



www.ajbrui.org

Afr. J. Biomed. Res. Vol. 24 (May, 2021); 219- 223

Research Article

Oral Health-Related Knowledge, Attitude and Practices Among Trainee Community Health Officers in A Nigerian Tertiary Health Institution

***Okeigbemen S.A., Awhoregba T.O and Ojuola G.T.**

Community Dentistry Unit, Department of Preventive Dentistry, University of Benin/Teaching Hospital, Benin City, Nigeria

ABSTRACT

To evaluate the oral health-related knowledge and practices of trainee Community Health Officers. A cross-sectional descriptive study conducted using total population purposive sampling method with a self-administered questionnaire on 70 community health officer's trainees at the centre for training community health officers. Sixty-two trainees (response rate of 88.6%) participated made up of year one (45.2%) and year two 54.8%. Mean age of 33.5 years (SD=8.65). By gender, females 90.3% were more than males 9.7% while privately sponsored (53.2%) were more than government-sponsored 38.7%. A majority had knowledge of Caries (98.4%), Periodontal disease (93.5%) and Oral cancer (96.8%). Year two trainees had more knowledge about periodontal diseases 54.8% compared to year one 38.5% ($p<0.05$). Most respondents (91.1%) reported dental visit to be important with 87.1% of the opinion that the visit should not be for pain only; 38.7% felt that dental treatment was expensive. More privately sponsored (51.5%) compared to government-sponsored (20.8%) felt that dental treatment was expensive ($p<0.05$). Only 11.3% had visited the dentist in the past six months with dental experience gum bleeding (8.1%), dental caries (8.1%), and tooth sensitivity (21%). A majority (85.5%) rated their oral health to be good. The study showed that community health officer trainees have a good knowledge of oral diseases with the year two trainees demonstrating a better knowledge of caries, periodontal disease and oral cancer and self-rated oral health. Their role in oral health promotion programs at the Primary Health Care level should be encouraged to reduce the burden of oral health diseases in the community.

Keywords: *community health officers, knowledge, oral health, practices, Nigeria*

*Author for correspondence: Email: okeigbem@uniben.edu; Tel: +2348037230066

Received: July, 2020; Accepted: October, 2020

Abstracted by:

Bioline International, African Journals online (AJOL), Index Copernicus, African Index Medicus (WHO), Excerpta medica (EMBASE), CAB Abstracts, SCOPUS, Global Health Abstracts, Asian Science Index, Index Veterinarius

INTRODUCTION

Oral health is an essential component of primary health care. Poor oral health has systemic, social and economic manifestations thus the prevention of oral diseases is an important public health concern (NPHCDA, 2012). Community Health workers are Primary Health Care (PHC) personnel comprising of primary health care tutors (PHCTs), community health officers (CHOs), community health extension workers (CHEWs) and junior community health extension workers (JCHEWs) in Nigeria. They are frontline public health workers who promote health among groups with limited access to health. Globally they have proven to be highly effective and contribute significantly to improvements in community health. (Ibama *et al*, 2016, Witmer *et al* 1995 and Balcazar *et al* 2011)

Oral health problems are a major public health burden in developing countries due to the low level of oral health awareness and poor access to preventive oral health care services. The Primary Health Care (PHC) approach was designed to address the major health problems at the community level. However, oral health services at PHC level are virtually non-existent in Nigeria where there is a shortage of oral health care workers. (Adeniyi *et al*, 2017; WHO, 2008; Braimoh *et al* 2014)

The community health officers (CHOs) can play important role in oral health promotion following established standing orders but this depends on their knowledge about the oral disease, general health, attitude towards dentistry and oral health practices. There are reports of major gaps in the oral health knowledge of categories of Community Health Workers, trainees and nursing students. (Adeniyi *et al* 2018;

Udoye *et al* 2007; Knettel *et al* 2017; Carneiro *et al* 2011; Sharma *et al* 2015). The National Primary Health Care Development Agency (NPHCDA) provides support for the implementation of the National Health Policy in all matters relating to primary health care (PHC) in Nigeria. (NPHCDA, 2012)

This study was designed to assess the impact of primary oral health training and oral health-related knowledge, attitude and practices of trainee Community health officers at the University of Benin Teaching Hospital, Benin City, Edo State, Nigeria.

MATERIALS AND METHODS

Study area/Design: A cross-sectional descriptive study was conducted using the total population purposive sampling method of all 70 trainee CHOs in the 2019/2020 session at the Centre for Training Community Health Officers (CTCHO) of the University of Benin Teaching Hospital, Benin City. This centre runs a two-year, middle cadre level training course of only community health officers. Data was collected using a structured self-administered questionnaire consisting of socio-demographic information, oral health knowledge, attitude, practices, self-assessed oral health were requested in the questionnaire. A pretest was carried out on 7 students (10%) of total students before the study and necessary changes were made based on the response.

Ethical issues: Ethical clearance was obtained from the Ethics and Research Committee of the University of Benin Teaching Hospital. Informed consent was obtained from the participants after the objectives of the study have been explained to them. The study did not involve any invasive procedure, confidentiality was assured. Quantitative data were analysed using SPSS version 21.

RESULTS

Sixty-two trainees responded by returning the questionnaire (response rate of 88.6%). Mean age of 33.5 years (SD=8.65).

Socio-demographic characteristics of participants: Table 1 shows some socio-demographic distribution of the population. More than half were in year two. (n=34/62; 54.8%) Majority were females (n=56/62; 90.3%), Most of the respondents were married and more than half were privately sponsored (n=33/62;53.2%).

Knowledge of oral health by trainee community health officers: Most of the respondents had good knowledge of the risk factors implicated in common oral diseases conditions; Caries (n=61; 98.4%), Periodontal disease (n=58; 93.5%) and Oral cancer (n=60; 96.8%) were reported. Most participants knew correctly that cleaning teeth reduce dental disease (n=61/62;98.4%), Visiting dentist prevent dental problems (n=61/62;98.4%). Majority knew that Visiting dentist only when in pain was wrong (n=54/62;87.1%). Those that correctly reported that humans have two sets teeth (n=60;96.8%). Also, the year two trainees had more

knowledge about periodontal diseases 54.8% compared to year one 38.5% (p<0.05).

Table 1
Selected socio-demographic distribution of community health trainees

Variables		Frequency	Percent
Level	Year one	28	45.2
	Year two	34	54.8
Gender	Male	6	9.7
	Female	56	90.3
Ethnic group	No response	7	11.3
	Edo	17	27.4
	Yoruba	19	30.6
	Ibo	7	11.3
	Others	12	19.4
Sponsorship	No response	5	8.1
	Private	33	53.2
	Government	24	38.7
Marital status	Single	23	37.1
	Married	38	61.3
	Widowed	1	1.6

Table 2
Oral health knowledge of trainee community health officers

Variables		Frequency	%
Humans have two sets teeth	Yes	60	96.8
	Don't Know	2	3.2
Sweet sugary food cause caries	Yes	61	98.4
	No	1	1.6
Bleeding gum signal disease	Yes	58	93.5
	No	4	6.4
Tobacco smoking may cause cancer	Yes	60	96.8
	No	1	1.6
	Don't Know	1	1.6
Cleaning teeth reduce disease	Yes	61	98.4
	Don't Know	1	1.6
Visiting dentist prevent problems	Yes	61	98.4
	No	1	1.6
Visit only when in pain	Yes	6	9.7
	No	54	87.1
	Don't Know	2	3.2

Table 3
Frequency of reported oral health attitude of community health trainees

Variables		Frequency	%
Afraid of dental treatment	Yes	8	12.9
	No	52	83.9
	Don't Know	2	3.2
Dental treatment expensive	Yes	24	38.7
	No	32	51.6
	Don't Know	6	9.7

Oral health attitude of community health trainees: Most of the participants interviewed showed good attitude and were not afraid of dental treatment (n=52;83.9%). About half felt dental treatment was not expensive (n=32;51.6%). Also, about half, 51.5% of privately sponsored compared to 20.8% of government-sponsored answered that dental treatment was expensive (p<0.05) (Table 3).

Self-reported oral health practices of community health trainees

Results are shown in Table 4. Most respondents reported that regular dental visit was necessary (n=57; 91.9%), but less than half had visited the dentist (n=22; 35.5%) and only a few had last dental visit within 6 months (n=7; 11.3%), routine check (n=8; 12.9%) and for dental treatment (n=7;11.3%).

Table 4
Self-reported oral health practices of community health trainees

Variables		Frequency	%
Regular dental visit is necessary	No response	1	1.6
	Yes	57	91.9
	No	4	6.5
Have visited dentist	Yes	22	35.5
	No	40	64.5
Last dental visit	Never visited	42	67.7
	0 - 6 months	7	11.3
	7 - 12 months	5	8.1
	13-24 months	5	8.1
	> 24 months	2	3.2
reason for visit	Other reasons	1	1.6
	No response	43	69.4
	Routine check	8	12.9
	Dental problem	7	11.3
	Treatment	4	6.5

Table 5
Self-reported method of tooth cleaning by community health trainees

Variables		Frequency	%
Method of cleaning	Toothbrush/paste	39	62.9
	Combined others	12	23
Use of floss and mouthwash	No response	3	4.8
	Yes	45	72.6
	No	12	19.4
	Don't know	2	3.2

Method of tooth cleaning by community health trainees:

Less than two thirds used toothbrush/ paste to clean teeth (n=39;62.9%) but more than two thirds reported using floss and mouthwash (n=45;72.6%) adjunct for oral hygiene (Table 5)

Oral health experiences of community health officer trainees:

Only a minority reported having gum bleeding (n=5; 8.1%), dental caries (n=5; 8.1%) and sensitive teeth (n=13; 21.0%) (Table 6). With respect to association between level of trainee and oral health knowledge, year two were more likely to have better knowledge with respect to bleeding gum being a sign of dental disease (p=0.023) (Table 7).

A majority (n=53; 85.5%) rated their oral health to be good. And there was a significant difference p=0.054 between the levels. Year two were more likely to rate their oral health as good (Table 8).

Table 6
Oral health experiences of community health officer trainees

Variables		Frequency	%
Have gum bleeding	No response	1	1.6
	Yes	5	8.1
have hole in teeth	No	56	90.3
	No response	1	1.6
	Yes	5	8.1
have sensitive tooth	No	56	90.3
	No response	1	1.6
	Yes	13	21.0
Do you rate oral health as good	No	48	77.4
	Yes	53	85.5
	Don't know	6	9.7
		3	4.8

Table 7
Association between level of trainee and oral health knowledge

	Yes	Don't know	Total
Two sets teeth in humans	$X^2=2.510 df=1 p=0.113$		
Year 1	26(41.9%)	2(3.2%)	28(45.2%)
Year 2	34(54.8%)	0(0.0%)	62(100.0%)
Total	60(96.8%)	2(3.2%)	34(54.8%)
Sweet food cause caries	$X^2=0.837 df=1 p=0.360$		
Year 1	28(45.2%)	0(0.0%)	28(45.2%)
Year 2	33(53.2%)	1(1.6%)	34(54.8%)
Total	61(98.4%)	1(1.6%)	62(100.0%)
Bleeding gum sign of disease	$X^2=5.192 df=1 p=0.023$		
Year 1	24(38.7%)	4(6.5%)	28(45.2%)
Year 2	34(54.8%)	0(0.0%)	34(54.8%)
Total	58(93.5%)	4(6.5%)	62(100.0%)
Cleaning reduces disease	$X^2=1.234 df=1 p=0.267$		
Year 1	27(43.5%)	1(1.6%)	28(45.2%)
Year 2	34(54.8%)	0(0.0%)	34(54.8%)
Total	61(98.4%)	1(1.6%)	62(100.0%)

Table 8
Association between level and rating of oral health

	Yes	No	Don't know	Total
Do you rate oral health as good?				
Year 1	26(41.9%)	0(0.0%)	2(3.2%)	28(45.2%)
Year 2	27(43.5%)	6(9.7%)	1(1.6%)	34(54.8%)
Total	53(85.5%)	6(9.7%)	3(4.8%)	62(100.0%)

DISCUSSION

Community health officers though not being core dental care professionals (DCPs) are invaluable in the health promotion activities of Primary Health Care and can be utilized to improve community oral health programmes toward universal coverage, gross screening and oral health education. (Assefa

et al 2019, Kitaw *et al* 2007). Many programmes have been used to address specific health issues including Primary Oral Health Care with the correct and appropriate standing orders in India, Haiti and Iran. Ofosu-Amaah *et al* 1983, Villanueva *et al* 2018, Sajjanshetty *et al* 2019, Custodio-Lumsden *et al* 2019 and Eskandari *et al* 2016).

In our study, most of the respondents were females, married and privately or self-sponsored. It has been reported that community-based service delivery through locally resident female community health workers can increase health service utilization in rural areas. (Adeniyi *et al.* 2017, Uzondu *et al* 2015).

Generally, the trainees demonstrated very good oral health knowledge in oral health sciences covering dental anatomy, pathology, preventive dentistry. We found that 96.8% knew that humans have two sets of teeth, knowing that sweet foods can cause dental caries, that bleeding gums indicate disease, tobacco smoking can cause oral cancer, cleaning teeth can reduce dental disease (98.4%), visiting the dentist can prevent dental problems and not visiting the dentist only when you have pain. This is similar to the Indian study by Sharma where 456 (87.7%) believed that dental caries/tooth decay is a disease, 494 (95.5%) knew that consuming too much sweet food causes tooth decay/dental caries, 509 (97.9%) health workers knew that it is natural to lose teeth with increasing age, 520 (100%) know that there is a relationship between tobacco chewing and mouth cancer, 483 (92.9%) health workers know that mouth cleaning can prevent dental disease. (Sharma *et al* 2015).

Similar to study by Sharma *et al* 2015 *vide supra* but contrasts that of Adeniyi *et al* which reported the knowledge of oral health of 21 primary health care (PHC) workers attending an oral health education module to be (20.0%) and correctly knowing two sets of human dentitions (50.0%). (Adeniyi A *et al* 2017)

Across parameter questions, second-year trainees had better knowledge than the first year or new intake who had not received any lecture on primary oral health better though this was not statistically significant except for knowledge of bleeding gums as a disease which is comparable to other studies. (Udoye, *et al* 2007, Carneiro *et al* 2011, Eskandari *et al* 2016). The self-rated oral health of the trainees by level was significant indicating year two more likely to rate oral health better.

Concerning attitude to oral health, most of the participants, 52 (83.9%) were not afraid of dental treatment and about half 32(51.6%) believed that dental treatment was not expensive with no significant relationship between gender and level of the trainee. This was similar to the Iranian finding that a higher level of education does not influence the attitude of community health workers (Eskandari *et al* 2016).

Our study revealed that 57 (91.9%) felt the regular dental visit was necessary, similar to finding on health professionals in Saudi Arabia (Baseer *et al* 2012). About a third, 22 (35.5%) had visited the dentist and 42(67.7%) had never visited the dentist. Only 7(11.3%) visited within the last 6 months, and 5(8.1%) within the last 7-12 months with only 8(12.9%) visited for a routine check.

Furthermore, 39(62.9 %) reported that they used only toothbrush and paste, while 12(23%) combined toothbrush

with the chewing stick. Many of the 45(72.6%) reported using floss and mouthwash. Most of the participants 53(85.5%) rated their oral as good. This information is useful in planning preventive oral health promotion programmes in places where there is lack of dental personnel.

While this study provides some understanding of the perception of trainee Community health officers in the tertiary training institution, limitations, however, include the fact that data only evaluated one institutional centre. Other trainees in primary health care workers in the school of health technology were not included here. This study thus only provided information on trainees in hospital tertiary health institution

In conclusion, the findings of the current study indicate that the Community Health Officers had good oral health-related knowledge and attitude. Older trainees tended to have better oral health knowledge and self-reported oral health status. Primary oral health care course or community-oriented oral health module in Community Health Officers training curriculum is relevant and need to continue for improvement and motivation of community health officers.

REFERENCES

- Adeniyi AA, Oyapero A, Ajieroh V, Sofola O, Asiyani O.(2018).** Effect of health education intervention conducted by primary health care workers on oral health knowledge and practices of nursing mothers in Lagos state. *J Public Health Afr.* 9:833
- Adeniyi AA, Sofola OO, Kalliecharan RV.(2012).** An appraisal of the oral health care system in Nigeria. *Int Dent J.* 62:292-300.
- Adeniyi, A., Ajieroh, V., Sofola, O., Asiyani, O., & Oyapero, A. (2017).** A Pilot test of an oral health education module for community health workers in Ikeja LGA, Lagos State. *African Journal Of Oral Health;*7(1), 11-19.
- Assefa Y, Gelaw YA, Hill PS, Taye BW, Van Damme W.(2019).** Community health extension program of Ethiopia, 2003–2018: successes and challenges toward universal coverage for primary healthcare services. *Globalization and Health.* 15: 24 10.1186/s12992-019-0470-1
- Balcazar H, Lee Rosenthal E, Nell Brownstein J, Rush CH, Matos S, Hernandez L.(2011).** Community Health Workers Can Be a Public Health Force for Change in the United States: Three Actions for a New Paradigm. *American Journal of Public Health.*December101(12): 2199-2203
- Baseer MA, Alenazy MS, Alasqah M, Algabbani M, Mehkari A. (2012).** Oral health knowledge, attitude and practices among health professionals in King Fahad Medical City, Riyadh. *Dent Res J (Isfahan).* Jul;9(4):386-92
- Braimoh M, Ogunbodede E, Adeniyi A. (2014).** Integration of oral health into primary health care system: views of primary health care workers in Lagos State, Nigeria. *J Public Health Afr.* 5(1):35-39.
- Carneiro L, Kabulwa M, Makyao M, Mrosso G, Choum R.(2011).** Oral health knowledge and practices of secondary school students, Tanga, Tanzania. *Int J Dent.*2011:806258.
- Custodio-Lumsden C, Andrews H, Leu C, Edelstein B. (2019).** Changes in knowledge and beliefs of community health workers following an oral health intervention training

- program. *Journal of Prevention & Intervention in the Community*. 47. 54-65. 10.1080/10852352.2018.1547309.
- Eskandari A, Abolfazli N, Lafzi A, Golmohammadi S. (2016).** Oral Health Knowledge and Attitudes of Community Health Workers in East Azerbaijan, Iran. *J Dent Shiraz Univ Med Sci.*;17(4):297-300.
- Ibama AS, Dennis P.(2016).** Role of Community Health Practitioners in National Development: The Nigeria Situation. *International Journal of Clinical Medicine*.07:511-518.
- Kitaw Y, Ye-Ebiyo Y, Said A, Desta H, Teklehaimanot A. (2007).** Assessment of the training of the first intake of Health Extension Workers.*Ethiop J Health Dev.* 21 (3): 232-239
- Knettel BA, Slifko SE, Inman AG ,Silova I. (2017).** Training community health workers: an evaluation of effectiveness, sustainable continuity, and cultural humility in an educational program in rural Haiti, *International Journal of Health Promotion and Education.* 1-12
- National Primary Health Care Development Agency of Nigeria. (2012)** Minimum Standards for Primary Health Care in Nigeria.
- Ofosu-Amaah V. (1983).** National experience in the use of community health workers.A review of current issues and problems. *WHO Offset Publ.* 71:1-49.
- Sajjanshetty M, Rao A, Gururaghavendran R, Shenoy R, MithunPai BH.(2019).** Oral health knowledge and practices: Their influence on oral health status of auxiliary health workers in health centers of Mangalore, India. *J Indian Assoc Public Health Dent.* 17:97-102.
- Sharma V, Ingle NA, Kaur N, Yadav P, Ingle E. (2015).** Knowledge and attitude among health workers of primary health centers in a district. *J Adv Oral Res.* 6(1):20-2
- Udoye, C. I; Aguwa EN. (2007).** Oral health knowledge, perceptions and behaviour among nursing students in a Nigerian tertiary hospital. *Tanz Dent J.* 14(1): 26-29
- Uzundu CA, Doctor HV, Findley SE, Afenyadu GY, Ager A.(2015).** Female health workers at the doorstep: a pilot of community-based maternal, newborn, and child health service delivery in northern Nigeria. *Glob Health SciPract.*; 3(1): 97-108.
- Villanueva G ,Yunalyn V , Lasutaz-Pusod M, Lasutaz M. (2018).** Basic Oral Health Care Knowledge of Primary Health Workers Appraisal for Oral Health Education Program.*International Journal of Scientific and Research Publications (IJSRP)*.8. 10.29322/IJSRP.8.12.2018.p8412.
- Witmer A, Seifer SD, Finocchio L, Leslie J, O’Neil EH.(1995).** Community Health Workers: Integral Members of the Health Care Work Force. *American Journal of Public Health*.85(8):1055-1058.
- World Health Organization.(2008).** Primary health care: now more than ever. Geneva: World Health Organization; https://www.who.int/whr/2008/whr08_en.pdf 14 04 2020.