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Knowledge and Awareness about Cleft Lip and Palate among Undergraduate Dental Students in a Nigerian Teaching Hospital

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Abstract

Background: To assess knowledge and awareness about cleft lip and palate among undergraduate dental students in Benin City, Nigeria.

Design: This was a cross-sectional study carried out among undergraduate dental students in Benin City, Nigeria.

Methods: The study population consisted of twenty-four (24) final-year students, thirty (30) 500-level students and thirty (30) 400-level students giving a total population of 84. The study instrument was a 12-item self-administered questionnaire, which was pre-tested on ten clinical dental students two weeks before the commencement of the study. The research was approved by the Research Ethics Committee of the University of Benin Teaching Hospital. Data was computed and analyzed using SPSS version 21.0 software. P values at <0.05 were set as significant.

Results: The minimum age of the study population was 20 years, and the maximum age was 35 years. The mean age was 24.61±2.796 years. Seventy (83.9 %) of the study population had knowledge and awareness of cleft lip and palate, while 14 (16.1 %) had no knowledge and awareness of the deformities. All the respondents 84 (100 %) knew that cleft lip and palate can be managed, hence, there was no relationship between level of education and knowledge and awareness of cleft lip and palate. The majority of the population 73 (87.1 %) agreed that children with cleft lip and palate deformities have problems with feeding, speech, and development of teeth.

Keywords: Knowledge, Undergraduate dental students, cleft.

ORIGINAL ARTICLE

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Introduction

Orofacial clefts constitute the most common anomalies in the orofacial region.[1,2,3] Previous Nigerian studies reported an incidence of 1 in 2,703 (0.4 in 1000).[4]

It occurs due to a failure of fusion of a number of facial processes during embryonic development.[5] Cleft lip and palate (CL/P) may be unilateral, bilateral, complete and incomplete. According to Veau CL/P is classified into four main groups; cleft of the soft palate, cleft on hard palate, cleft of lip and alveolus, cleft of palate (CP), bilateral cleft of lip, alveolus and palate.[6,7,8]

The gender ratio among individuals with CL/P in the general population is inconclusive, with males being affected 1.5 to 2.0 times more frequently than females.[2,9,10]

Previous studies have proved that environment and genetics are the core causes of CL/P. However, other factors, such as deficiency of vitamin B, folic acid, maternal age, mothers who smoke or consume alcohol and some viral infections are also related to CL/P development.[11,12,13]

Though cleft CL/P is not life-threatening, it has various problems associated with it, such as speech problems, hearing problems, dental problems, feeding and nutritional problems, aesthetics, psychological, and mental problems.[1,5] CL/P can be treated and requires appropriate corrective treatment

to improve aesthetical functions. This corrective treatment also requires multiple stages of intervention during the various developmental stages and can largely help to return to normal and satisfactory living.[6,14,15,16,17]

Knowledge about the various treatment procedures involved and the timing of the procedures among dental students is vital for them to refer the patient at the correct stage to the appropriate specialist, who will provide the best patient care. Therefore, the purpose of this study was to assess the knowledge and awareness of CL/P among undergraduate dental students of the University of Benin, Benin City, Nigeria.

Materials and Methods

This cross-sectional study was carried out between January 2023 and April 2023. The study was carried out among undergraduate dental students of the University of Benin, Benin City, Nigeria. The age range was 20 to 35 years, mean age was 24.61±2.796 years. The study instrument was a close-ended, 12-item, self-administered questionnaire and each participant gave their informed consent.. The research was approved by the Research Ethics Committee of the University of Benin Teaching Hospital. The questionnaire was pre-tested in a pilot study carried out on 10 (ten) clinical dental students two weeks before the commencement of the study. Inclusion criteria included only 400-level, 500-level, and 600-level dental students of the University of Benin, Benin City, Nigeria, who indicated consent and willingness to participate in the study. Exclusion criteria included non-clinical dental students of the same University and dental students from other institutions, and lack of consent. There was a 100% response from the students in completing the questionnaires. The study population consisted of 24 final year students (600 level), 30 five hundred level students (500 level) and 30 four hundred level students (400 level), giving a total population of 84 (eighty-four) dental students. A self-administered questionnaire was given to each participant. The questionnaire included a section on demographic information and a section on knowledge and awareness of cleft lip and palate. Data was computed and analyzed using SPSS version 21.0 software. The data generated was subjected to statistical analysis to determine the variables (frequency, percentages, and means). Differences between variables were evaluated with the Chi-square test. P values at <0.05 were set as significant.

Results

This was a cross-sectional study carried out among undergraduate dental students of the Faculty of Dentistry, University of Benin, Benin City, Nigeria. There were 46 (54.8 %) males and 38 (45.2 %) females, giving a total population of 84 (eighty-four) participants. The minimum age of the study population was 20 years, the maximum age was 35 years, and the mean age was 24.61±2.796 years.

Table 1. Distribution of the study population according to level of education

Level of Education	Frequency	Percentage
600 Level	24	28.6
500 Level	30	35.7
400 Level	30	35.7
Total	84	100.0

Table 1 shows the distribution of the study population according to their level of education. The 600-level students were 24 (28.6 %), 500-level students were 30 (35.7 %), while 400-level students were 30 (35.7 %)

Table 2. Knowledge and awareness about cleft lip and palate among the study population

Knowledge and Awareness about Cleft Lip and Palate	Frequency	Percentage
Yes	70	83.9
No	14	16.1
Total	84	100.0

Table 2 shows the knowledge and awareness about cleft lip and palate among the study population. A total of 70 (83.9 %) had the knowledge and awareness of cleft lip and palate, while 14 (16.1 %) had no knowledge and awareness about cleft lip and palate.

Table 3. Relationship between level of education and knowledge about cleft lip and palate

	Can Cleft Lip and Palate be treated?		
Level of Education	Yes	No	Total
600 Level	24	0	24 (28.6 %)
500 Level	30	0	30 (35.7 %)
400 Level	30	0	30 (35.7 %)
Total	84	0	84 (100.0 %)

Table 3 shows the relationship between the level of education and knowledge about cleft lip and palate. All the respondents 84 (100 %) had the knowledge and awareness that cleft lip and palate can be managed, therefore there was no significant relationship between the level of education and knowledge and awareness that cleft lip and palate can be managed.

Seventy-nine (93.5 %) of the study population agreed that children with cleft lip and palate would become normal after surgery, while 5 (6.5 %) did not agree that children with cleft lip and palate would become normal after surgery. 20 (24.2 %) of the study population agree that cleft lip is always associated with cleft palate, while 64 (75.8 %) did not agree that cleft lip is always associated with cleft palate.

Forty-seven (56.5 %) of the study population knew that vitamin B and folate deficiency cause cleft lip and palate in the newborn, while 37 (43.5 %) did not know that vitamin B and folate deficiency caused cleft lip and palate. Up to 15 (17.7 %) of the study population believed that the most common manifestation of cleft lip and palate is unilateral on the right side, 43 (51.6 %) believed that unilateral on the left side is the most common, while 26 (30.6 %) believed that bilateral clefts are the most common.

The majority of the study population, 73 (87.1 %) agreed that children with cleft lip and palate have problems with feeding, speech, and development of teeth, 4 (4.8 %) believed that children with cleft lip and palate have only speech problems, while 7 (8.1 %) believed that children with cleft lip and palate only have problems with the development of teeth. Forty-one (48.4 %) of the study population believed that cleft lip and palate is caused by the non-union of the maxillary process with the medial nasal process,

28 (33.9 %) believed that cleft lip and palate is caused by the non-union of the medial nasal process and lateral nasal process, and 15 (17.7 %) believed that cleft lip and palate is caused by the non-union of the medial nasal process and medial nasal process.

Fort-eight (56.4 %) of the study population believed that the diagnosis of cleft lip and palate is carried out by ultrasound during pregnancy, 28 (33.9 %) of the study population believed that the diagnosis of cleft lip and palate is carried out only after the baby is born, while 8 (9.7 %) believed that cleft lip and palate cannot be diagnosed until late in life. Twenty-four (29.0 %) of the study population believed that the initial surgery for cleft lip is carried out when the baby is 2 months old, 29 (33.9 %) believed that it should be carried out when the baby is 3 months old, while 31 (37.1 %) believed that the initial surgery be carried out when the baby is 6 months old. The relationship between the level of education and knowledge of the aetiology of cleft lip and palate showed that the majority of the 600 level students knew that cleft lip and palate is caused by the non-union of the maxillary process with the medial nasal process when compared to the 500-level and 400-level students, but the relationship was not statistically significant (Chi-square- 5.382; P value-0.250).

Discussion

Orofacial clefts constitute the most common anomalies in the orofacial region.[1,2]

In this study, the respondents were selected based on their level of education (400, 500, and 600 levels). This was a similar finding in previous studies[11,18], where the study participants were classified according to their levels in the undergraduate dental programme. The majority of the population had the knowledge and awareness about cleft lip and palate, this was a similar finding in a previous study[11], but in another study, there was considerably low knowledge and awareness about cleft lip and palate among undergraduate dental students.[18]

This study showed that there was no statistically significant difference between the various levels of undergraduate dental students and their knowledge of the management of cleft lip and palate. There was a similar finding in a previous study[18], but the previous study[11] showed that the most senior students had more knowledge about cleft lip and palate management.

In this study, the majority of the study population knew that speech, feeding, and the development of teeth are all affected by cleft lip and palate. Similar findings were made in previous studies.[11,19] The current study also showed that the majority of the study population were aware that ultrasound diagnosis during pregnancy is a method adopted to diagnose cleft lip and palate. In a previous study, only the senior students were aware that ultrasound diagnosis is a useful method for diagnosis of cleft lip and palate during pregnancy.[11] The use of ultrasound in the diagnosis of cleft lip and palate during pregnancy was also stated in another study.[20]

This study has also shown that all the study participants believed that children with cleft lip and palate can be treated successfully through surgical intervention. There was a similar finding in a previous study[18] which showed that only the senior students were aware that children with cleft and palate can be successfully managed surgically .[11]

Conclusion

In this study, the knowledge and awareness of cleft lip and palate was assessed among undergraduate dental students in Benin City, Nigeria. The majority of the students had the knowledge and awareness of cleft lip and palate, including their diagnosis and management. Therefore, it is important to educate undergraduate dental students with the necessary knowledge about cleft lip and palate including its prevention, diagnosis, and treatment.

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APPENDIX

QUESTIONNAIRE

KNOWLEDGE AND AWARENESS ABOUT CLEFT LIP AND PALATE AMONG UNDERGRADUATE DENTAL STUDENTS

1. Level of education……400 LEVEL ☐ 500 LEVEL ☐ 600 LEVEL ☐
2. Gender…… Female ☐ Male ☐
3. Have you ever seen cleft lip and palate cases? Yes☐ No☐
4. Can cleft lip and palate be treated? Yes ☐ No ☐
5. If surgically treated can the children with cleft lip and palate achieve normal appearance? Yes ☐ No ☐
6. Is cleft lip always associated with cleft palate? Yes☐ No ☐
7. Does vitamin B and Folate deficiency cause cleft lip and palate in the newborn? Yes☐ No ☐
8. Which is the most common type of cleft deformity in our environment?
   Unilateral on the right side ☐ Unilateral on the left side ☐ Bilateral location. ☐
9. What are the other problems associated with cleft lip and palate?
   Feeding ☐ Speech ☐ Development of teeth ☐ All of the above. ☐
10. Cleft lip is due to the non-union of?
    maxillary process with medial nasal process ☐
    medial nasal process and lateral nasal process ☐
    medial nasal process and medial nasal process. ☐
11. How is cleft lip and palate diagnosed?
    By ultrasound during pregnancy ☐
    Only after the baby is born ☐
    Cannot be diagnosed until later in life. ☐
12. When is the initial surgery performed for the cleft lip?
    When the baby is 2 months old ☐
    3 months old ☐
    6 months old ☐