

Nigerian Clinical Level Medical Students' Knowledge of Dental Specialty

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Abstract

Background: The roles of physicians in oral healthcare delivery are very important due to the unequal distribution of the low oral health manpower as well as the lack of awareness of patients concerning the treatment of oral health problems by dentists in Nigeria. **Aim:** To assess the Nigerian clinical level medical students' knowledge of dental problems and conditions in relation to the dental specialty that treat them. **Subjects and Methods:** This questionnaire-based cross-sectional study of clinical level medical students of University of Benin, Benin City, Nigeria, was conducted between May and June, 2010. The knowledge of the students was graded as good (16-20), fair (8-15), and poor (<8). **Results:** Out of the 350 questionnaires distributed, 279 were filled and returned giving an overall response rate of 79.7% (279/350). Of these, 47.0% (131/279), 50.2% (140/279), and 2.8% (8/279) of respondents showed poor, fair and good knowledge respectively. The trend showed a statistically significant increase in the mean level of knowledge of dental specialty with an ascent in the clinical level ($P=0.01$). **Conclusion:** The level of knowledge of dental specialty in this survey was suboptimal and varied with different specialties which may have adverse implication in future patient care. The variation in the level of knowledge with different clinical level suggested gain in knowledge about dental specialty mainly through nonformal means among medical students.

Keywords: Clinical level, Dental specialty, Knowledge, Medical students

Introduction

Physicians provide some form of care for patients with dental problems which range from screening, emergency cares, referral to alleviation of pain symptoms in general medical practice, pediatric, and accident and emergency (A and E) department,^[1-5] Prevention of oral diseases is expected to be effective if the physicians who have more regular contact with individuals in developing countries are actively involved in screening and prevention of oral diseases. These roles of physicians in oral healthcare delivery are very important in Nigeria due to the unequal distribution of the limited number of qualified dentists and as well as lack of awareness of patients concerning the treatment of oral health problems by dentists in Nigeria.^[2,6]

Despite these, oral health has remained an inadequately addressed area in medical school curriculum over the years. The non-inclusion of basic study of dentistry in the medical curricula deprives most medical school graduates the opportunity to get formal dental education and invariably impairs the quality of oral healthcare delivery and referral for patients with oral health problems.^[7] Previous study among non-dental resident doctors in Nigeria on the knowledge of dental specialty revealed that only 5.6% had good knowledge.^[8] Morgan *et al.*,^[9] reported that insufficient training and lack of confidence were among the reported reasons for failure of a significant proportion of physician to conduct oral examination which is part of the physical examination.

Studies revealed that the pediatrician and family physician have role in the prevention of oral diseases and receipt of training improves this role and this has motivated the call for the inclusion of training on oral health and dental care into the medical curriculum.^[10] However, it is known that knowledge imbibed at undergraduate level from the curriculum influences the style and orientation of medical practice after graduation.

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Studies among medical students exposed to some forms of formal training on oral health were enthusiastic, considered it essential for their training, rated the course highly, and advocated for further integration of oral health into the medical curricula.^[11-13] A study found that the integration of an early childhood caries prevention program into the clinical medical education curriculum can be accomplished even though the institutional and organizational barriers are significant.^[14] The implementation of this oral health program made dental caries to become the eleventh most common diagnosis seen in the clinic when previously it did not appear in the top forty.^[14] The increasing knowledge of the effect and role of oral diseases on systemic health is a booster to this recommendation as this will facilitate the optimal overall patient care. The objective of the study was to assess the Nigerian clinical level medical students' knowledge of dental problems and conditions in relation to the dental specialty that treat them.

Subjects and Methods

This cross-sectional study of clinical level (4th, 5th and 6th year) medical students of University of Benin, Benin City, Nigeria, was conducted between May and June 2010. The tool for data collection was a modification of questionnaire previously utilized by Azodo *et al.*,^[8] in a study among nondental resident doctors in a Teaching Hospital in Nigeria.

This 25-itemed self-administered questionnaire was divided into two sections. The first section that assessed demography of the respondents included three questions which elicited age, gender, marital status, clinical level, and dental visit year of study. The second section which contained 20 questions assessed knowledge of oral condition in reference to where they can refer such conditions if they encounter it in the clinic.

The correct response to the questions in this section was scored as 1 while incorrect answer or no response was scored as 0. The knowledge of the students was graded as good (16-20), fair (8-15), and poor (<8) with the minimum and maximum scores as 0 and 20, respectively.

Informed consent was obtained from the participants after informing them of the objective of the study. Participation in the study was voluntary and implied coercion was eliminated as none of the researchers was directly involved in the clinical and classroom teaching and assessment of the clinical students.

Data were subjected to descriptive statistics (frequencies and percentages, mean and standard error of mean) and independent *t*-test and one-way analysis of variance (ANOVA) of significance using SPSS version 17.0 (Chicago, IL). $P < 0.05$ was considered statistically significant.

Results

Out of the 350 questionnaires distributed, 279 questionnaires

were filled and returned giving an overall response rate of 79.7% (279/350). A higher proportion of the respondents were female 141 (50.5%) as against males 138 (49.5%); with majority of the students being single 262 (93.9%). A total of 121 (43.4%) and 103 (36.9%) of the respondents were aged 22-24 years and 25-27 years, respectively. The respondents who participated from the different levels in the clinical medical program are as follows: 400 Level-110 (39.4%), 500 Level-63 (22.6%), and 600 Level-106 (38.0%). Among the respondents, 152 (54.5%) had previous dental visit to a dentist prior to our inquiry, 127 (45.5%) have not [Table 1]. The receipt of dental treatment was higher among females than males ($P = 0.03$) [Table 2]. Of these, 47.0% (131/279), 50.2% (140/279), and 2.8% (8/279) of respondents showed poor, fair and good knowledge, respectively [Figure 1]. Females and married respondents exhibited non-significantly higher level of knowledge than males and single respondents.

Table 1: Demographic characteristics of the respondents

Characteristics	Frequency	Percent
Age (years)		
<22	20	7.2
22-24	121	43.4
25-27	103	36.9
>27	35	12.5
Gender		
Female	141	50.5
Males	138	49.5
Marital status		
Single	262	93.9
Married	17	6.1
Clinical level		
4 th year	110	39.4
5 th year	63	22.6
6 th year	106	38.0
Previous dental visit		
Yes	152	54.5
No	127	45.5
Total	279	100.0

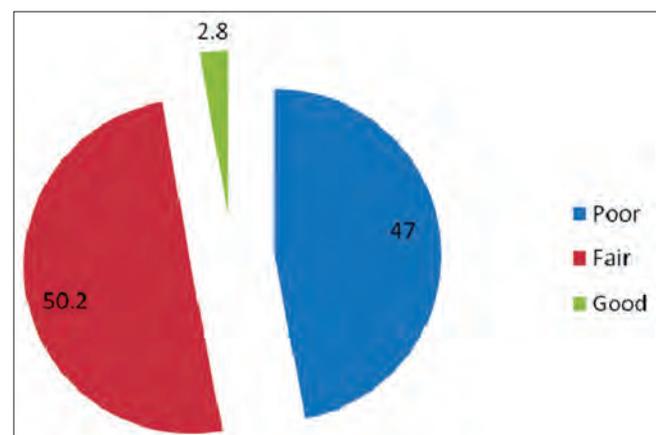


Figure 1: Knowledge of dental specialty among the respondents

Table 2: Gender difference in receipt of dental treatment among the respondents

Receipt of dental treatment	Gender		Total n (%)
	Male n (%)	Female n (%)	
Yes	66 (47.8)	86 (61.0)	152 (54.5)
No	72 (52.2)	55 (39.0)	127 (45.5)
Total	138 (100.0)	141 (100.0)	279 (100.0)

$\chi^2 = 4.88$, d.f. = 1, $P = 0.03$

There was a statistically significant increase in the level of knowledge of dental specialty with an ascent in the clinical level. Students with history of previous dental treatment exhibited non-significantly higher level of knowledge of dental specialty [Table 3].

Discussion

In this study, only a minute percentage of the medical students (2.8%) had a good level of knowledge of dental specialties. The proportion of the respondents with good knowledge was low that is half of the value (5.6%) documented in a study among resident doctors in a tertiary hospital in Nigeria.^[8] The availability of more sources of scientific health information among doctors than students may be an explanation. This suggests that oral health delivery among these future medical practitioners will be suboptimal due to the lack of formal training and exposure to dental issue in the medical school program.

In this study, females exhibited higher-level knowledge of dental specialty in comparison with their male counterpart which was not statistically significant. The fact that the more females visited the dentist and received dental treatment than the males in this study may be the explanation for the higher level of knowledge.

In this study, the trend showed a statistically significant increase in the level of knowledge of dental specialty with an ascent in the clinical level. The variation in the level of knowledge with different clinical level suggested gain in knowledge about dental specialty through mainly non-formal means and some form of formal means among medical students. The formal means may be exposure to the knowledge to the interface between dentistry and medicine in higher clinical Level. For instance exposure to the knowledge of congenital oral health problem like cleft lip and palate in children and cancrum oris which is a complication of acute necrotizing ulcerative gingivitis in pediatrics. The non-formal means may be the interactions with their colleagues studying dentistry who they share curriculum till the end of the 4th year of the 6-year program. Although not assessed in this study, positive shifts in attitudes toward oral health, significant gains in oral health knowledge and self-confidence, enthusiasm, and advocacy on the integration of oral health into required medical curricula among medical students^[12,13] on exposure to different forms of formal training on oral health have been reported in previous

Table 3: Demographic characteristics and knowledge of dental specialty among the respondents

Characteristics	Knowledge score, mean (SEM)	t-value	P value
Gender			
Male	8.20 (0.35)	0.09	0.66
Female	8.25 (0.34)		
Marital status			
Single	8.13 (0.26)	1.90	0.13
Married	10.42 (0.94)		
Clinical level			
4 th year	7.27 (0.37)	10.24 ^F	0.01
5 th year	7.59 (0.58)		
6 th year	9.59 (0.352)		
Dental visit			
Yes	8.38 (0.34)	0.69	0.78
No	8.04 (0.36)		

All variables were assessed with independent t-test except for clinical level which was assessed with one-way ANOVA

studies among medical students.^[13] This suggested that formal training on oral health should be included in the curriculum in form of brief clerkships, as elective, and also using clinical dental students as models as a means of optimizing the oral and overall health delivery.

The respondents that reported history of dental visit exhibited non-significantly higher mean level of knowledge of dental specialty than others. The short exposure to dentistry during dental care may increase knowledge, whose long-term retention is queried as this may account for the non-significant difference noted because exposure to brief clerkship to dental issues result in non long term increased level of knowledge.^[13]

Conclusion

The level of knowledge of dental specialty in this survey was suboptimal which may have adverse implication in future patient care. The variation in the level of knowledge with different clinical level suggested gain in knowledge about dental specialty through nonformal means among medical students.

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