

Keeping up with Dental Literature: A Study on Continuing Professional Development among Dental Practitioners in Hubli-Dharwad, India

PRAJNA PRAMOD NAYAK¹, NANDITA SUBBA RAO², ANZIL K S ALI³, MATHEWS JUDE THADEETHRA⁴

ABSTRACT

Introduction: Continuing Professional Development (CPD) refers to skills and knowledge attained for both personal development and career advancement. In India, very few studies have been documented to discover the patterns of information update by dental practitioners.

Aim: To discover the educational tools that dentists of Hubli - Dharwad, Karnataka, India, prefer for updating their knowledge on new therapeutic methods and to assess the perceived usefulness of these CPD activities.

Materials and Methods: Face to face interview was carried out using questionnaire comprising questions on various CPD activities among all the practicing dentists. Pearson's chi-square test was used to evaluate any association between the frequency of information update and perceived usefulness with gender, qualification, practice types and academic attachments.

Results: Out of 112 practicing dentists in Hubli-Dharwad, 104 consented for the study. Mean age group of the study population was 32.3±7.56 (SD) years. Discussion with colleagues and discussion with medical sales representatives were the most frequently utilized information sources. On the other hand, attending dental fairs was found to be the most rarely utilized method of information access. Discussion with colleagues, reading textbooks and accessing internet were rated as most useful CPD activities and discussion with sales representatives and attending dental fairs were rated as least useful CPD activities.

Conclusion: Both conventional methods of information sources like discussions with colleagues and textbook reading as well as contemporary information sources like accessing internet were the preferred methods of information update by dental practitioners of Hubli-Dharwad.

Keywords: Career advancement, Continuing dental education

INTRODUCTION

Advancement in all aspects of science and discovery are occurring at an exponential rate, producing a wealth of new knowledge and technologies that is transforming dental practice into one, which is more refined and more versatile with better prognosis. For a dentist, who is currently in practice, ongoing dental education ensures that his or her patients have access to the latest diagnostic, therapeutic and preventive methods. This ongoing dental education can be achieved by participating in various activities, all of which can together be called as 'continuing dental education' or more recently as CPD. It is defined as 'the conscious updating of professional knowledge and improvement of professional competence throughout a person's working life' [1].

Professional development covers all types of facilitated learning opportunities, ranging from college degrees to formal coursework, conferences as well as informal learning opportunities that are witnessed during routine dental practices [2]. Since CPD is a self directed and life long process for a dental practitioner, continuous exposure and acquisition of a wide range of knowledge, skills and experience can make dentists successful in the society [3,4].

Impetus for this lifelong learning process varies among individuals. Some may have an inherent desire to develop and update their professional knowledge and skills that will help them to exhibit their professional standing to patients, employers and peers. It could also help them to improve career prospects and advancements. They could use the evidence of CPD as a protection in medical litigations. Some others attend certain CPD programs for compilation of points required for renewal of their practice licensures [5-8].

Various dental associations, around the world have given a series of guidelines for CPD and its importance [9-12]:

1. Systematic continuance and augmentation of knowledge needs to be accomplished by taking part in meetings or academic activities which can be designated, non designated or individual events. Formal learning opportunities organized by various professional colleges or associations including conferences, congresses, workshops, lectures, seminars, refresher courses and colloquiums are the designated events. Local meetings, case conferences and journal clubs form the non designated events. Undergraduate teaching, postgraduate teaching and supervision, undertaking examination components, educational administration, consultancies and committee work are different types of individual events;
2. Skills also have to be systematically upheld and enhanced;
3. Personal characteristics, attitudes and behaviors that are expected of a healthcare professional need to be developed;
4. Personal and professional development;
5. Learning has to be developed to be self-directed and reflective".

Many countries around the world have made it mandatory to attend the CPD courses for renewal of their member's practice license [5-8]. The associations award a set of points for an accredited program and the dentist has to achieve the required total points for renewal of his/her registration [5,7]. In some countries, CPD activities are calculated in terms of certified clinical hours (hours of attendance at CPD courses) and the association assigns a stipulated number of hours per year for renewal [8]. In India, many professional associations and state dental councils are now considering to make CPD courses a requirement in recognition of professional standing of a member [13,14].

Nevertheless, in India, studies to report the various patterns of information update among practicing dentists are very meager. Hence, the present study was conducted to; (i) Discover the educational tools that the dentists of Hubli-Dharwad, prefer for updating their knowledge on new therapeutic materials and methods; (ii) Determine if different patterns existed in updating their knowledge as related to gender, qualification, type of practice and employment status in college; and (iii) To assess the perceived usefulness of these continuing professional developmental activities.

MATERIALS AND METHODS

Information for this cross-sectional study was collected using a self administrated questionnaire distributed to dental practitioners in Hubli-Dharwad. All 112 dentists practicing in 87 dental clinics in the twin cities were included in the study. A brief overview about the study was given and informed consent was taken from practitioners. Those practicing dentists who were also attached to the dental college were approached in the college.

The questionnaire was developed after a review of literature on similar studies [5,7,8,14-16]. The questionnaire consisted of two sections: a) Five questions on respondents' personal and professional background particulars like age, gender, qualification, practice experience and type of employment; and b) Two closed-ended questions on the professional development. First question enquired the frequency of various CPD activities. Second question was asked on the perceived usefulness of those CPD activities on a five point Likert scale. The questions were rated as definitely useful, useful, neutral, not useful and not at all useful.

Survey was conducted through face to face interviews with an experienced interviewer. A pilot survey was conducted beforehand to confirm the detailed arrangements for the survey and definitions of special terms in the questionnaire that could appear as ambiguous to the interviewees. Pilot study was done among 10 practicing dentists with academic attachment. Face validity and content validity were assessed. The agreed definitions were explained to practitioners when the questions were asked so to avoid any misunderstanding.

STATISTICAL ANALYSIS

Percentage contribution of each of the significant variable was obtained. Association between the frequency of information update and perceived usefulness of various CPD activities with gender, qualification, practice types and academic attachments was assessed using Pearson's chi-square tests of significance. The level of significance was set at 5%.

RESULTS

There were 112 dentists practicing in twin cities, out of which, 104 practitioners responded (response rate 92.9%). Mean age group of the study population was 32.3 ± 7.56 (SD) years. Out of 104, 59 (56.7%) were males and 45 (43.3%) were females. Regarding their educational qualification, 68 (65.4%) were general practitioners and 36 (34.6%) were specialists [Table/Fig-1].

The mean values in [Table/Fig-2] is calculated with the statistical program STATA 10.1 version for windows employing a 1 to 5 scale

where '1' represented "never" and '5' represented "at least once in a month" use for all CPD activities, except attending workshops, conferences and dental fairs. Hence, greater the mean value of a source, greater is its usage frequency. For three of the CPD activities, that is, attending conferences, workshops and dental fairs, '5' represented "at least once in six months" as these CPD activities cannot be attended as frequently as "at least once in a month". Discussion with colleagues (mean score, 4.51) and discussion with medical representatives on newer dental materials and techniques (mean score, 4.09) were the most frequently utilized information sources. On the other hand, attending dental fairs was found to be the most rarely utilized method of information access (mean score, 3.29) [Table/Fig-2].

Comparison of mean scores [Table/Fig-3] showed that male practitioners attended conferences and dental fairs in significantly higher frequencies as compared to female practitioners (p-values, <0.001 and 0.02 respectively). Also, those practitioners attached to dental institutions attended dental conferences and workshops in significantly higher frequencies as compared to those who were not attached to dental institutions (p-values, 0.01 and 0.02 respectively). Considerable differences were noticed among general practitioners and specialists in the frequency of reading textbooks, journals, attending conferences, workshops and dental fairs. Practitioners with private solo practice utilized almost all the CPD activities more frequently than those practitioners with group practice, but were not statistically significant.

Discussion with colleagues (mean score, 4.59) and reading textbooks (mean score, 4.50) were rated as the most useful CPD activities and discussion with medical representatives (mean score, 3.63) and attending dental fairs (mean score, 3.77) were rated as least useful CPD activities [Table/Fig-4]. Comparison of perceived usefulness of CPD activities among dentists and specialists showed significant

Demographic Variable	n (%)	
Age	24-33 years	59 (56.7)
	34-43 years	36 (34.6)
	Above 44 years	9 (86.6)
Gender	Male	59 (56.7)
	Female	45 (43.3)
Qualification	BDS	68 (65.4)
	MDS	36 (34.6)
Practice period	< 3 years	29 (27.9)
	3-8 years	35 (33.7)
	8-15 years	28 (26.9)
	15 years and above	12 (11.5)
Practice type	Private solo	44 (42.3)
	Private group	60 (57.7)
If employed in any college	Yes	33 (31.7)
	No	71 (68.3)

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

Frequency of CDE activities	< 1 month n (%)	1-6 months n (%)	6-12 months n (%)	> 1 year n (%)	Never n (%)	Mean (X)
Discussion with colleagues	70 (67.31)	23 (22.12)	6 (5.77)	4 (3.85)	1(0.96)	4.51
Text books	45 (43.27)	24 (23.08)	16 (15.38)	16 (15.38)	3 (2.88)	3.88
Journals	53 (50.96)	16 (15.38)	10 (9.62)	8 (7.69)	17 (16.35)	3.74
Internet	54 (51.92)	20 (19.23)	11 (10.58)	4 (3.85)	15 (14.42)	3.88
Attending conferences	0 (0)	20 (19.23)	32 (30.77)	38 (36.54)	14 (13.46)	3.55
Attending workshops	0 (0)	23 (22.11)	34 (32.69)	32 (30.77)	15 (14.42)	3.63
Attending dental Fairs	0 (0)	10 (9.62)	29 (27.88)	47 (45.19)	18 (17.31)	3.29
Discussion with medical representatives / Advertisement of dental products	53 (50.96)	27 (25.96)	11 (10.58)	6 (5.77)	7 (6.73)	4.09

[Table/Fig-2]: Frequency of types of continuing professional development activities used by dental practitioners.

Topic of Interest	Male	Female		Dentist	Specialist		Private solo practice	Private group practice		Employed in college	Not employed in college	
	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean(SD)	p- value
Discussion with colleagues	4.54 (0.87)	4.47 (0.81)	0.39	4.40 (0.93)	4.72 (0.61)	0.06	4.41 (0.97)	4.58 (0.74)	0.424	4.61 (0.70)	4.46 (0.90)	0.601
Text books	3.73 (1.31)	4.09 (1.04)	0.23	3.74 (1.19)	4.17 (1.20)	0.03*	3.82 (1.28)	3.93 (1.16)	0.687	4.09 (1.25)	3.79 (1.18)	0.131
Journals	3.80 (1.50)	3.73 (1.58)	0.78	3.46 (1.63)	4.36 (1.12)	0.00*	3.75 (1.48)	3.78 (1.58)	0.752	4.27 (1.23)	3.54 (1.61)	0.019
Internet	4.03 (1.37)	3.73 (1.52)	0.34	3.74 (1.52)	4.22 (1.24)	0.11	3.95 (1.38)	3.87 (1.50)	0.878	4.18 (1.28)	3.77 (1.50)	0.180
Attending conferences	3.85 (0.99)	3.24 (0.93)	<0.001	3.38 (0.99)	3.97 (0.94)	<0.001	3.64 (1.01)	3.55 (1.01)	0.705	3.94 (0.93)	3.42 (1.00)	0.015*
Attending workshops	3.78 (1.01)	3.49 (1.05)	0.22	3.49 (1.05)	3.97 (0.94)	0.03*	3.55 (0.95)	3.73 (1.10)	0.282	3.64 (0.89)	3.20 (0.96)	0.021*
Attending dental fairs	3.54 (0.95)	3.07 (0.91)	0.02	3.18 (0.94)	3.64 (0.93)	0.02*	3.36 (0.94)	3.32 (0.98)	0.828	3.85 (0.90)	3.56 (1.09)	0.241
Discussions with medical representatives	4.14 (1.15)	4.02 (1.28)	0.78	4.10 (1.29)	4.06 (1.04)	0.43	4.00 (1.14)	4.15 (1.26)	0.172	3.97 (0.98)	4.14 (1.30)	0.105

[Table/Fig-3]: Comparison of continuing professional development activities by gender, educational qualification, practice type and employment.

* p-value < 0.05

Usefulness of CPD activities	Definitely useful n (%)	Useful n (%)	Neutral n (%)	Not useful n (%)	Not at all useful n (%)	Mean (X)
Discussion with colleagues	67 (64.4)	32 (30.8)	4 (3.8)	1 (1.0)	0	4.59
Text books	62 (59.6)	33 (31.7)	8 (7.7)	1 (1.0)	0	4.50
Journals	57 (54.8)	25 (24.0)	22 (21.2)	0	0	4.34
Internet	53 (51.0)	37 (35.6)	14 (13.5)	0	0	4.38
Attending conferences	29 (27.9)	53 (51.0)	14 (13.5)	8 (7.7)	0	3.99
Attending workshops	43 (41.3)	43 (41.3)	16 (15.4)	2 (1.9)	0	4.22
Attending dental fairs	1 (1.0)	4 (3.8)	32 (30.8)	22 (21.2)	1 (1.0)	3.77
Discussions with medical representatives	4 (3.8)	4 (3.8)	33 (31.7)	15 (14.4)	4 (3.8)	3.63

[Table/Fig-4]: Distribution of study participants according to their perceived usefulness of continuing professional development activities.

Topic of Interest	Male	Female		Dentist	Specialist		Private solo practice	Private group practice		Employed in college	Not employed in college	
	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean (SD)	p- value	Mean (SD)	Mean(SD)	p- value
Discussion with colleagues	4.54(0.65)	4.64(0.57)	0.41	4.56(0.58)	4.64(0.68)	0.28	4.61(0.57)	4.57(0.64)	0.781	4.64(0.54)	4.56(0.64)	0.689
Text books	4.44(0.65)	4.58(0.72)	0.14	4.47(0.70)	4.56(0.65)	0.60	4.55(0.66)	4.47(0.70)	0.535	4.52(0.61)	4.49(0.71)	0.917
Journals	4.42(0.77)	4.22(0.85)	0.22	4.16(0.84)	4.67(0.63)	<0.001*	4.41(0.75)	4.28(0.84)	0.509	4.55(0.71)	4.24(0.83)	0.074
Internet	4.41(0.69)	4.33(0.73)	0.63	4.31(0.73)	4.50(0.65)	0.20	4.41(0.65)	4.35(0.75)	0.827	4.45(0.66)	4.34(0.73)	0.488
Attending conferences	4.02(0.86)	3.96(0.85)	0.63	3.96(0.81)	4.06(0.92)	0.36	3.93(0.92)	4.03(0.80)	0.631	4.03(0.84)	3.97(0.86)	0.687
Attending workshops	4.32(0.77)	4.09(0.76)	0.09	4.12(0.78)	4.42(0.73)	0.04*	4.27(0.78)	4.18(0.77)	0.501	4.33(0.77)	4.17(0.77)	0.262
Attending dental Fairs	3.92(0.81)	3.64(0.88)	0.09	3.63(0.82)	4.11(0.82)	<0.001*	3.91(0.77)	3.72(0.90)	0.396	4.09(0.73)	3.66(0.87)	0.020*
Discussions with medical representatives	3.64(0.90)	3.62(0.93)	0.98	3.60(0.90)	3.69(0.95)	0.64	3.61(1.03)	3.65(0.82)	0.777	3.58(0.90)	3.66(0.92)	0.592

[Table/Fig-5]: Comparison of perceived usefulness of continuing professional development activities among study participants, according to gender, educational qualification, practice type and employment.

* p-value < 0.05

differences in their rating of journal reading and attending dental fairs and workshops (p-values, 0.001, 0.001 and 0.04 respectively). Also, significant differences were found between those attached and not attached to dental colleges in their rating of usefulness of attending dental fairs (p-value, 0.02) [Table/Fig-5].

DISCUSSION

Health care systems are now facing significant changes, driven by technology and economic forces and by the general concern for competent and consistent quality care. Responses to these forces include altering the training of physicians across the gamut of medical and dental education. Dentists, like any other health care providers, achieve this CPD by a range of activities. In India, no studies have

been done to uncover the patterns of professional development of dental practitioners. This is one of the very few studies done in the country to discover the educational tools that dentists of Hubli-Dharwad prefer for updating their knowledge of new therapeutic methods and also, to assess the usefulness of these activities as perceived by them. Out of 112 dentists, 104 gave informed consent for participation in the study. The response rate was 92.9%, which is very high as compared to the study conducted by Ryan J and Demers AR, Mamary EM, which could be because of face to face interview method in the present study, where the interviewer went personally to each study participant [3,4].

In the present study, dental practitioners preferred both conventional methods of information sources like discussion with colleagues

and discussion with medical representatives as well as modern information technologies like internet usage to a large extent. This is consistent with the findings from studies conducted by Nieri M and Mauro S and Selvi F and Ozerkan AG, where too, the conventional methods of information access were still higher than the newer information technologies [7,15]. Recent studies conducted by Bullock A et al., in 2013 and 2010 also showed similar results [16,17]. Whereas, in a study conducted by AL-Sudani D, journals were the most frequently utilized information sources, followed by reading books [18].

A majority of them attended conferences or workshops at least once in 6-12 months and attended CDE courses and dental fairs once in more than a year which is similar to the study conducted by Bullock A et al., and Hopcraft MS et al., [16,19]. However, these results were not in accordance with the study by Nieri M and Mauro S where, the practitioners attended both conferences and CDE courses in equal frequency [7].

Significant differences found between the males and females in their frequency of attending conferences and dental fairs could be because of higher commitments to their families given by females, which could be the reason why they preferred such CPD activities to a lesser extent. Significantly higher participation of specialists as compared to general practitioners in CPD activities could be because of their higher exposure during postgraduate courses. This is in accordance with the studies conducted by Best HA et al., [20,21]. Also, statistically significant differences were found between the general practitioners and specialists in the frequency of reading journals and attending dental fairs. The reason for this could be the training in evaluating journals and increased exposure to conferences for the postgraduates during their postgraduation.

A majority of the practitioners alleged that, discussion with colleagues, reading text books and journals, accessing internet were definitely useful and attending CDE courses, dental fairs, workshops and conferences and discussion with medical representatives were useful. These findings are similar to the study conducted by Selvi F and Ozerkan AG which also showed that reading journals, attending workshops and internet usage as the most useful CPD activities [15].

In the present study, frequency of various CPD activities was not proportional to the perceived rating of their usefulness. For instance, though referring textbooks were rated as one of the most useful CPD activity, they were less frequently used. The reason for this could be because, activities like discussion with colleague and medical representatives are much easier ways of accessing information than textbooks, which consume significant time.

The results from the present study can direct the Dental Associations to develop appropriate approaches while conducting CDE programs. There is a need to authenticate the contents that are available on the internet.

LIMITATION

Since the data collected is self-reported, the validity of the data can be a limitation of the study. Nonetheless, consideration on this is given by clarifying that confidentiality of results will be maintained.

CONCLUSION

From the present study it can be inferred that the most frequent continuing professional development activities used by dental practitioners was discussion with colleagues and the least frequent was attending dental fairs. Attending CDE courses was more frequent among males, specialists and those employed in the colleges. Discussion with colleagues was perceived as the most useful and discussion with medical representatives as the least useful CPD activities.

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PARTICULARS OF CONTRIBUTORS:

1. Senior Lecturer, Department of Public Health Dentistry, Manipal College of Dental Sciences, Manipal University, Manipal, Karnataka, India.
2. Assistant Professor, Department of Public Health Dentistry, A J Institute of Dental Sciences, Mangalore, Karnataka, India.
3. Assistant Professor, Department of Public Health Dentistry, St. Gregorios Dental College, Ernakulum, Kerala, India.
4. Senior Lecturer, Department of Public Health Dentistry, Rajas Dental College, Kavalkinaru, Tirunelveli, Tamil Nadu, India.

NAME, ADDRESS, E-MAIL ID OF THE CORRESPONDING AUTHOR:

Dr. Prajna Pramod Nayak,
Senior Lecturer, Department of Public Health Dentistry, Manipal College of Dental Sciences,
Manipal University, Manipal-576104, Karnataka, India.
E-mail: nayak.prajna@rediffmail.com

FINANCIAL OR OTHER COMPETING INTERESTS: None.

Date of Submission: **Sep 20, 2016**

Date of Peer Review: **Nov 17, 2016**

Date of Acceptance: **Jan 04, 2017**

Date of Publishing: **Apr 01, 2017**