8] Interestingly, dentists working in deprived areas in Canada had developed a five-faceted socio-humanistic approach that involved: (1) understanding patients' social context; (2) taking time and showing empathy; (3) avoiding moralistic attitudes; (4) overcoming social distances; and (5) favouring direct contact with patients.^[8] Other areas of competency for dental students are self-awareness, reflection, empathy, communications skills, and self-confidence.^[9] These competencies are also endorsed in different studies.^[9,10] Reflections were regarded as one of the powerful means to help undergraduate dental students to gain experience and benefit from training.^[11] Importantly, there was little difference in gender attitude toward professional ethics and maintenance of clinical standards.^[12] Koerber *et al.* proposed that "ethics should be taught as a 'precurriculum' course preceding entering dental school" and that "the dental school ethics course should be elective and consists of small groups of students who are guided to introspection to understand their true self-interest." He argued that "enlightened self-interest is the best means to motivate students to behave ethically."^[13] For instance, dental students agreed that patient information should be kept confidential but some of them their attitudes lack adherence to ethical and legal requirements.^[14] It worth mentioning that dental students scored high in altruism, personal satisfaction, conscientiousness, quality of life, and professional status.^[15]

Moreover, dental health workers have been found to have a positive attitude in dealing with individuals living with HIV and hepatitis^[16,17] and they are also more considerate and sensitive for the need of patients with mental health issues.^[18] Furthermore, emotional intelligence (EI) is a measure of pure intelligence of cognitive ability, and Munk recommended the teaching of EI as a part of the curriculum of dental school.^[19,20] In addition, dentists score well in term of responsibilities toward the community (social accountability), along with the commitment to treating all without any discrimination.^[21]

Importantly other issues related to ethics and professionalism in dentistry are humanistic environments and academic integrity, plagiarism, and ethical misconduct.^[22-24] Learning to become a professional requires not only the development of medical knowledge and skills but also a high moral standard. Honesty and integrity are critical ethical characteristics expected of a dentist.

In addition, academic integrity provides the foundation upon which a flourishing academic life rest.

Dental students, as tomorrow's dentist, are responsible for their patients' health; lack of ethics may affect their academic knowledge and clinical skills. There is a current awareness of ethics and professionalism in Sudan and worldwide. Furthermore, teaching ethics and professionalism is an essential requirement for the accreditation of medical schools. Therefore, this study aimed to identify the perception of ethics, attitude, and behavior among dental students' finalist in schools of dentistry in Sudan. The number of dental schools in Sudan increased from only two (the University of Khartoum and the University of Gezira) to twenty-four dental schools (at the time of writing this document). And, the escalating number of graduate students from about fifty to more than one thousand necessitates the need to evaluate the final-year dental students' perception of their ethical attitude and behavior at Sudanese dental schools.

Materials and Methods

Study design

This descriptive cross-sectional study was conducted from April to July 2016 among the final Bachelor of Dental Surgery students registered in 2016 in all the Sudanese schools of Dentistry with last year students at the time of data collection.

Sample size

The required sample size was obtained using the formula:

$$n = N/1 + N (d) 2$$

Where n is sample size, N is the total number of students enrolled in 2016 in schools of dentistry in Sudan (447), and " d " is the degree of accuracy required and set to 0.05. The estimated number of participants was 390 and the actual number enrolled was 307.

Sampling technique

A stratified random sampling technique was used to select students from different dental schools (which differ in size). The estimated required sample size was distributed proportionally to the size of each school. The inclusion criteria for admission was Final BDS Sudanese students, both sexes, registered in 2016 in schools of dentistry in Sudan. There were thirteen dental schools with final students during the study period; students from ten were included. Out of the ten, three were public (University of Khartoum, University of Gezira, and Al-Neelain University) and seven were private universities (Elrazi University, Ibn-Sina University, The National Ribat University, Karary University, Sudan International University, University of Science and Technology, and Al-Yarmouk Medical Faculty). Students from the remaining three universities (International University of Africa, National University, and University of Medical Sciences and Technology) were unable to participate because of the

concomitant final examinations. Main exclusion criteria were foreign dental students or those who refused to participate in the study. Questionnaires with less than 80% answered questions were excluded.

Data collection and analysis

The data were collected through a self-administrated, semistructured questionnaire, composed of 28 questions. Questions 1–5 were about socio-demographic information, 6 about the student choice of selection, while questions 7–28 covered different ethical dilemmas. The collected data were computerized and analyzed using the Statistical Package for Social Sciences (SPSS) version 21. The Chi-square test was used for categorical variables, correlations were done using a 2×2 table, and P value of ≤ 0.05 was set as a statistically significant value.

Ethical consideration

Permission was obtained from each school of dentistry's administrative. In addition, written consent was obtained from each study participant, and ethical approval was obtained from the Education Development Center, Gezira University. The participation was voluntary for all dental students, and students were given a choice to withdraw from the study at any time.

Results

Background and sociodemographic features

Three hundred seven students enrolled almost equal from private and public universities (155 public and 152 private). No statistical difference regarding gender, age, and residence of the student during his/her study period. Therefore, these three variables are not expected to confounding our findings at the end (P value 0.76, 0.52, and 0.56).

The distribution of students according to their state origin is almost equal between public and private (51% vs. 49%).

However, the students coming from Khartoum State have higher representation in private schools (60%) and most of the students in other states are in public schools; this observed difference is statistically significant with P value 0.01. This could be explained by the socioeconomic status of Khartoum residents, and also most of the private dentistry schools are located in Khartoum State [Table 1]. It is worth mentioning that the response rate for each question in the questionnaire was not the same; therefore, we have included only items with a response rate of more than 80%. This may explain why the total response rate is variables in Tables 1-4.

Perception of the participants toward his/her profession as a dentist

However, most of the students enrolled in dental schools are not secondary to their interest or family advice, mostly due to their performance at higher school (P value 0.00); but still, this difference has no significant effect on their attendance and academic performance afterward (P value 0.25) [Table 2].

Perception of participants toward ethics and professionalism in public and private medical schools

The opinion of the students toward ethics teaching and importance is generally positive in both public and private schools. Importantly, ethics is well represented in the curriculum of both private and public dental schools [Table 3].

The attitude of participants toward practicing ethics and professionalism in public and private medical schools

The attitude toward ethical practice is generally positive in all variables assessed as seen in Table 4 in both public and private schools. However, respecting patient's choice is more favorable toward public schools (with significant P value 0.01) and working in teams is more positive toward private schools (with significant P value 0.01).

Table 1: Background characteristics of the students enrolled in the study from the public and private Sudanese dentistry schools

Variable		Public/private		Total	P
		Public (n/%)	Private (n/%)		
Age (mean±SD)		22.0±2.2	22.1±1.4		0.76
Gender	Male	44 53.7%	38 46.3%	82 100.0%	0.52
	Female	111 49.3%	114 50.7%	225 100.0%	
Total		155 50.5%	152 49.5%	307 100.0%	
Original state in Sudan	North states	32 55.2%	26 44.8%	58 100.0%	0.01
	East states	7 43.8%	9 56.3%	16 100.0%	
	West states	15 57.7%	11 42.3%	26 100.0%	
	Khartoum state	53 40.5%	78 59.5%	131 100.0%	
	Central states	42 67.7%	20 32.3%	62 100.0%	
Total		149 50.9%	144 49.1%	293 100.0%	
Student residence during study period	With family	83 48.0%	90 52.0%	173 100.0%	0.56
	Student hostel/alone	66 52.0%	61 48.0%	127 100.0%	
Total		149 49.7%	151 50.3%	300 100.0%	

Table 2: Perception of the participants toward his/her profession as a dentist

Variable		Public/private		Total	P
		Public (n/%)	Private (n/%)		
Why studying dentistry?	Own interest	75 43.4%	98 56.6%	173 100.0%	0.00
	Others advice	40 47.6%	44 52.4%	84 100.0%	
	academic performance	37 80.4%	9 19.6%	46 100.0%	
Total		152 50.2%	151 49.8%	303 100.0%	
Regulatory of attending lectures	Regular	114 50.2%	113 49.8%	227 100.0%	0.25
	Irregular	36 59.0%	25 41.0%	61 100.0%	
Total		150 52.1%	138 47.9%	288 100.0%	

Table 3: Perception of participants toward ethics and professionalism in public and private Sudanese dental schools

Variable		Public/private		Total	P
		Public (n/%)	Private (n/%)		
Do you think ethics is helpful during professional life?	Very helpful	107 49.1%	111 50.9%	218 100.0%	0.48
	Somewhat helpful	37 24.3%	35 23.33%	72 100.0%	
	It is not helpful	8 66.7%	4 33.3%	12 100.0%	
Total		152 50.3%	150 49.7%	302 100.0%	
Do you think ethics is represented in your curriculum	Yes	99 48.3%	106 51.7%	205 100.0%	0.09
	No	37 61.7%	23 38.3%	60 100.0%	
	I don't know	16 41.0%	23 59.0%	39 100.0%	
Total		152 50.0%	152 50.0%	304 100.0%	
Do you think teaching ethics is important	Very important	70 44.3%	88 55.7%	158 100.0%	0.03
	Important	38 33.04%	27 23.07%	65 100.0%	
	No or minimal importance	7 77.8%	2 22.2%	9 100.0%	
Total		115 49.6%	117 50.4%	232 100.0%	

Table 4: Attitude of participants toward practicing ethics and professionalism in public and private Sudanese dental schools

Variable		Public/private		Total	P
		Public (n/%)	Private (n/%)		
Treatment of infectious cases	Myself up to my knowledge	40 51.3%	38 48.7%	78 100.0%	0.89
	Consult or refer	111 50.0%	111 50.0%	222 100.0%	
Total		151 50.3%	149 49.7%	300 100.0%	
Treatment of difficult cases	Myself up to my knowledge	6 42.9%	8 57.1%	14 100.0%	0.59
	Consult or refer	147 51.4%	139 48.6%	286 100.0%	
Total		153 51.0%	147 49.0%	300 100.0%	
Respecting patient choice in treatment	Always	90 45.9%	106 54.1%	196 100.0%	0.01
	Sometimes	59 38.8%	36 37.9%	95 100.0%	
	Never	3 25.0%	9 75.0%	12 100.0%	
Total		152 50.2%	151 49.8%	303 100.0%	
Teamwork is part of your professional work	Always	69 43.1%	91 56.9%	160 100.0%	0.01
	Sometimes	77 50.3%	50 39.4%	127 100.0%	
	Never	7 43.8%	9 56.2%	16 100.0%	
Total		153 50.5%	150 49.5%	303 100.0%	

Discussion

In this study, the number of females is significantly more than male (225 females in comparison with 82 males). However, their distribution in private and public dental schools appear to be equal. Ibn Auf *et al.* have shown that the number of women in medical school exceeded the number of men.^[25,26] It seems that a similar trend is also taking place in Sudanese dental schools. It is worth mentioning that the response of dental students to

the most questions was not affected by the fact of whether the student was from private or public dental school.

Importantly, the benefit of including ethics in the medical curriculum is already demonstrated by Janakiram and Gardens.^[1] And, a prospective study by Offner *et al.*^[27] emphasized the impotence of implementation of ethics in the curriculum. In this study, although the vast majority of Sudanese dental students (96.03%) of all dental students agreed that ethics are

helpful during professional life, only 77.34% and 78.77% of public and private dental students, respectively, acknowledged the importance of teaching ethics in the dental undergraduate curriculum. In addition, 48.3% and 51.7% of dental students in public and private dental schools, respectively, think that ethics and professionalism is part of the curriculum of their dentistry schools. Recently, Sudanese Medical Council proposed three courses of ethics, professionalism, and communication skills to teach within the curricula as a requirement for accreditation of medical schools. In the previous study conducted in six Sudanese medical schools, 98.8% out of 675 final year medical students of unveiled that medical professionalism and ethics are taught in their schools,^[28] dental schools have to follow. Scheduled teaching of the aspects of professionalism, facing powerful positive or negative emotions elicited by clinical work, and role modelling in clinical environments have been identified as powerful learning experiences in developing dental students' understanding and enactment of professionalism.^[29]

Furthermore, the current study revealed that 43.4% and 56.6% of the dental students in public and private schools, respectively, chose the dental college by their own will, while 80% and 19.6%, respectively, by their academic level. This average interest of the students in dentistry may justify that students who didn't select it by their own will reflect the low interest and hence little knowledge or attitude.

The teaching of ethics in the curriculum has a remarkable impact on graduated dental students and their future practice. For example, in this study, attitudes of dental students showed positive approaches toward the path of treatment of unusual cases; a total of 95.33% of the dental students would consult or refer patients with unexpected situations. Their attitude was also much better for teamwork (95.43% and 94.00% of public and private students, respectively, would always or sometimes work in teams) and respecting patients' choice (98.02% and 94.04% of public and private students, respectively, would always or sometimes respect patients' preference). It has been noted that the attitude toward ethical practice is generally positive in most variables assessed in both public and private schools. However, respecting patient's choice is more favorable toward public schools (*P* value 0.01) and working in teams more positive toward private schools (with significant *P* value 0.01).

Nevertheless, in terms of treatment of infectious diseases, only 26% of all students would treat infectious diseases themselves; they would instead refer it. The previously mentioned four areas will not be achieved unless students are also competent in self-awareness, reflection, empathy, communications skills, and self-confidence.^[9] The overall impact will be reflected as an outstanding primary care service.

Worldwide, ethics are implemented in curricula with a different load, some focused on developing students' cognitive intelligence (thinking) and technical intelligence (doing), while emotional intelligence (being) receives less emphasis.^[19] With the goal of strengthening the professionalism curriculum,

Neville *et al.* evaluated a teaching initiative at one British Dental School by introducing a Dental Scrubs Ceremony (DSC) for second-year students in 2015 (Like the White Coat Ceremony, each student is given a dental scrub with public presentation, and it outlines the students' first stage in their professional and clinical development). By the completion of the first three years, student perceived positively about the effectiveness and worthwhileness of the DSC. The authors concluded that the DSC provides dental students with an opportunity to be inducted into the dental profession as novice dental students starting on their professional career.^[30] This exciting event can be introduced in our context and different medical schools.

Ethics are not restricted to dental practice—Ethic of research, which is currently an important issue, especially in the era of globalization. There is a deficiency of knowledge, attitude, and behavior of dental professionals for ethical principles in research, especially in developing countries.^[2] Sudan is not an exception and development of research ethics curriculum in details for dental education is highly needed. Furthermore, dental students' perception toward professionalism varies greatly.^[31] Therefore, it is fundamental to introduce professionalism course in every dental school.

This study is not without limitations, as the cross-sectional design may not allow for the temporal relationship. The relatively small sample size may hamper generalization, and it is due to the inclusion of questions that attracted more than 80% response rate in the questionnaire. However, this study is first of its kind to be conducted among dental students in Sudan, and it is novel as it showed that Sudanese dental students are having a high level of professionalism and acquired most of the critical aspects of ethics to practice safely. This will ensure the quality of dental service in Sudan. Further studies are recommended to study the perception of patients toward ethics and professional behavior and attitudes of the new graduate dental professionals. Although the opinions of patients and dentist may differ, from patients' viewpoints, ethical decisions and ethical care were rated among the first five most imperative elements of dental professionalism.^[32]

Conclusion

This study showed that about three-quarters of Sudanese dental students showed a satisfactory level of perception toward the importance of teaching dental ethics and professionalism. It was reflected in an excellent attitude for teamwork and respecting patients' choices, but not treating infectious diseases. About one half perceived it was represented in the Sudanese dental schools. It is of high need to introduce professionalism course in all dental schools, so as the future dental general practitioners will behave professionally; thus, ensuring the excellence of dental services in Sudan.

Declaration of patient consent

The authors certify that they have obtained all appropriate participant consent forms. In the form, the participants have given their consent for their images and other clinical information to be reported in the journal. The participants understand that their

names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

References

- Janakiram C, Gardens SJ. Knowledge, attitudes and practices related to healthcare ethics among medical and dental postgraduate students in south India. *Indian J Med Ethics* 2014;11:99-104.
- Deolia SG, Prasad K, Chhabra KG, Kalyanpur R, Kalghatgi S. An insight into research ethics among dental professionals in a dental institute, India-A pilot study. *J Clin Diagnostic Res* 2014;8:ZC11-4.
- Chandarana PV, Hill KB. What makes a good dentist? A pilot study. *Dent Update* 2014;41:156-8, 60.
- Asimakopoulou K, Rhodes G, Daly B. Risk communication in the dental practice. *Br Dent J* 2016;220:77-80.
- Holden A. How we view complainants; An ethical dilemma? *Dent Update* 2014;41:227-8.
- Asokan S, John JB, Janani D, Jessy P, Kavya S, Sharma K. Attitudes of students and teachers on cheating behaviors: Descriptive cross-sectional study at six dental colleges in India. *J Dent Educ* 2013;77:1379-83.
- Behar-Horenstein LS, Garvan CW, Moore TE, Catalanotto FA. The knowledge, efficacy, and practices instrument for oral health providers: A validity study with dental students. *J Dent Educ* 2013;77:998-1005.
- Loignon C, Allison P, Landry A, Richard L, Brodeur JM, Bedos C. Providing humanistic care: Dentists' experiences in deprived areas. *J Dent Res* 2010;89:991-5.
- Mofidi M, Strauss R, Pitner LL, Sandler ES. Dental students' reflections on their community-based experiences: The use of critical incidents. *J Dent Educ* 2003;67:515-23.
- Zygiannakis K, Wismeijer D, Aartman IH, Osman RB. A systematic review on immediate loading of implants used to support overdentures opposed by conventional prostheses: Factors that might influence clinical outcomes. *Int J Oral Maxillofac Implants* 2016;31:63-72.
- Woodman T, Pee B, Fry H, Davenport ES. Practice-based learning: emerging professional characteristics, self-concepts and patterns of knowing in dental training. *Eur J Dent Educ* 2002;6:9-15.
- Thomas DJ. An evaluation of attitudes of midlands female dentists to general dental practice: Will it impact upon the future delivery of primary dental care. *Prim Dent Care* 2001;8:71-5.
- Koerber A, Botto RW, Pendleton DD, Albazzaz MB, Doshi SJ, Rinando VA. Enhancing ethical behavior: views of students, administrators, and faculty. *J Dent Educ* 2005;69:213-24.
- Garbin CAS, Garbin AJI, Saliba NA, Lima DCd, Macedo APAd. Analysis of the ethical aspects of professional confidentiality in dental practice. *J Appl Oral Sci* 2008;16:75-80.
- Langille AD, Catano VM, Boran TL, Cunningham DP. The dental values scale: development and validation. *J Dent Educ* 2010;74:1282-93.
- Shinde N, Baad R, Nagpal D, Prabhu PR, Surekha LC, Karande P. Managing HIV/hepatitis positive patients: Present approach of dental health care workers and students. *J Contemp Dent Pract* 2012;13:882-5.
- Oberoi SS, Sharma N, Mohanty V, Marya C, Rekhi A, Oberoi A. Knowledge and attitude of faculty members working in dental institutions towards the dental treatment of patients with HIV/AIDS. *Int Sch Res Notices* 2014;2014:429692.
- Marks L, Adler N, Blom-Reukers H, Elhorst JH, Kraaijenhagen-Oostinga A, Vanobbergen J. Ethics on the dental treatment of patients with mental disability: Results of a Netherlands-Belgium survey. *J Forensic Odonto-Stomatol* 2012;30(Supp 1):21-8.
- Munk LK. Implications of state dental board disciplinary actions for teaching dental students about emotional intelligence. *J Dent Educ* 2016;80:14-22.
- Brondani MA, Ramanula D, Pattanaporn K. Tackling stress management, addiction, and suicide prevention in a predoctoral dental curriculum. *J Dent Educ* 2014;78:1286-93.
- Dharamsi S, Pratt DD, MacEntee MI. How dentists account for social responsibility: Economic imperatives and professional obligations. *J Dent Educ* 2007;71:1583-92.
- Quick KK. A humanistic environment for dental schools: What are dental students experiencing? *J Dent Educ* 2014;78:1629-35.
- Nelson LP, Maramaldi P, Kinnunen TH, Kalenderian E. Early performance in a humanistic medicine course as a predictor of dental students' later clinical performance. *J Dent Educ* 2013;77:1006-12.
- Gomez M, Nagesh L, Sujatha B. Assessment of the attitude towards plagiarism among dental postgraduate students and faculty members in Bapuji Dental College and Hospital, Davangere—a cross sectional survey. *IOSR J Dent Med Sci* 2014;13:1-6.
- Ibn Auf A, Awadalla H, Ahmed ME, Ahmed MH. Perception, barriers, and practice of research among teaching staff at five Sudanese medical faculties. *J Public Health Emerg* 2018;2:1-8.
- Ibn Auf A, Awadalla H, Ahmed ME, Ahmed MH. Comparing the participation of men and women in academic medicine in medical colleges in Sudan: A cross-sectional survey. *J Educ Health Promot* 2019;8:1-6.
- Offner D, Strub M, Rebert C, Musset A-M. Evaluation of an ethical method aimed at improving hygiene rules compliance in dental practice. *Am J Infect Control* 2016;44:666-70.
- Husain NE, Elsheikh NM, Elsheikh MN, Mahmoud A, Sukkar MY, Ibnouf MA, *et al.* Final year medical students and professionalism: Lessons from six Sudanese medical schools? *J Public Health Emerg* 2018;2:1-7.
- Ranauta A, Freeth D, Davenport E. Developing understanding and enactment of professionalism: Undergraduate dental students' perceptions of influential experiences in this process. *Br Dent J* 2018;225:662-6.
- Neville P, McNally L, Waylen A. Developing a dental scrubs ceremony to define professional identity and teach professionalism to dental undergraduates; lessons learned. *Eur J Dent Educ* 2018;22:e542-e54.
- Sattar K, Sethi A, Akram A, Khan M, Nawaz S, Irshad M. Dental professionalism: perceptions of undergraduate students. *POJ [Internet]*. 2018;10:91-7. Available from: <https://www.poj.org.pk/index.php/poj/article/view/237>.
- Taibah SM. Dental professionalism and influencing factors: Patients' perception. *Patient Prefer Adherence* 2018;12:1649-58.