

The Impact Of Dental Auxiliaries In Oral Health Delivery In Cameroon

Author: Agbor MA¹, (BDS, MSc Dent), Azodo CC² (BDS, MSc Physio., MPH, FMCDS). 1-Dental Dept, Nkwen Baptist Health Centre, 2-Dept Periodontics, University of Benin Teaching Hospital, Nigeria. *Correspondence:* Dr CC Azodo, P.M.B 1111 Ugbowo, Benin-City, Edo State Nigeria 300001, clementazodo@yahoo.com

Abstract

Objective: To assess the impact of dental auxiliaries in oral health delivery in Cameroon.

Materials and Methods: A cross-sectional study of 47 dental auxiliaries recruited from six of 10 provinces in Cameroon was conducted in 2010. A self-administered questionnaire elicited information on demography, training received and role in the clinic and opinion about their job.

Results: Most of the respondents carry out amalgam fillings, dental prophylaxis, composite fillings, extractions, atraumatic restoration (ART), fabrication of partial and full dentures. Few respondents carry out wound suturing, root canal treatment (RCT), treat minor injuries and mandibular reduction. More than half (52.5%) of the respondents treat 6-10 patients per day while 13 (29.5%) of respondents work

without any direct supervision. Out of the respondents, 80.9% were formally trained and 25.6% were trained in Yaoundé University Teaching Hospital. A total of 61.7% received training for <3 years, 26.1% have not received any additional training after qualifying and 77.8% signified interest in further training. Most respondents (80.9%) considered their work rewarding and interesting, 57.4% think their work is useful to the society and 38.3% find their work, tasking.

Conclusion: This study highlighted the importance of dental auxiliaries in the oral healthcare delivery, their responsibilities, strength and limitations. The training and job specification was highly variable necessitating the establishment of regulatory agency to standardize the training and job description of dental auxiliaries in Cameroon.

Introduction

The prevalence and severity of dental caries is increasing in Africa and the majority (90%) of these remain untreated (1). An integrated approach to control of oral diseases may prevent complications including apical pathologies through simple strategies (2-4). In this strategy, a team approach involving dentists and dental auxiliaries is advisable. In the continent where the ratio of dentists to the needy population is low, dental assistants, dental therapist, hygienist and technicians find a role in supporting the dentist by carrying out minor functions in the dental clinic and also help in providing quality services in the dental clinic in a cost-effective manner (5-7).

The increased oral health needs in Cameroon is not matched by proportionate distribution of dentists. Dental auxiliaries provide additional workforce for the delivery of oral health care. There is no training program for dentists in the country. Although dental auxiliaries were formally trained by the government in the mid 70's until 1998, only a private non-governmental organization is training dental therapists today. Dental auxiliaries receive less rigorous training of a shorter duration compared to the dentists and they are expected to perform well demar-

cated tasks efficiently (8). The objective of the study was to determine the training and impact of dental auxiliaries in the oral health delivery in Cameroon

Materials and Methods

A cross-sectional study of 47 dental auxiliaries recruited from six out of 10 provinces in Cameroon was conducted in the first quarter of 2010. This population represented 27.8% of all practicing dental auxiliaries in Cameroon. The six provinces are Littoral, North West, South West, Western Far north and Central. Ethical clearance to conduct the study was obtained from the respective provincial organs of the Cameroonian Ministry of Public Health. Informed consent was obtained from the participants after being informed of the objective of the study and assured of strict confidentiality of their responses. Participation was voluntary and no incentive was declared. An 18-item self-administered, bilingual (English and French), questionnaire which elicited information on demography, location and institution of work, duration of work, duration of training, type of training, their role in the clinic, the number of patients treated per day, and opinion of their job was used for data collection. Epi-

The Impact Of Dental Auxiliaries In Oral Health Delivery In Cameroon

Agbor MA, Azodo CC

info version Epi 3.1.5 was used for data analysis. Test for significance was done using Chi square. $P \leq 0.05$ was considered significant.

Results

Two-fifths (40.4%) of the respondents worked as dental therapists. Seven out of every ten respondents worked in urban areas. A quarter (25.5%) of the respondents work in a government owned hospital. Majority (70.2%) of the respondents had worked for < 10 years (Table 1). Out of the respondents, 80.9% had received formal training. A total of 61.7% received training for < 3 years, 26.1% have not received any additional training after qualifying and three-quarters (77.8%) signified interest in further training. Among the informally trained 55.6% and 44.4% were trained by dentists and dental technicians respectively (Table 2). Most (80.9%) of the respondents carry out amalgam fillings, dental prophylaxis (74.5%), composite fillings (70.2%), extractions (57.4%), ART (53.2%). Other procedures include wound suturing (38.3%), fabrication of partial dentures (36.2%), RCT (29.8%), minor injuries (27.7%), full dentures (17%) and mandibular reduction (6.4%). Out of the respondents, 10 (25.0%) treat ≤ 5 patients, 21 (52.5%) treat 6-10 patients, 5 (12.5%) treat 11-15 patients, 4 (10.0%) treat ≥ 16 patients (Table 3). A total of 13 (29.5%) of respondents worked alone i.e. without any direct supervision while 31 (70.5%) had been working under the supervision of dentists. More than 69.2% started working without any direct supervision in < 5 years of finishing their training (Figure 1). Most respondents (80.9%) find their work rewarding and interesting, (57.4%) useful to the society (57.4%) and 38.3% tasking (Table 4).

Discussion

The present study has revealed that majority of auxiliaries were dental therapists, working in urban settings and a minority trained and working in Government facilities. The available training program produces dental therapists who may help in achieving integration of oral health into primary health as suggested by World Health Organization if organized redistribution is done (9). The urban location of auxiliaries typifies the inequitable distribution of health workers in developing countries while the fact that only 25.6% of them received their training at Yaoundé University Teaching Hospital in the late seventies is consistent with the current state of affairs in the

Characteristics	Frequency	Percent
Status		
Dental Therapist	19	40.4
Dental surgery assistant	10	21.3
Dental technician	7	14.9
Dental aid	10	21.3
Receptionist/practice manager		
	1	2.1
Years of experience		
<10	33	70.2
≥ 10	14	29.8
Type of practice		
Government	12	25.5
Missionary/NGO	17	36.2
Private	18	38.3
Location		
Urban	33	70.2
Rural	14	29.8
Total	47	100.0

Table 1: demographic characteristics of the respondents

continent where Governments invest little in oral health training and care. This scene favors the development of informal training programs which may suffer from lack of standardization. Majority (70.2%) of the respondents had worked for less than 10 years showing that the increase in number of dental auxiliaries recent which is in line with increased burden of oral health disease.

Majority of respondents had qualified within three years of the study while 77.8% signified interest in further training. This desire may be exploited in training programs that aim to produce auxiliaries with expanded functions or advanced dental therapists to serve as Mid-level Oral Health Providers akin to what is operational in the State of Minnesota, USA (10).

This study shows that a number of auxiliaries operated independently for common procedures including amalgam fillings, composite fillings, extractions, restorative treatment and denture fabrications. Majority (80%) of them found this quite rewarding. This suggests that this cadre of providers can meet, to a level, the treatment needs in the country. More than half of respondents treated 6-10 patients per day. There has to be however, a clear distinction of what may not be safely handled at this level. Available reports indicate that dentists object to delegating of

Characteristics	Frequency (no.)	Percent (%)
Form of training		
Formally	38	80.9
Informally (Apprentice)	9	19.1
Institution		
Yaoundé University		
Teaching Hospital	10	25.6
Out of the country	2	5.1
Private institute	27	69.2
Duration of training		
<3 years	29	61.7
3 years	18	38.3
Have you received additional training?		
Yes	12	26.1
No	34	73.9
Do you need further training?		
Yes	35	77.8
No	10	22.2
Total	47	100.0

Table 2: qualifying and additional training among the respondents

Procedures	Frequency (no.)	Percent (%)
Amalgam filling	38	80.9
Prophylaxis	35	74.5
Composite filling	33	70.2
Extractions	27	57.4
Atraumatic Restorative		
Treatment	25	53.2
Wound suturing	18	38.3
Partial dentures	17	36.2
Root canal treatment(RCT)	14	29.8
Management of		
minor injuries	13	27.7
Full dentures	8	17.0
Mandibular reduction	3	6.4

Table 3: procedures carried out by the respondents

Opinion	Frequency	Percent
Average	3	6.4
Interesting/Rewarding	38	80.9
Tasking	18	38.3
Discouraging	2	4.3
Useful to the society	27	57.4

Table 4: respondents' opinion of their job

duties that involve hard and soft tissue cutting (11).

Conclusion

This study highlighted the importance of dental auxiliaries in the oral healthcare delivery. Training and job specification was highly variable. This study calls for the establishment of a regulatory agency to standardize the training and job specification of dental auxiliaries in Cameroon.

References

1. FDI-World Dental Federation. www.fdiworlddental.org/public_health/2_0global.html. Accessed 01/01/ 10.
2. FDI. Conferences on oral health. <http://www.fdiworlddental.org/content/conferences-oral-health>. Accessed 01/01/ 10.
3. Attin T, Mbiydzemo FN, Villard I, et al. Dental status of school children from a rural community in Cameroon. SADJ. 1999; 54(4):145-8.
4. Bengondo C, Ngoa S, Bengono G. The need for awareness oriented towards dental care in Yaounde. Odontostomatol Trop. 2001; 24(95):38-40.
5. Dental auxiliary. http://en.wikipedia.org/wiki/Dental_auxiliary. Accessed 01/01/ 10.
6. Nash DA. Adding dental therapists to the health care team to improve access to oral health care for children. Acad Pediatr. 2009; 9(6):446-51.
7. Hiremath SS. Dental auxiliaries. Textbook for Preventive and Community Dentistry. 2009. 1st ed. Ch18; pg 205. Rakmo press, Delhi.
8. John J. Dental auxiliaries. A Textbook for Preventive and Community Dentistry. 2006. 1st ed. Ch. 12 Pg 148.
9. Monajem S. Integration of oral health into primary health care: the role of dental hygienists and the WHO stewardship. Int J Dent Hyg. 2006; 4(1):47-51.
10. Bio-Medicine Minnesota Passes Legislation Allowing Mid-level Oral Health Provider. <http://www.bio-medicine.org/medicine-news-1/Minnesota-Passes-Legislation-Allowing-Mid-level-Oral-Health-Provider-46256-1/>. Accessed 02/07/ 10.
11. Gift HC. Utilization of auxiliaries and attitudes of dentists toward the delegation of duties. J Am Dent Assoc. 1976; 93(6):1080-5.
12. Nash D, Ruotoistenmäki J, Argentieri A, et al. Profile of the oral healthcare team in countries with emerging economies. Eur J Dent Educ. 2008; 12 Suppl 1:111-9.