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RESEARCH ARTICLE

CONTINUING DENTAL EDUCATION: PERCEPTIONS OF INDIAN DENTISTS

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ABSTRACT

Continuing dental education (CDE) programmes aim to improve knowledge, skills and ability of an individual to deliver the highest quality of service to the public and profession. The objective of this study was to assess self perceived importance of Indian dentists towards CDE programmes. An online (email based) cross-sectional survey was conducted. A total of 954 questionnaires were sent to dentists of 5 states out of which 487 (50%) responded. 65% attended CDE Programmes on regular basis. 86% believed that CDE points shall improve the quality of care. Participants believed CDE programmes increase knowledge but preferred these programmes to be conducted on holidays and scheduled long before hand. Significantly higher number of dentists aged 30 years or less wanted that CDE programmes should focus on recent advances and live demonstrations. 86% believed that CDE points will improve the quality of treatment and better development of evidence based dentistry.

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INTRODUCTION

Professional education must promote practitioners who have the appropriate clinical skills, are critical thinkers, and have a commitment to lifelong learning in their discipline. These attributes are not merely an ideal, but a necessity in the fast-paced and continually changing world of health care. The knowledge of dentistry is growing exponentially leading to immense pressure (Yoshiko, 2004) and challenge for the dentist to keep up with information and technology necessary to remain competent across the full spectrum of the dental profession (Sudani, 2000). This information explosion has been well documented within the medical and dental literature as having an effect on a health professional's capability to stay current with this proliferation of information (Calman, 2007). The policy of the American Dental Association (ADA) reads in part, "the members of dental profession should remain lifelong learners to keep them abreast of current changes in technology and advances in science." (Kaufman, 2003) There are various ways and means by which a health professional can keep him abreast with recent knowledge (Li-Cher, 2007), and a CDE program is an important way of the same. In respect to continuing dental education, ADA states "the objective is to improve knowledge, skill and ability of an individual to deliver the highest quality of service to the public and profession." (Edward, 1993). In 1971, New Mexico became the first American state to require CME (Continuing Medical Education) credit for re-licensure as a step to ensure practitioner's competency. CDE programmes in India are carried out on regular basis however unlike many countries, mandatory attending of CDE has not been given due importance in India. Participation in these programmes has been voluntary. Dental council of India introduced CDE Regulations in 2007 which came into effect from January 1, 2008 (http://punjabdentalcouncil.gov.in/pdfs/Notification %20Reg%20CDE%20by%20DCI.pdf). It also recommends that attending CDE programmes should be mandatory and has recommended a point system on the basis of minimum credit hours per year for re-licensure. Few state dental associations have made it mandatory to attend these programmes and have developed a point system and that too in recent past. Currently, there are approximately 23000 dentists graduating every year (http://www.dentistryunited.com/newsletter/newsletter16.htm). Conducting CDE programs for such a large dental fraternity will involve meticulous planning. The first step towards this would be to assess the thinking of the dentists towards these

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programs. Hence, this study was conducted with an aim of exploring the perceptions of dentists along with the current trend of participation of the dentists towards CDE programmes.

MATERIALS AND METHODS

This study was an email based cross-sectional survey conducted among 487 dentists. Recently graduated dentists can be considered to be upgraded with recent knowledge so only those dentists who had graduated since three years or more were included in the study. CDE in convenient forms is undertaken by almost 95% of dentists over the age of 30 years[9] hence age groups were dichotomized at this point. Both graduates and post graduates were included in the study. A structured questionnaire was developed and pre-tested among a group of 25 dentists. The questionnaire consisted of 18 questions divided into three parts. First part, about the demographic details, second part about their current participation in CDE programmes and third on the perceptions about CDE programmes. There are approximately 80,000 dentists in India. The sample size at 95% confidence level with a standard error of 5% was calculated to be 382. Email IDs could not be obtained from the state dental associations and also few states don't have their dental association and they register in other states. Thus a cluster sampling technique was used and to cover up for the potential non responders the desired sample size was increased by 20%. One state was randomly selected from each north, south, east, west and central parts of the country, and then requesting nine randomly selected dentists from different region of a state to send approximately 50 email IDs of which 50% should be graduates and 50% postgraduates and fulfilling the inclusion criteria. Approximately 2000 IDs were received.

A response rate of 50% was obtained from pilot study by mailing questionnaires to 50 dentists. Emails were sent to approximately 954 dentists. Non-respondents to the first mailing were sent a second questionnaire via email in the second month, and non-respondents were sent questionnaire again after one month. It was assured that their data would be reported only in aggregate and that no individually identifiable information would be reported. It was assured that emails were received from different IP addresses so that multiple forms were not received from a single person. 514 responses were received of which 16 were incomplete while 10 dentists had less than three years since graduation and were hence rejected. Thus, final sample consisted of 487 dentists. The data obtained was analyzed with SPSS version 13.0. Descriptive statistics (frequency/% distribution) were performed on demographic characteristics, nature of work and perception regarding CDE. Bi-variate analysis was performed between perceptions of CDE responses as the dependent factor and demographic factors like gender, age, qualification as the independent factors. The level of significance (p) was set at less than or equal to 0.05.

RESULTS

Demographic characteristics (Table 1) Majority of the dentists were males. The mean age of the study population was 30.61 years. 66.1% of the participating dentists aged 30 years or less, 64.7% were postgraduates. 46.4% of the participants were attached to dental school, 29.4% were both in practice and attached to a dental school, 16% were in full time practice while 9.4% were not engaged in dental profession presently. City was the main area of practice. Among the participants significantly higher number of graduates practiced in metropolitan cities while postgraduates in cities. Also significantly higher numbers of females were attached to a dental school.

Current participation in CDE - 95% of participants had attended a CDE programme sometime while 65% attended these on regular basis.

Perceptions regarding CDE (Table 2) **-** 70.8% of the dentists felt that CDE programs were important. 89.3% responded that they increase knowledge. However 56.1% and 81.9% thought that only few covered relevant topics and there is repetition of topics respectively. Postgraduates significantly believed that few CDE programmes covered relevant topics. 86% believed that CDE points will improve the quality of treatment and better development of evidence based dentistry. 70.4% of dentists' believed that CDE programmes are beneficial for everybody and it was significantly related to the age. 72.1% thought that CDE programmes should focus on recent advances, basic concepts, live demonstrations and preventive methodologies. 10.2% of graduates and 3.8% of postgraduates believed that CDE programmes should focus on recent advances and this difference was statistically significant. Significantly higher number of dentists aged 30 years or less wanted that CDE programmes should focus on recent advances and live demonstrations. A significantly higher number of graduates and dentists aged 30 years or less wanted that CDE should be conducted on holidays and 96.7% believed there should be proper schedule of CDE programmes which are to be conducted.

DISCUSSION

It is incumbent upon any profession to ensure that its members are responsible and knowledgeable practitioners.[2] Maisie has pointed out the fact that learners in any profession now are both young and old, they may have work experience or they may not, they may be familiar with technology or they may not, hence, there is a need for learning at each and every stage. This study tries to highlight the attitude of dentists towards CDE programmes.

There are no previous studies regarding attitude of Indian dentists toward CDE programmes, hence the results of our study could only be compared with studies conducted on dentists from other places in the world. Majority of the participants were males (Li-Cher, 2007 and Leggate, 2002), which is similar to that reported by other studies. Significant numbers of females were attached to dental schools. This was understandable as they have to fulfill family commitments and hence spend part of their time in professional work and remaining inclined toward family commitments. Despite this 50% of the females were engaged in full time profession indicating that a significant number of females were involved in their profession at par with males.

Majority of participants in our study were aged less than thirty years and post graduates this might be due to increased activity of this age group in regard to internet usage. Majority of the participants were attached to a dental college. This might be because higher number of postgraduates participated in this study and there is a tendency for post graduates to stay in touch with academics.

Table 1. Demographic details of the subjects

Gender	N (%)	Qualification	N (%)	Area of practice	N (%)	Place of practice	N (%)
Female	162(33.3%)	BDS	172(35.3%)	Attached to dental school	221(45.4%)	City	214(43.9%)
Male	325(66.7%)	MDS	315(64.7%)	Both (dental school and private practice)	142(29.2%)	Metropolitan	168(34.5%)
				Not engaged in dental practice	46(9.4%)	Town	86(17.7%)
				Full time practice	78(16.0%)	Village	19(3.9%)
Total	487	Total	487	Total	487	Total	487

Table 2. Perceptions versus demographic variables

	Graduates N(%)	Post graduates N(%)	Females N(%)	Males N(%)	Age ≥30 years	Age < 30 years
CDE are important	118(68.6)	227(72.1)	108(66.7)	237(72.9)*	228(70.8)	117(70.9)
CDE increase knowledge	152(88.4)	283(89.4)	146(90.1)	289(88.9)	288(89.4)	147(89.1)
CDE Cover relevant topic	88(51.2)	126(40)*	72(44.4)	142(43.2)	136(42.2)	78(47.3)
CDE Topics are repeated	144(83.7)	255(81)	134(82.7)	265(81.5)	264(82)	135(81)
CDE would Improve quality of care	148(86)	271(86)	140(86.4)	279(85.8)	274(85.1)	145(87.9)
Attendance at CDE mandatory	96(55.8)	170(54)	86(53.1)	180(55.4)	166(51.6)	100(60.6)*
CDE should have Proper schedule	168(97.7)	303(96.2)	154(95.1)	317(97.5)	310(96.3)	161(97.6)
Attending CDE Increase cost	74(43)	118(37.5)	68(42)	124(38.2)	122(37.9)	70(42.4)
CDE are difficult to attend in remote areas	148(86)	257(81.9)	148(91.4)	257(79.1)**	262(81.4)	143(86.7)

* - Statistically significant P < 0.05

The main areas of practice were urban, which is quite similar to dentist population ratio seen in India i.e. 1:10000 in urban areas and 1:2,50,000 in rural areas (Tandon, 2004). Dentists in our study gave a positive response regarding making attendance at CDE programs mandatory which is quite similar to as reported by other studies (Sudani, 2002). Also there was a unanimous agreement that CDE programmes increase knowledge (Sudani, 2002). However a significantly high number of dentists believed that only few CDE programmes covered relevant topics. This may be due to the diversity of topics covered in CDE programmes which may be of interest of some and not for others. However, this also points for greater attention before planning and designing CDE programmes. Respondents believed there is repetition of topics in CDE programmes.

This is both advantageous, as topics missed once can be attended next time, as well as disadvantageous, as CDE program on a repeated topic may discourage people to attend. Participants believed that CDE programmes would lead to an increased cost of dental care this might be because of the skills learned in CDE Programmes which would require a financial investment before actually practicing it and hence might lead to an increased cost of dental care. However participants agreed that the quality of care provided will also improve. These findings were similar to that reported by Sudani (Sudani, 2000) and Nieri, (Michele, 2008). Dentists also stated that CDE programmes should include all range of topics from basic concepts to recent advances including live demonstrations and preventive care, indicating a positive attitude of dentists to learn in all aspects of dentistry. Academicians regularly update themselves as part of their teaching process by independent learning methods such as reading books and journals to keep in touch with recent literature by these self learning methods. Hence it seems that there would be limited benefits to this segment from CDE programs but respondents believed that CDE programmes benefit everybody and did not show any predilection towards higher benefits to people even from remote areas. CDE programmes are generally conducted in cities which are at considerable distance from remote areas thus acting as a barrier for people practicing in remote areas to attend CDE programmes. Also, People residing in remote areas are generally engaged in traditional practice and hence they have a dire need to remain updated and to acquire newer skills. So, benefit from CDE programmes should be maximum to this population but, contrarily these people may not be able to use the skills learnt at CDE programmes as the population they cater generally is not willing for newer treatments thus in developing a point system for CDE, the need for a separate consideration for people practicing in remote areas might be considered which requires further evaluation by conducting further studies focusing on this part of dental fraternity. Continuing education not only relies considerably upon individual initiative, commitment and preference given to education, but also on the ability of dentists to make time available for study and training, Dentists preferred holidays as the best time for this as they are free from academic and clinical commitments. Also there was unanimous agreement on scheduling of CDE programmes quite prior as it would give dentist the choice and time to pre-plan regarding the programmes they should attend.

If attendance at CDE programs becomes mandatory then the orientation of few of the professionals might only be towards collecting points without active participation hence it becomes duty of the organizers to monitor their active participation as well as mandatory attendance. Some medical educators have suggested that CME/CDE may not be effective to significantly narrow the gap between 'what is done' in clinical practice and 'what should be done'. Clearly, further research is required in this area. Finally, we would like to acknowledge some of the limitations of this study. Although the response rate may indicate that the findings of this survey are applicable to all we advise that the results should be treated with caution as majority of participants were postgraduates and of younger age. As the younger age group is more active in internet usage so this survey may not satisfactorily represent the dental population at large owing to the medium used for the data collection. A stratified random sampling can be used as a better strategy. Questionnaires administered via internet do not offer the opportunity to confirm the accuracy of answers, explore incomplete responses or probe attitudes in depth and also perceived importance and actual practice may be different. There is also a need to determine the relationship between the views and experiences of dentists and their specialty and other factors. Nevertheless this survey provides an important first look at the severely under-explored area of perceived importance of CDE programme of Indian dentists.

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