

Factors Enabling and Constraining CPD compliance amongst South African Dental Technicians practising in KwaZulu-Natal, South Africa.

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N C Seedat¹, A Vahed², T A Muslim³

ABSTRACT

INTRODUCTION

Health professions' regulatory bodies are experiencing numerous challenges with compliance to Continuing Professional Development (CPD) requirements. The South African Dental Technicians Council (SADTC) stipulates that dental technicians be CPD compliant and accrue an annual minimum of 30 Continuing Educational Units (CEUs). The SADTC acknowledged that there is a lack of compliance with CPD by dental technicians.

AIM

The study aimed to elicit dental technicians' opinions on, and experiences of, continuing professional development.

DESIGN

The study utilized a descriptive cross-sectional research design within a quantitative framework. A purposeful sampling technique was used to select and invite registered dental technicians ($n=103$) from KwaZulu-Natal (KZN).

METHODS

Dental technicians ($n = 103$) in KZN were invited to participate in the study by completing an online questionnaire, which elicited their experiences with regards to meeting their CPD requirements.

RESULTS

Dental technicians preferred formal, employer-funded CPD activities that are conducted during working hours as compared

to online CPD activities. Dental technicians acknowledged that mandatory CPD is a costly requirement. They further recognised that they were unaware of non-attendance based CPD activities as methods of accruing CEUs.

CONCLUSION

The study revealed that dental technicians in KZN experience challenges in being CPD compliant.

KEY WORDS:

Continuing Professional Development; dental technicians; Compliance

INTRODUCTION

Digital technology is rapidly transforming the practises of various healthcare professions, particularly dental technicians who are required to attend virtual CPD activities to accrue their annual CEU's. Consequently, Continuing Professional Development (CPD) is high on the South African Dental Technicians Councils (SADTC) agenda.¹ Notably, CPD enables health care professionals to improve and enhance their knowledge, skills, ethical and professional behaviour throughout their working lives.²⁻⁵ In contrast to the mandate of most professional bodies such as the Health Professional Council of South Africa (HPCSA), who for the longest time required their members to be CPD compliant, the SADTC only mandated CPD in 2014. Dental technicians are therefore required to obtain a minimum of 30 Continuing Educational Units (CEUs) to maintain and renew their annual registration with the council.

The reported benefits of CPD compliance is it ensures that practitioners continually improve their skills, competency and also acquire new skills to improve the quality of patient care.^{4, 6-8} The indirect benefits of CPD are personal and professional development and acquiring higher levels of personal job satisfaction.⁹ Contrary to the above benefits, the reported challenges associated with being CPD compliant are a general lack of awareness of the CPD requirements and activities, insufficient CPD activities being offered by CPD providers, geographic remoteness of CPD activities offered, and insufficient support from employers to enable employees to attend CPD activities.¹⁰⁻¹² Time constraints, insufficient funds, and an overall malaise by health care professionals towards compliance with CPD requirements further exacerbate this lack of compliance. In the absence of any known studies on CPD compliance amongst dental technicians, it is unclear why dental technicians are not accruing the required number of CEUs annually. This reinforces the SADTCs¹³ claim that there are high levels of CPD non-compliance amongst their members.

Author affiliations:

1. Naeem Seedat: Department of Dental Sciences, Dental Technology Programme, Durban University of Technology (DUT), P.O. Box 1334, Durban, South Africa, 4001. ORCID Number: 0000-0003-2255-2423
2. Anisa Vahed: *DTech*, Senior Lecturer, Dental Sciences Department, Durban University of Technology, Durban, South Africa. ORCID Number: 0000-0002-0164-9114
3. Tufayl Muslim: *PhD*, Academic Leader, Discipline of Dentistry, University of KwaZulu-Natal, Durban, South Africa. ORCID Number: 0000-0001-5824-6191

Corresponding author:

Mr Naeem Seedat
Telephone no.: +27 31 373 2046
Email: naeems@dut.ac.za

Author contributions:

1. Naeem Seedat: Conception and design, data collection, analysis, and interpretation, drafting and revising of paper. - 45%.
2. Anisa Vahed: Conception and design, data analysis and interpretation, drafting and revising of paper. - 30%
3. Tufayl Muslim: Data analysis and interpretation, drafting and revising of paper 25%

The study aimed to elicit dental technicians' opinions on, and experiences regarding continuing professional development. It is anticipated that the results of this study could guide stakeholders in the provision and management of CPD, and inform CPD policy formation and reform initiatives.

OBJECTIVES OF THE STUDY

- To determine the factors enabling CPD compliance among dental technicians using an online questionnaire.
- To determine the factors constraining CPD compliance among dental technicians using an online questionnaire.

METHODOLOGY

Study design and sampling

A descriptive cross-sectional research design within a quantitative framework was used. The study followed a positivist paradigm, which assumes that reality exists 'out there' and that it is observable, stable and measurable.¹⁴ A purposeful sampling technique was used to select and invite registered dental technicians ($n=103$) from KwaZulu-Natal (KZN) to complete an online questionnaire, which elicited their experiences on CPD. A noteworthy point is that in the pilot testing of the questionnaire, 10% of the study population ($n=114$) was randomly selected ($n=11$) from a list of dental technicians obtained from the SADTC.

Ethical Considerations

Ethical clearance and permission to conduct the study was obtained from the Durban University of Technology (DUT) Institutional Research Ethics Committee (IREC 011/19). Informed consent was sought from the participants.

Dental technicians completed the online questionnaire via a link. There were five sections and a total of 26 survey questions, some of which were 5-point Likert scale questions. Six open-ended questions allowing for free responses about CPD participation and suggestions for accruing CEUs were also included in the questionnaire. Data was collected from the 9-30 November 2019. Descriptive statistics (univariate and bivariate analysis) and inferential statistics (Mann Whitney test and Chi Square Test) were used to analyse the data, with $p < 0.05$ set a significantly different (SPSS - Version 25[®]). Data from the open-ended questions were thematically analysed by capturing the common phrases from the responses, which were subsequently grouped into sub- and main themes. Content validity and Cronbach's Alpha were used to maintain the validity and reliability of the study.

RESULTS

There was an 81% response rate to the questionnaire. The reliability scores for the Likert scale questions exceeded

the recommended Cronbach's alpha value of $\alpha = 0.70$, indicating consistency of scoring. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO > 0.50) and the Bartlett's Test of Sphericity ($p < 0.05$) test results indicated that the data was factor analysable (Table 1).

The majority of dental technicians who responded to the questionnaire were male (57.8%) and the minimum and maximum age of the dental technicians who participated in this study were 26 and 66, respectively. Dental technicians between the ages of 30-39 preferred engaging in online CPD activities such as questionnaires. Dental technicians older than 40 years, by contrast, preferred formal face-to-face CPD interaction. The accounts from the open-ended questions corroborate this:

"I prefer face to face interaction. Online is good but to learn at my age is difficult, face to face is a better learning tool".

"CPD should be hands-on and face to face. When I studied, everything was thought directly and dental technology is a hands-on profession not online".

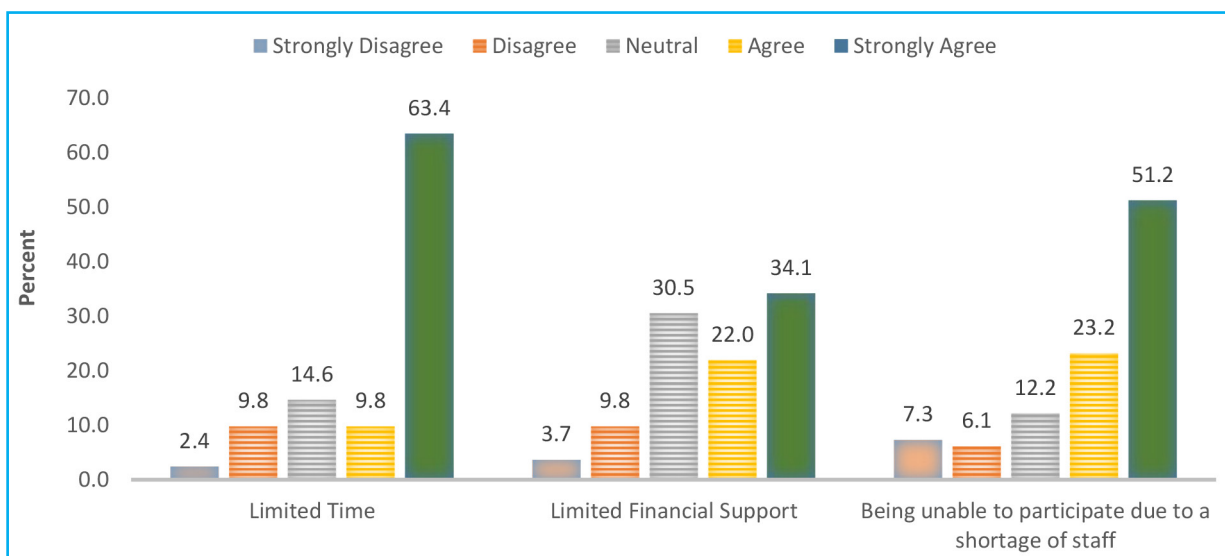
Close to 39.8% of the dental technicians practised in multidiscipline areas of specialisation namely, fixed (crowns and bridges) and removable (complete or partial dentures) prosthodontics, orthodontics and cobalt chrome. Moreover, 75% of the dental technicians had a higher qualification in addition to their Diploma in Dental Technology.

From the rotated varimax Factor Analysis, and with the exception of Question 10, the average loading of items per theme was above the acceptable Eigen values (> 1.0). Notably, factor analysis is used to describe variability among observed, correlated variables in terms of a potentially smaller number of unobserved variables called factors. The variables that constituted Question 10 loaded along two components (sub-themes), which suggests that respondents identified different trends in terms of their perceptions of CPD. Generally, dental technicians agreed ($p < 0.05$) that CPD improves professional competency (61%), knowledge (69.5%), practical skills (54.9%), and professional standards while supporting learning for advancements in technology (67%). Although there was a low level of agreement (43.9%) with regards to CPD being an investment for the employer, it was still higher than the levels of disagreement (32.9%). Dental technicians strongly disagreed that CPD is cost effective (76.9%). Although dental technicians confirmed that they visit the SADTC website (60%) and are aware of CPD being mandatory (70%), 43.9% of them were unaware of the penalties for CPD non-compliance, and of the opportunities (34.1%) and guidelines (41.4%) for accruing CEUs. Regardless of this, dental technicians confirmed that attending or presenting at conferences and seminars ($n=59$); responding to a CPD

Table 1: Factor Analysis Results

Question	Kaiser-Meyer-Olkin	Bartlett's Test of Sphericity		
	Measure of Sampling Adequacy	Approx. Chi-Square	df	Sig
Q9	0.891	576.502	21	0.000
Q10	0.707	142.071	6	0.000
Q13	0.879	587.476	28	0.000
Q17	0.683	130.788	6	0.000
Q18	0.661	51.408	3	0.000

Figure 1. Factors hindering CPD participation



approved questionnaire ($n=56$); and attending an annual general meeting (AGM) of an accredited professional association ($n=40$) are the most common methods of accruing CEUs. Article publications and attending Dental Technology curriculum meetings were atypical methods of accruing CEUs.

Workshops and conference attendance were the popular forms of CPD participation. A fair percentage of dental technicians also agreed that they access online journals (90.4%); have opportunities to undertake CPD (66.3%); have transport (71.1%) and funds (60.2%) to attend CPD workshops/seminars. They revealed, however, that having limited time (63.4%) and staff shortages (51.2%) largely hindered their participation in CPD activities (Figure 1).

Five prominent themes emerged from the open-ended questions of which one was an enabling factor, namely personal commitment of being CPD compliant (84%) and being CPD compliant as per the SADTCs requirements (68%). In particular, 36% of dental technicians indicated that the SADTC audit processes were efficient and 65% kept evidence of their CPD attendance. From the 38% of dental technicians in KZN who were audited by the SADTC, only 18% were CPD compliant. A noteworthy point, however, is that dental technicians who were non-compliant did declare that the SADTC had granted them a grace period to become compliant. The other themes, which aligned to factors constraining CPD compliance, included improving CPD processes (78%), CPD administration (88%), and audit process (74%).

DISCUSSION

Generally, dental technicians maintained that even though "CPD is definitely an investment as employers and workers benefit from CPD opportunities", laboratory owners provide very little support to attend CPD activities. Some dental technicians were of the opinion that employees "cannot expect employers to pay for everything" because when "they leave work, they take their knowledge with them." Consistent with the findings of Gawugah, Javda-Patel and Jackson¹⁵; Mathers, Mitchell and Hunn¹⁶; and Naidoo¹⁷, dental technicians who complete CPD training during working hours do not necessarily participate in CPD

activities after working hours or over weekends, and *vice versa*. Qualitative feedback from the open-ended questions supports this, as dental technicians conveyed that "when they do CPD, working time is the best" and "if they do it during working time, they do not do any CPD during weekends".

Analogous to Moonasar's¹⁸ study, a lack of guidelines and opportunities to accrue CPD points was the predominant reason cited by dental technicians for not being CPD compliant. They claimed that "they do not get to know anything from the council", especially on "how to achieve their CPD goal for the year." Dental Technicians therefore recommended that the "guidelines and ways to get their CPD needs to better defined". Given that 70% of dental technicians confirmed that they are aware of CPD being mandatory and monitored by the SADTC, it can be argued that dental technicians' unawareness of the CPD guidelines could be the result of them not regularly accessing the SADTC website to remain informed. The 60% of dental technicians who confirmed that they frequently access the SADTC website further support this. Concurring with Sholer et al⁵, the non-participation in CPD activities adversely influences the upskilling of professionals, which is critically needed to provide credible oral healthcare service to patients.

In addition, dental technicians declared that dental laboratory owners should "assist with payment to attend CPD" as this "builds bonds between staff and boss." This supports Austin⁹ and Ikenwilo and Skatun's¹⁹ advice that employers are to adopt a 'pro-CPD culture' to motivate employees to learn new techniques and skills. Other reasons constraining dental technicians from engaging in mandatory CPD activities range from the CPD "course is not near and we have to travel out of town", to employers not allowing "us to attend during working hours without cutting our pay". Essentially, "time, staff and money are the three most important" aspects affecting dental technicians from participating in CPD related activities and task. Corroborating the findings of Mathers, Mitchell and Hunn¹⁶, time constraints and high workloads affect CPD participation, which often results in professionals working after hours. Inevitably, attending CPD activities during and outside of normal working days results in dental technicians

incurring a loss in their income. A virtual CPD system however, could “reduce travelling costs” and can enable dental technicians to learn in the comfort of their own personalised space. Some dental technicians, however, maintained that while “online is good”, “face-to-face is a better learning tool”. Hence, they suggested that “CPD should be hands-on, as dental technology is a hands-on profession”.

From an operations perspective, an online automated CPD system could effectively lessen the administrative burden of a cumbersome manual process by streamlining the CPD operational processes and to effectively monitor and track CEUs. This could potentially reduce the high stress levels associated with the conduct of random audits. Such a system could also facilitate corrective action for non-compliant members. Notwithstanding the above, and even though 36% of dental technicians indicated that the audit processes were efficient, 38% of them were of the opinion that it was “biased and unhelpful” and that the SADTC behaved “as a policeman” when “they have not given them the tools to be compliant”. Others conveyed that “the audit process was poorly executed by SADTC” as it was done to check “if we had our points” and “not if we gained any skill or knowledge”. This suggests that the criteria governing the accrual of CPD points need to be revised to include a more thorough assessment of the relevant laboratory-based practice skills and knowledge acquired by dental technicians. There also appears to be negligible adherence to the underpinning audit principles of SANS 19011 (ISO 19011), which is an audit standard document. In general, the SANS 19011 document guides the auditing management system by detailing the principles of auditing, management of an audit programme and conducting management system audits.

LIMITATIONS AND RECOMMENDATIONS

Although this is the first known study on CPD compliance amongst South African dental technicians, the results of this study cannot be generalised as the knowledge and perception of dental technicians was limited to those residing in KZN. Further research is required to analyse the results obtained nationally, together with interviewing relevant stakeholders such as the SADTC and DENTASA.

Dental laboratory owners are encouraged to develop internal company policies to assist staff in attending CPD activities and provide more in-house and work-based CPD activities. They could apply for CEUs to be awarded to their employees’ post in-house training and to the employer as a CPD service provider. This will reduce the high costs associated with CPD participation, and for staff spending time away from work.

The SADTC needs to revise the current CPD document to align with the profession, which is constantly evolving. Attending a seminar or conference has very little to do with improving practical skills, even though points may be accrued. Interactive learning through the combination of skills and knowledge workshops needs to be promoted, along with study groups, virtual breakfast meetings, and journal clubs. Furthermore, engaging with the Health

and Welfare Sector Education and Training Authority (HWSETA) and the skills levy fund to source funding for CPD activities for dental technicians is recommended.

CONCLUSION

The prominent features of this study revealed that the high costs associated with CPD training, relief of time from employers to attend CPD workshops, and understanding the various methods of accruing CEUs were the predominant factors constraining dental technicians from being CPD compliant. While employer support for CPD engagement is critical, it is ultimately the dental technician’s responsibility to accrue their annual CEUs, which is a requirement to being compliant. Dental technicians may need to engage with CPD virtually and adjust to the ‘new normal’ of accruing CEUs during this sustained disruptive period of the coronavirus disease (COVID-19) pandemic. Ultimately, this requires them to be more accountable for their own development. Aligning with the SADTC, the training and education of dental technicians at the various South African Universities of Technology need to ensure that knowledge of CPD is scaffolded throughout the undergraduate curriculum to enable student dental technicians to understand the significance and various methods of becoming CPD compliant.

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