

Knowledge And Attitude Towards Development Defects Of Oral Cavity - A Survey Among Dental Undergraduates

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ABSTRACT

Introduction:

Development defects are malformations which arise due to the disturbances during the developmental of the organs. This study will help to assess the knowledge about development defects of oral cavity a survey among dental undergraduates.

Aim: The main aim of the study is to assess the knowledge about development defects of the oral cavity among dental undergraduates. **Materials and methods:** This study was done to understand about development defects of the oral cavity among dental undergraduates. The survey was conducted among 120 dental students. A self administered questionnaire of 10 closed ended and open questions was prepared and distributed among dental undergraduates through online based survey form as an innovative technique. **Results:** A total of 120 dental undergraduates were involved in the study. There were 76.47% of the male participants and 23.53% of the female participants. Majority(64.7%) of the dental undergraduates were aware about development defects of the oral cavity whereas the remaining 35.3% of the dental undergraduates have no idea about the development defects of the oral cavity. Males have better knowledge about development defects of the oral cavity while comparing to Females. Majority(81.4%) of the dental undergraduates were aware about cleft palates. Pearson chi square test shows p value is 0.02(p<0.05) and thus it is statistically significant. **Conclusion:** It is concluded that male students were more aware about developmental defects in the oral cavity. Dental undergraduates must be aware of

such defects during their routine examination and can treat them prior to avoid complications. Thus more interactive classes must be included in the schedule for easy and better understanding of the subject.

KEYWORDS: Malformation, innovative technique, cleft palate, development defect, oral cavity.

INTRODUCTION:

Malformations or defects resulting from disturbances of growth and development are known as development anomalies. A large number of such development anomalies, which involve the body in general and oral structures in particular, can occur during the embryonic life. Manifestations of those defects are evident either at birth or sometimes after birth. These anomalies often have some serious implications on the further growth process of the involved organ within the later phases of life (1). Development anomalies comprise a wide range of abnormalities of body structures or functions and are present at birth or parental origin (2).

The causes of the developmental anomalies can be genetic factors like inheritance, mutation or different errors at the hereditary level. Also, ecological factors that incorporate physical, chemical or organic elements that cause changes in genes leading to altered signaling, resulting in the manifestation of developmental abnormalities (3). Irregularities relating to tooth size and shape result from disturbances that happen in the morpho differentiation phase of fetal development and other defects, like ectopic eruption or impaction are a result of development disturbances that have occurred in the eruption sequence of permanent dentition (4), (5).

The degree of prevalence of developmental anomalies of the oral cavity, or any developmental anomalies, may vary with race, gender and age (6). Examples like talons, cusp and peg laterals are more common in permanent teeth than in primary teeth. Supernumerary teeth are more common in men (7). However, these anomalies could also be present as a private trait or in association with other conditions (8). Syndromes such as micrognathia and U-shaped cleft palate are often associated with Pierre- Robin syndrome. Microdontia and peg laterals are often associated with aether-chozten syndrome and supernumerary teeth are associated with Gardner's syndrome. The dental students must know the developmental defects as they are mostly connected with syndromes. Our team has extensive knowledge and research experience that has translated into high quality publications (9-28). Thus, the aim of the present study is to assess the knowledge about developmental defects of the oral cavity among preclinical undergraduates.

MATERIALS AND METHODS:

A cross sectional study was conducted through an online survey from February to April 2021 among undergraduates. A simple random sampling was used to select the study participants. Around 120 dental undergraduates who were willing to participate were included. Returning the filled questionnaire was considered as implicit consent as a part of the survey. Ethical approval for the study was obtained from the Institutional Review Board (IRB), Saveetha Dental College. Self administered questionnaire of close-ended questions was prepared and it was distributed among dental undergraduates from February to April 2021 through the online survey "google forms". The collected data were checked regularly for clarity, competence, consistency, accuracy and validity. Demographic details were also included in the questionnaire. Data was analysed with the SPSS version (22.0).

Descriptive statistics as percent were calculated to summarise qualitative data. Pearson Chi square test was used to analyze and compare the educational level of students and their knowledge and awareness about development defects of the oral cavity. Chi square test was used to analyze and comparative bar graphs were plotted and it is statistically significant only if the p value is less than 0.05.

S.No.	Questionnaire	Option 1	Option 2	Option 3	Option 4
1.	Age	17-19 years	20-25 years		
2.	Gender	Male	Female	Others	
3.	Which one of the following is a development defect of the oral cavity?	Cleft palate	Microtia	Preauricular Sinuses	Cystic fibrosis
4.	Identify the given picture?	Retrocuspid Papilla	Micrognathia	Cleft tongue	Cleft tongue
5.	The treatment for cleft palate is done by	Palatoplasty	Chemotherapy	Cognitive therapy	Palliative care
6.	Vander woude syndrome is an	Autosomal dominant	Autosomal recessive	Mendelian inherited	x- linked inherited
7.	Which one of the following is the symptom of micrognathia?	Apnic spells	Sunken appearance of eyes	Chronic ear infection	Difficulty with feedings
8.	Which defect is known as Melkerson-Rosenthal syndrome?	Cheilitis granulomatosa	Parry Romberg syndrome	Chronic fatigue syndrome	Polycystic ovary syndrome
9.	The defective desquamation of filiform papillae is	Hairy tongue	Cleft tongue	Cleft palate	Orofacial cleft
10.	Identify the given picture?	Cleft palate	Cleft tongue	Fordyce' granules	Orofacial cleft
11.	The red patches on the tongue which often heal and migrate to different parts of the tongue	Cleft tongue	Geographic tongue	Hairy tongue	Smooth tongue
12.	Teratogens causing orofacial cleft	Phenobarbital	Phenytoin	steroids	All of these

RESULTS:

In this study, 76.5% were male participants and female responses were 23.5% (figure 2). In our present study, 64.7% of the participants were aware about development defects of the oral cavity where females have more knowledge about development defects of oral cavity when compared to males (figure 3) also 81.4% of the participants were aware about cleft palate whereas remaining 18.6% of the participants were unaware about the cleft palate in which females have more knowledge about cleft palate when compared to males (figure 4). Almost 74.5% of the participants were aware about the treatment for cleft palate were males have more knowledge about cleft palate when compared to females (figure 5) and 70.6% of the participants were aware of vander woude syndrome in which males have more knowledge about vander woude syndrome when compared to females (figure 6). Majority (63.7%) of the participants were aware about the symptoms of micrognathia whereas the remaining 36.3% of the participants were unaware about the symptoms of micrognathia in which females have more knowledge about micrognathia when compared to males (figure 7). In our study, 79.4% of the participants were aware of the defect Melkerson-Rosenthal syndrome where males have more knowledge about Melkerson-Rosenthal syndrome when compared to females (figure 8). Only 25.5% of the participants were aware about the defective desquamation of filiform papillae where females have more knowledge about the defective desquamation of filiform papillae when compared to males (figure 9) and 69.6% of the participants were aware about the picture cleft tongue where females have more knowledge about cleft tongue when compared to males (figure 10). Almost 75.5% of the participants were aware about the red patches on the tongue. The association between the gender and the knowledge about red patches on the tongue shows pearson chi square test p value as 0.004 ($p < 0.05$) and thus it is statistically significant where males have more knowledge about orofacial cleft when compared to females (figure 11). And 60.8% of the participants were aware about teratogens causing orofacial clefts. The association between the gender and the knowledge about orofacial cleft shows pearson chi square test p value as 0.02 ($p < 0.05$) and thus it is statistically significant where males have more knowledge about orofacial cleft when compared to females (figure 12).

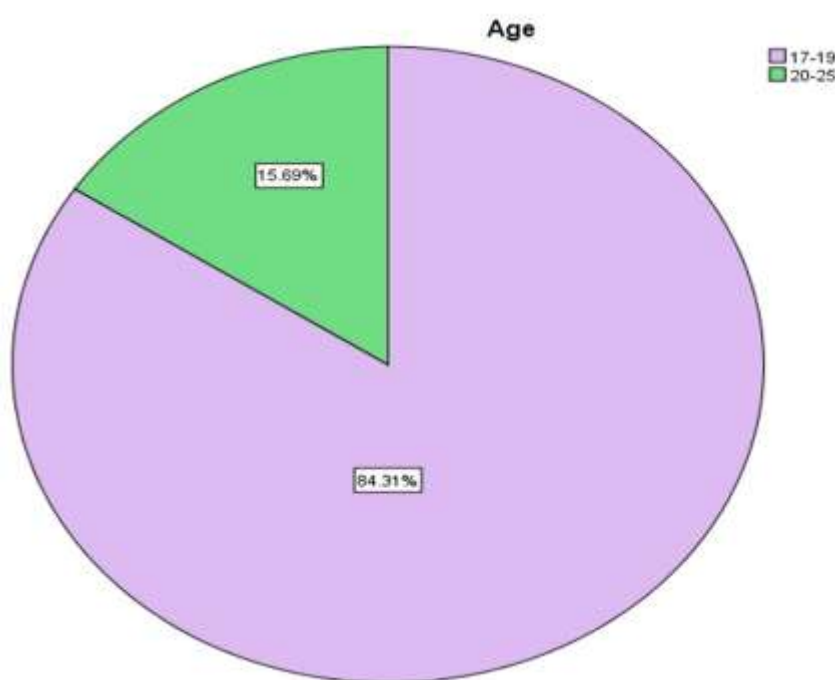


Figure 1: Pie chart shows the response of the age distribution among the participants. Pink indicates 17-19 years and green indicates 20-25 years age group. 84.31% in the age group of 17-19 years and 15.69% in the age group of 20-25 years.

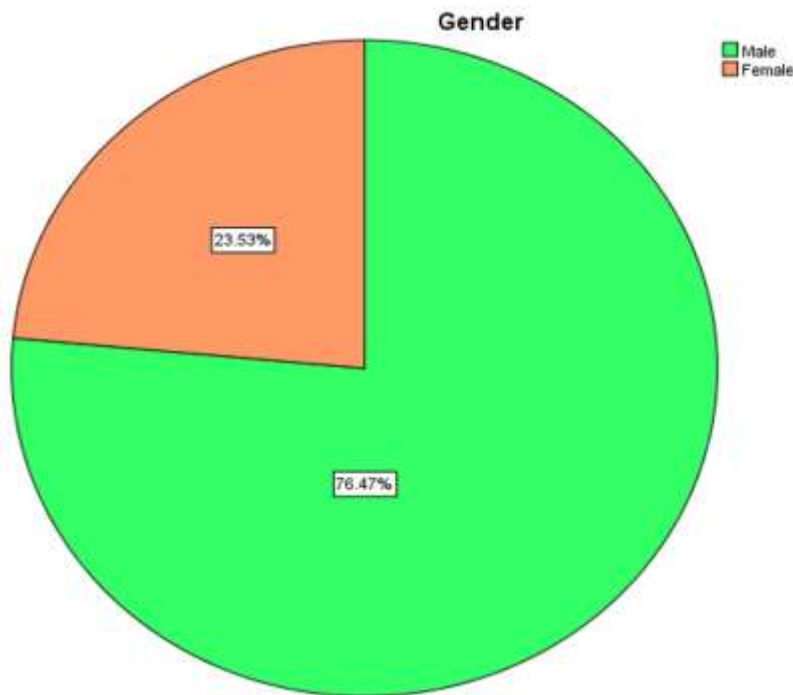


Figure 2: Pie chart shows the response of the gender distribution among the participants. Green represents Male and orange represents Female. Majority(76.47%) of the respondents were Male and 23.53% were Female.

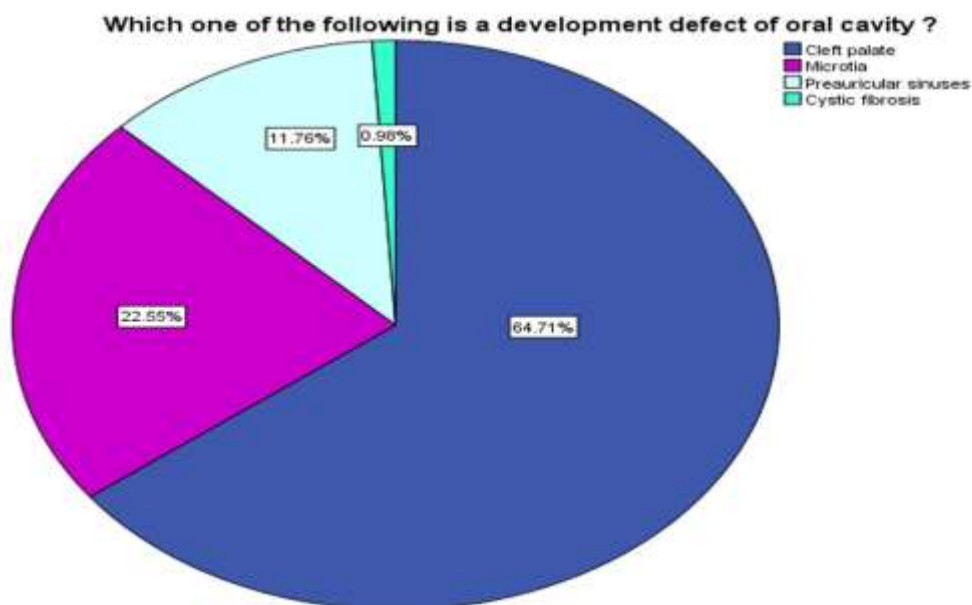


Figure 3: Pie chart shows the percentage of responses for the development defect of the oral cavity. Blue color represents “cleft palate”, light cyan color represents “preauricular sinuses”, pink color represents “Microtia” and aquamarine color represents “cystic fibrosis”. Majority(64.71%) of the respondents answered cleft palate which is right, 11.76% of the respondents answered Preauricular sinuses, 22.55% of the respondents answered Microtia and 0.98% of the respondents answered Cystic fibrosis.

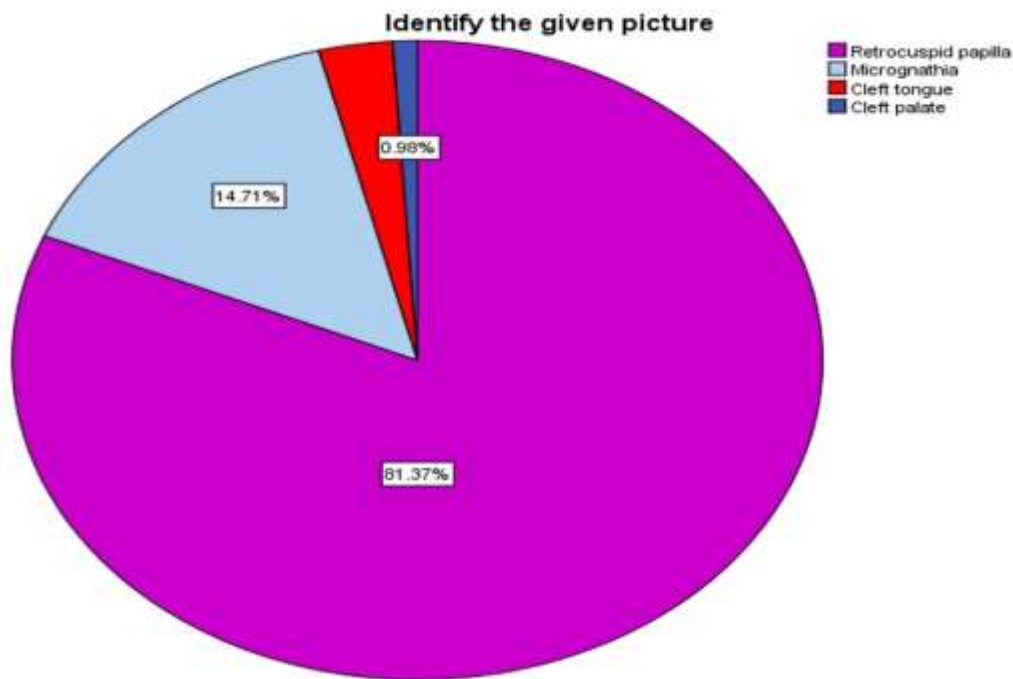


Figure 4: Pie chart shows the percentage of responses for the given picture (Retrocuspid papilla). Pink indicates “Retrocuspid papilla”, pale blue indicates “micrognathia”, red indicates “cleft tongue” and dark blue indicates “cleft palate”. Majority(81.37%) of the respondents answered Retrocuspid papilla which is right, 14.71% of the respondents answered Micrognathia, 2.94% of the respondents answered Cleft tongue and the rest of them answered Cleft palate.

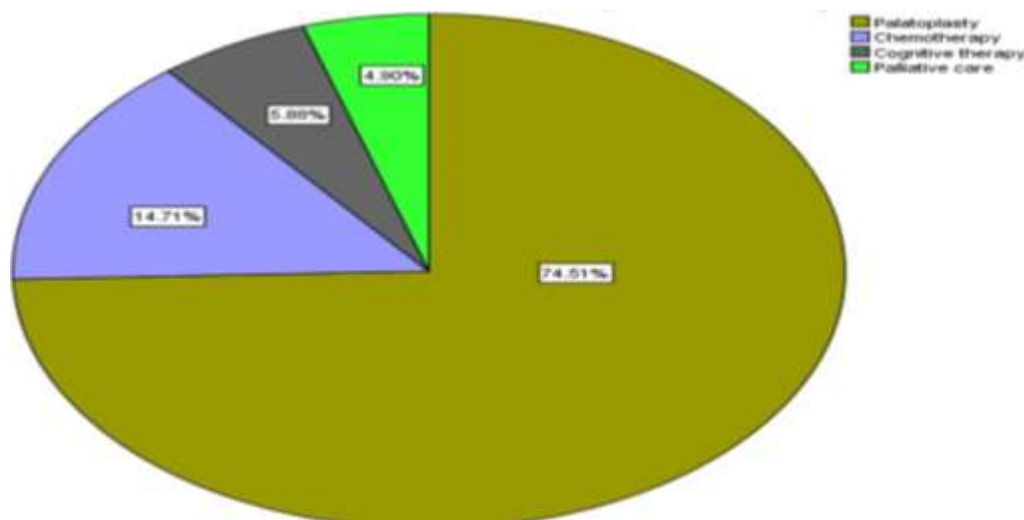


Figure 5: Pie chart shows the percentage of responses of the participants for the question regarding the treatment of cleft palate. Golden indicates “palatoplasty”, blue indicates “chemotherapy”, grey indicates “cognitive therapy” and green indicates “palliative care”. Majority(74.51%) of the respondents chose Palatoplasty which is right, 14.71% of the respondents chose Chemotherapy, 5.88% of the respondents chose Cognitive therapy and 4.90% of the respondents chose Palliative care.

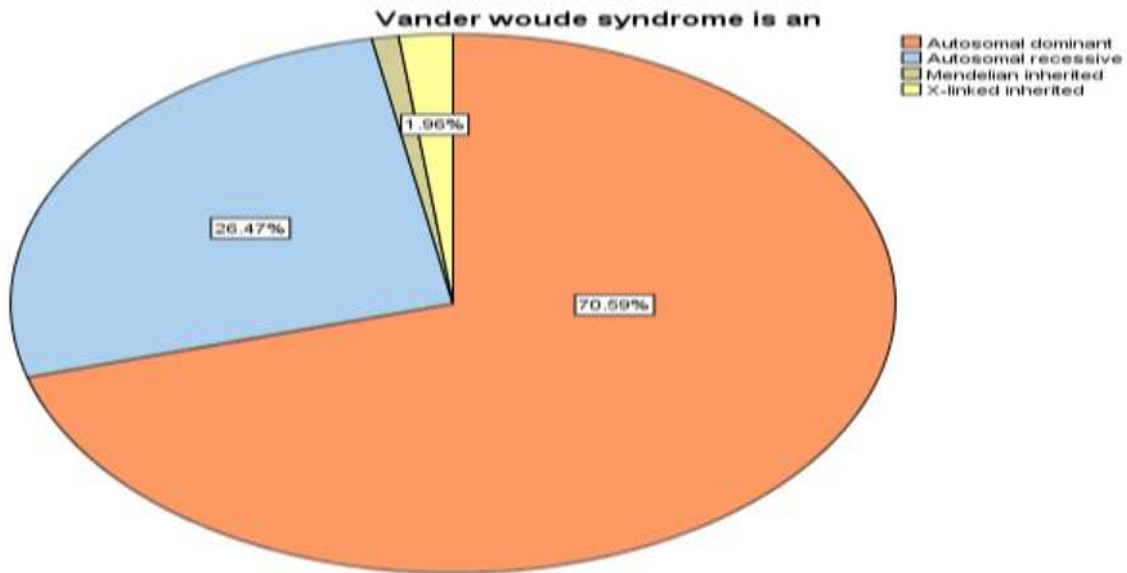


Figure 6: Pie chart shows the percentage of responses of the participants for the question regarding inheritance of Vander woude syndrome. Orange indicates “Autosomal dominant”, light blue indicates “Autosomal recessive”, yellow indicates “X-linked inherited” and wheat color indicates “Mendelian inherited”. Majority(70.59%) of the respondents chose Autosomal dominant which is right, 27.45% of the respondents chose Autosomal recessive, 1.96% of the respondents chose X-linked inherited and rest of them chose Mendelian inherited.

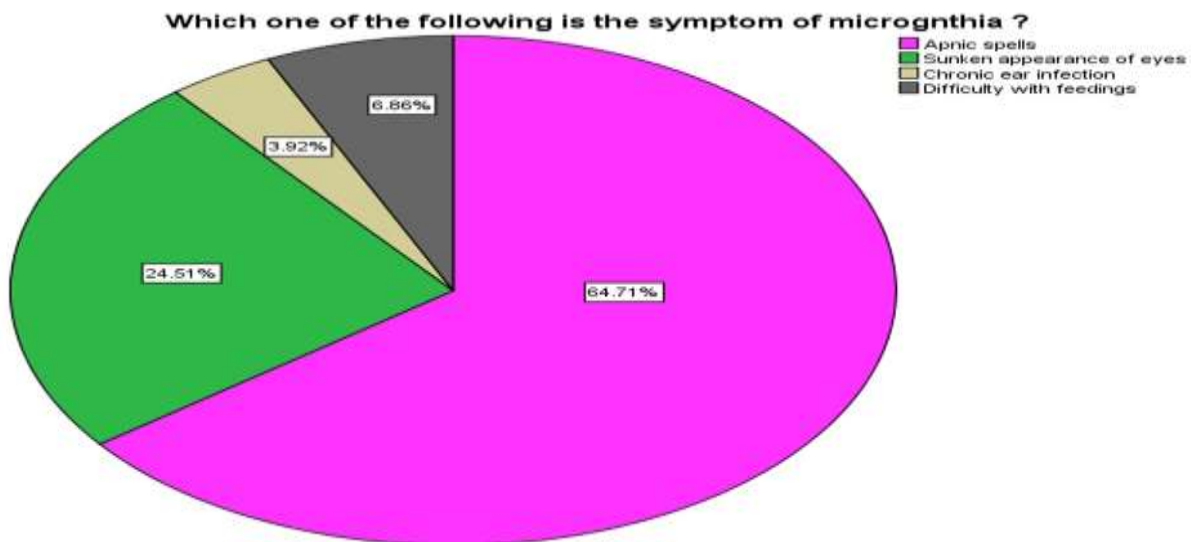


Figure 7: Pie chart shows the percentage of responses of the participants for the question regarding symptoms of micrognathia. Pink indicates “apnic spells”, green indicates “sunken appearance of eyes”, grey indicates “difficulty with feedings” and wheat color indicates “chronic ear infection”. Majority(64.71%) of the respondents chose Apnic spells which is right, 24.51% of the respondents chose Sunken appearance of eyes, 6.86% of the chose Difficulty with feedings and 3.92% of the respondents chosen Chronic ear infection.

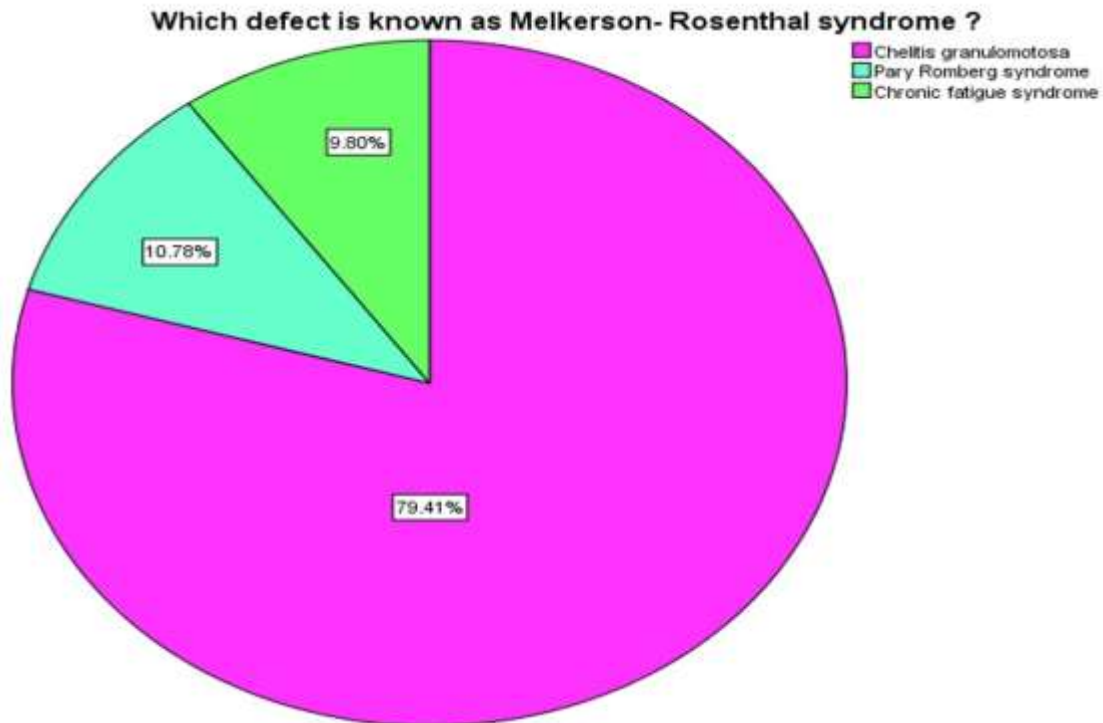


Figure 8: Pie chart shows the percentage of responses of the participants for the question regarding defects of Melkersson-Rosenthal syndrome”. pink indicates “cheilitis granulomatosa”, Aquamarine color indicates “parry romberg syndrome” and green indicates “chronic fatigue syndrome”. Majority(79.41%) of the respondents chose Cheilitis granulomatosa which is right and 10.78% of the respondents chose Parry Romberg syndrome and 9.80% of the respondents chose Chronic fatigue syndrome.

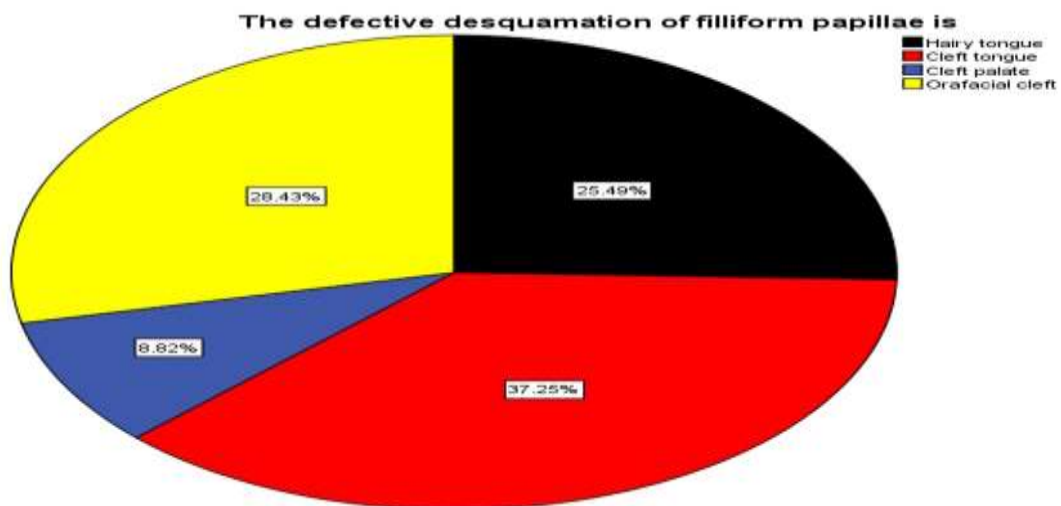


Figure 9: Pie chart shows the percentage of responses of the participants for the question regarding the defective desquamation of filiform papillae. Red indicates “cleft tongue”, black indicates “Hairy tongue”, yellow indicates “orofacial cleft” and blue indicates “cleft palate”. Majority(37.25%) of the respondents chose cleft tongue which is right, 25.49% of the respondents chose Hairy tongue, 28.43% of the respondents chose Orofacial cleft and 8.82% of the respondents chose Cleft palate.

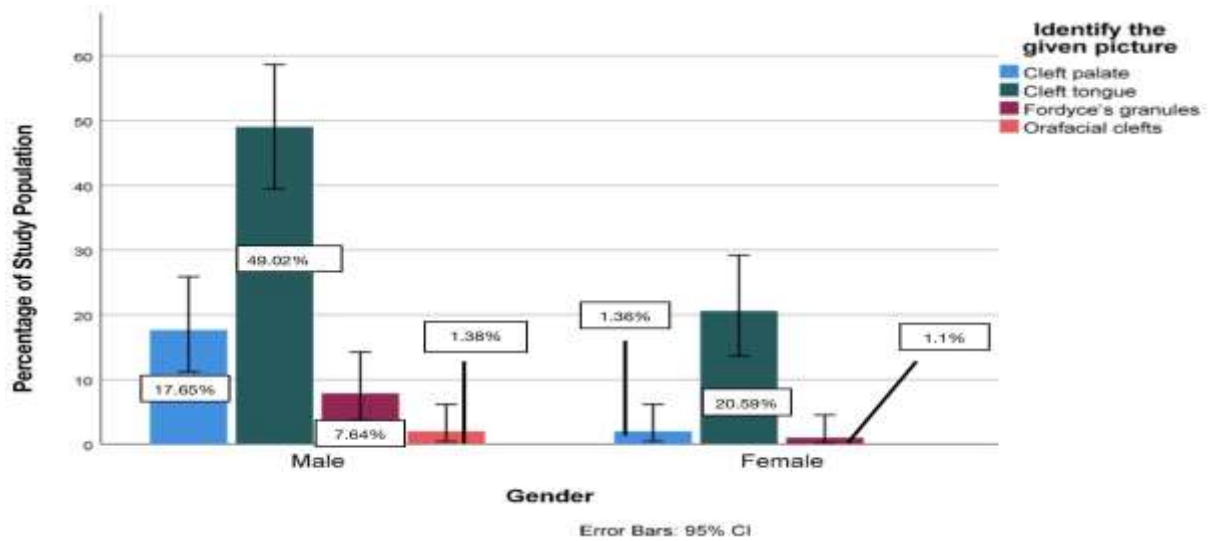


Figure 10: The bar graph depicts the association between gender and knowledge about the cleft tongue. X axis represents gender and Y axis represents the percentage of the study population. Blue denotes cleft palate, red denotes Cleft tongue, purple denotes Fordyce’s granules and white denotes Orofacial clefts. Males (49.02%) have better knowledge about cleft tongue compared to females (20.59%). Pearson chi square test was done, pearson chi square value-4.865, p value is 0.018, (p value <0.05). Hence it is statistically significant.

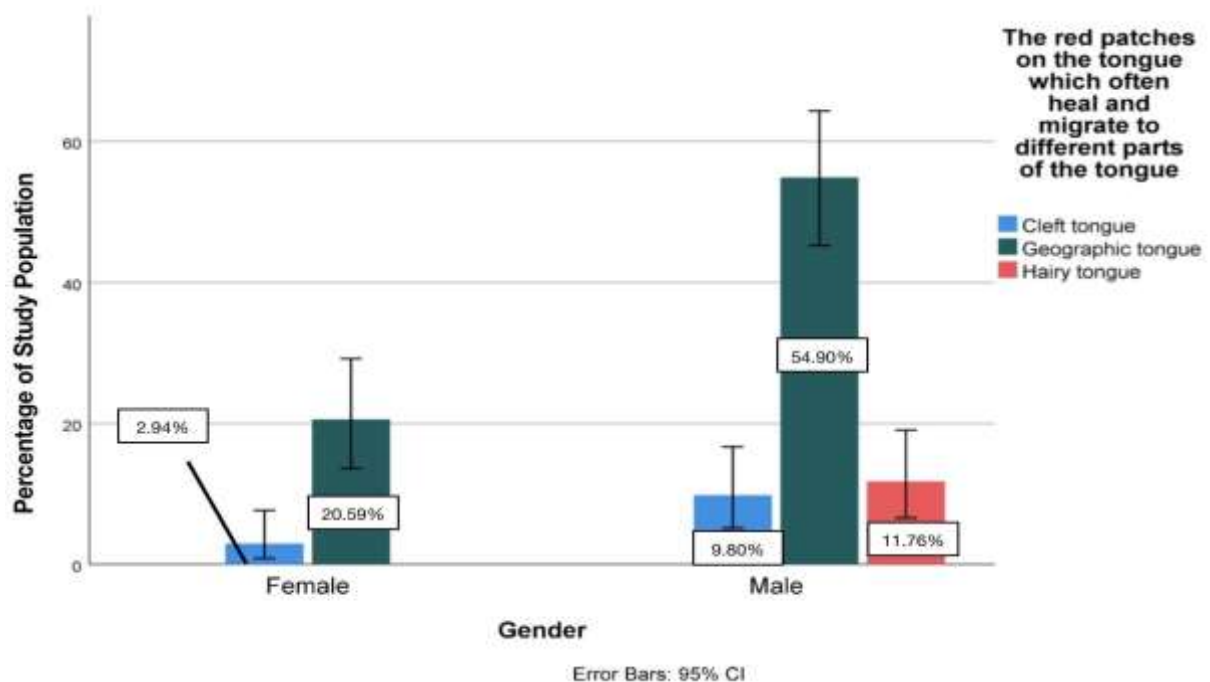


Figure 11: The bar graph depicts the association between gender and knowledge regarding red patches on the tongue. X axis represents gender and Y axis represents the percentage of the study population. Red denotes Cleft tongue, blue denotes Geographic tongue and black denotes Hairy tongue. Males (54.90%) have better knowledge about red patches while compared to females (20.59%). Pearson chi square test was done, pearson chi square value-4.293, p value is 0.004, (p value<0.05). Hence, it is statistically significant.

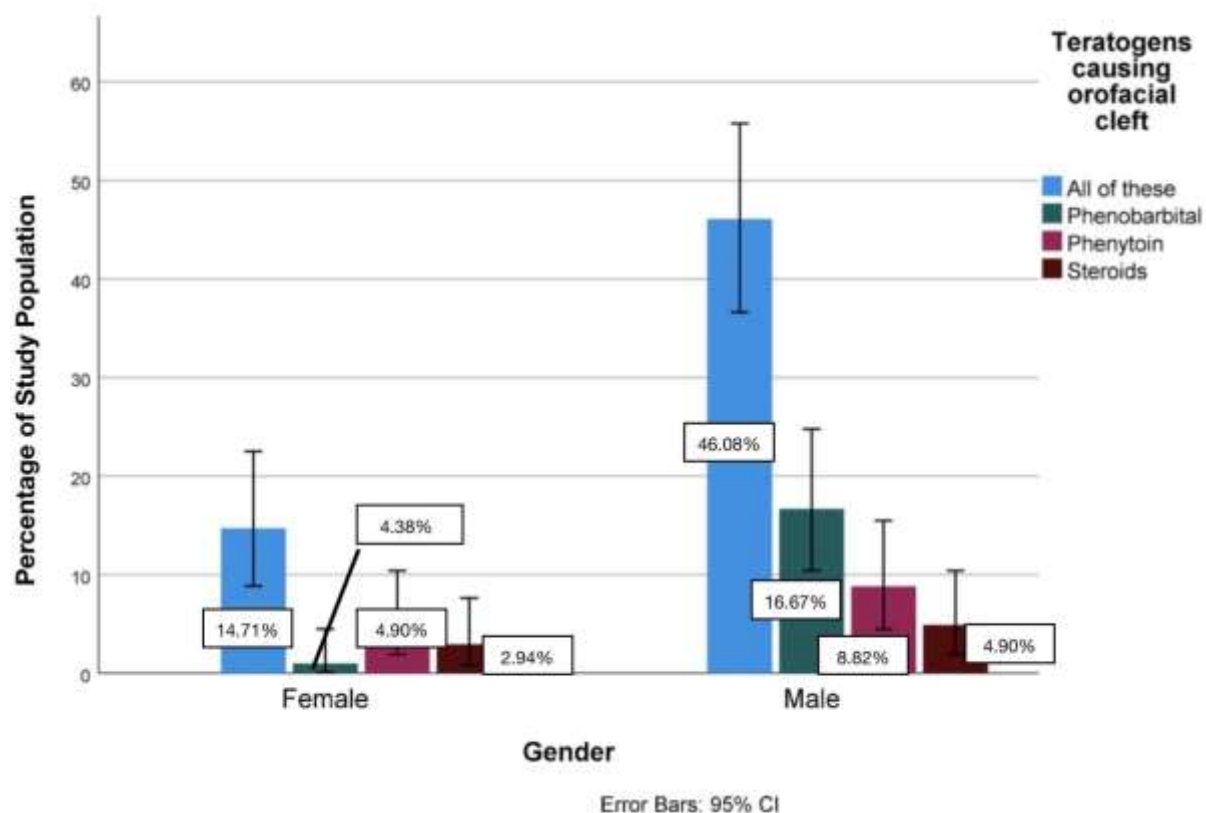


Figure 12: The bar graph depicts the association between gender and knowledge about orofacial clefts. X axis represents gender and Y axis represents the percentage of the study population. Pink denotes All of these, Green denotes Phenobarbital, light pink denotes Phenytoin and purple denotes Steroids. Males (46.08%) have better knowledge about orofacial cleft while compared to females (14.71%). Pearson chi square test was done, pearson chi square value-5.270, p value is 0.020, (p value < 0.05). Hence, it is statistically significant.

DISCUSSION:

In our present study, it was concluded that males have better knowledge when compared to females. In our study, the majority (64.7%) of participants were aware that cleft palate is one of the developmental anomalies and 74.5% were aware of palatoplasty. And 70.6% of participants were aware about inheritance of Vander woude syndrome and 79.4% were aware that Cheilitis granulomatosa is one of the features of Melkerson-Rosenthal syndrome.

Melkerrson-Rosenthal syndrome may be a rare disorder of unknown aetiology and characterized by the triad of oro-facial edema, facial palsy, and furrowing of the tongue. Two or more of the above are essential for making a clinical diagnosis. The mainstay of treatment is corticosteroids (29). In the present study, 79.4% of the dental students knew about Melkersson Rosenthal syndrome which is also known as cheilitis granulomatosa defect. Micrognathia is abnormal smallness of the jaws, usually refers to a small mandible. It is a condition in which the mandible is undersized for the fetal face, giving the fetus the appearance of a small jaw and overbite on profile facial views. Prenatally detected micrognathia is usually one finding of an associated syndrome (30). In the present study, 63.73% of the dental students are aware about symptoms of micrognathia.

Cleft palate may be a genetic disease with lifelong implications, especially when related to other syndromes. It is imperative to involve an interprofessional cleft care team early on in the care of the infant with a cleft palate. A cleft palate may be either unilateral or bilateral and is either complete or incomplete (31,32). In the present study, 63.71% of the dental students knew about cleft palate and 74.5% of the dental students knew about the treatment for cleft palate is done by palliative care.

One among a variety of normal gingival entities that resemble pathologic symptoms is described and referred to as the retrocuspid papilla due to its characteristic position lingual to the mandibular cuspid. The retrocuspid papilla may be a circumscribed round or oval dome-shaped sessile nodule found on the lingual aspect of mandibular canines near the muco- gingival junction (33). Van der Woude syndrome is an autosomal dominant trait and patients typically present with cleft lip, cleft lip and palate, or with cleft palate only. Cleft or bifid uvula and hypernasal voice could also be present as possible isolated finding in certain individuals with van der Woude syndrome (31). Within the present study, the majority (70.6%) of the dental students had knowledge about Van der Woude syndrome which is autosomal dominant. We observed the knowledge about the development defects of the oral cavity among dental students. Most of the dental students have adequate knowledge about the development defects of the oral cavity. The survey was conducted only with a sample size of 120 undergraduates. This cannot be considered as the whole population representation and the result may change statistically. Perfect results can be obtained only with an even larger population. More interactive classes should be included in the schedule for good understanding of the subject. By doing the pictorial representation, students will understand more easily and it will be more interesting.

CONCLUSION:

The present study thus concludes that the dental undergraduates were aware about development defects of the oral cavity. However, males have better knowledge on developmental anomalies when compared to females. Also more interactive classes must be included in the schedule for easy and better understanding of the development defects of the oral cavity.

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CONFLICT OF INTEREST:

All the authors declare that there was no conflict of interest in present study.

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REFERENCE:

1. Guttal KS, Naikmasur VG, Bhargava P, Bathi RJ. Frequency of developmental dental anomalies in the Indian population. *Eur J Dent.* 2010 Jul;4(3):263–9.
2. Wadhwa PD, Buss C, Entringer S, Swanson JM. Developmental origins of health and disease: brief history of the approach and current focus on epigenetic mechanisms. *Semin Reprod Med.* 2009 Sep;27(5):358–68.
3. White SC, Pharoah MJ. *White and Pharoah's Oral Radiology E-Book: Principles and Interpretation.* Elsevier Health Sciences; 2018. 672 p.
4. Chaste P, Leboyer M. Autism risk factors: genes, environment, and gene-environment interactions. *Dialogues Clin Neurosci.* 2012 Sep;14(3):281–92.
5. Gautam PK, Department of Microbiology, Government Medical College Kannauj, Pradesh U, India. Senerio of Sero-Prevalence of Hepatitis B Infection in Rular Area in East Uttar Pradesh: A Hospital Based Study [Internet]. Vol. 6, *Journal of Medical Science And clinical Research.* 2018. Available from: <http://dx.doi.org/10.18535/jmscr/v6i11.55>
6. Gupta SK, Saxena P, Jain S, Jain D. Prevalence and distribution of selected developmental dental anomalies in an Indian population [Internet]. Vol. 53, *Journal of Oral Science.* 2011. p. 231–8. Available from: <http://dx.doi.org/10.2334/josnurd.53.231>
7. Shah RM, Boyd MA, Vakil TF. Studies of permanent tooth anomalies in 7,886 Canadian individuals. I: impacted teeth. *Dent J.* 1978 Jun;44(6):262–4.
8. al-Emran S. Prevalence of hypodontia and developmental malformation of permanent teeth in Saudi Arabian schoolchildren. *Br J Orthod.* 1990 May;17(2):115–8.
9. Princeton B, Santhakumar P, Prathap L. Awareness on Preventive Measures taken by Health Care Professionals Attending COVID-19 Patients among Dental Students. *Eur J Dent.* 2020

Dec;14(S 01):S105–9.

10. Mathew MG, Samuel SR, Soni AJ, Roopa KB. Evaluation of adhesion of *Streptococcus mutans*, plaque accumulation on zirconia and stainless steel crowns, and surrounding gingival inflammation in primary molars: randomized controlled trial. *Clin Oral Investig*. 2020 Sep;24(9):3275–80.
11. Sridharan G, Ramani P, Patankar S, Vijayaraghavan R. Evaluation of salivary metabolomics in oral leukoplakia and oral squamous cell carcinoma. *J Oral Pathol Med*. 2019 Apr;48(4):299–306.
12. R H, Hannah R, Ramani P, Ramanathan A, Jancy MR, Gheena S, et al. CYP2 C9 polymorphism among patients with oral squamous cell carcinoma and its role in altering the metabolism of benzo[a]pyrene [Internet]. Vol. 130, *Oral Surgery, Oral Medicine, Oral Pathology and Oral Radiology*. 2020. p. 306–12. Available from: <http://dx.doi.org/10.1016/j.oooo.2020.06.021>
13. Antony JVM, Ramani P, Ramasubramanian A, Sukumaran G. Particle size penetration rate and effects of smoke and smokeless tobacco products - An invitro analysis. *Heliyon*. 2021 Mar 1;7(3):e06455.
14. Sarode SC, Gondivkar S, Sarode GS, Gadbail A, Yuwanati M. Hybrid oral potentially malignant disorder: A neglected fact in oral submucous fibrosis. *Oral Oncol*. 2021 Jun 16;105390.
15. Hannah R, Ramani P, WM Tilakaratne, Sukumaran G, Ramasubramanian A, Krishnan RP. Author response for “Critical appraisal of different triggering pathways for the pathobiology of pemphigus vulgaris—A review” [Internet]. Wiley; 2021. Available from: <https://publons.com/publon/47643844>
16. Chandrasekar R, Chandrasekhar S, Sundari KKS, Ravi P. Development and validation of a formula for objective assessment of cervical vertebral bone age. *Prog Orthod*. 2020 Oct 12;21(1):38.
17. Subramanyam D, Gurunathan D, Gaayathri R, Vishnu Priya V. Comparative evaluation of salivary malondialdehyde levels as a marker of lipid peroxidation in early childhood caries. *Eur J Dent*. 2018 Jan;12(1):67–70.
18. Jeevanandan G, Thomas E. Volumetric analysis of hand, reciprocating and rotary instrumentation techniques in primary molars using spiral computed tomography: An in vitro comparative study. *Eur J Dent*. 2018 Jan;12(1):21–6.
19. Ponnulakshmi R, Shyamaladevi B, Vijayalakshmi P, Selvaraj J. In silico and in vivo analysis to identify the antidiabetic activity of beta sitosterol in adipose tissue of high fat diet and sucrose induced type-2 diabetic experimental rats. *Toxicol Mech Methods*. 2019 May;29(4):276–90.
20. Sundaram R, Nandhakumar E, Haseena Banu H. Hesperidin, a citrus flavonoid ameliorates hyperglycemia by regulating key enzymes of carbohydrate metabolism in streptozotocin-induced diabetic rats. *Toxicol Mech Methods*. 2019 Nov;29(9):644–53.

21. Alsawalha M, Rao CV, Al-Subaie AM, Haque SKM, Veeraraghavan VP, Surapaneni KM. Novel mathematical modelling of Saudi Arabian natural diatomite clay. *Mater Res Express*. 2019 Sep 4;6(10):105531.
22. Yu J, Li M, Zhan D, Shi C, Fang L, Ban C, et al. Inhibitory effects of triterpenoid betulin on inflammatory mediators inducible nitric oxide synthase, cyclooxygenase-2, tumor necrosis factor-alpha, interleukin-6, and proliferating cell nuclear antigen in 1, 2-dimethylhydrazine-induced rat colon carcinogenesis. *Pharmacogn Mag*. 2020;16(72):836.
23. Shree KH, Hema Shree K, Ramani P, Herald Sherlin, Sukumaran G, Jeyaraj G, et al. Saliva as a Diagnostic Tool in Oral Squamous Cell Carcinoma – a Systematic Review with Meta Analysis [Internet]. Vol. 25, *Pathology & Oncology Research*. 2019. p. 447–53. Available from: <http://dx.doi.org/10.1007/s12253-019-00588-2>
24. Zafar A, Sherlin HJ, Jayaraj G, Ramani P, Don KR, Santhanam A. Diagnostic utility of touch imprint cytology for intraoperative assessment of surgical margins and sentinel lymph nodes in oral squamous cell carcinoma patients using four different cytological stains. *Diagn Cytopathol*. 2020 Feb;48(2):101–10.
25. Karunakaran M, Murali P, Palaniappan V, Sivapathasundharam B. Expression and distribution pattern of podoplanin in oral submucous fibrosis with varying degrees of dysplasia – an immunohistochemical study [Internet]. Vol. 42, *Journal of Histotechnology*. 2019. p. 80–6. Available from: <http://dx.doi.org/10.1080/01478885.2019.1594543>
26. Sarode SC, Gondivkar S, Gadbail A, Sarode GS, Yuwanati M. Oral submucous fibrosis and heterogeneity in outcome measures: a critical viewpoint. *Future Oncol*. 2021 Jun;17(17):2123–6.
27. Raj Preeth D, Saravanan S, Shairam M, Selvakumar N, Selestin Raja I, Dhanasekaran A, et al. Bioactive Zinc(II) complex incorporated PCL/gelatin electrospun nanofiber enhanced bone tissue regeneration. *Eur J Pharm Sci*. 2021 May 1;160:105768.
28. Prithiviraj N, Yang GE, Thangavelu L, Yan J. Anticancer Compounds From Starfish Regenerating Tissues and Their Antioxidant Properties on Human Oral Epidermoid Carcinoma KB Cells. In: PANCREAS. LIPPINCOTT WILLIAMS & WILKINS TWO COMMERCE SQ, 2001 MARKET ST, PHILADELPHIA ...; 2020. p. 155–6.
29. Dodi I, Verri R, Brevi B, Bonetti L, Balestrier A, Saracino A, et al. A monosymptomatic Melkersson-Rosenthal syndrome in an 8-year old boy. *Acta Biomed*. 2006 Apr;77(1):20–3.
30. Micrognathia [Internet]. *Encyclopedia of Genetics, Genomics, Proteomics and Informatics*. 2008. p. 1208–1208. Available from: http://dx.doi.org/10.1007/978-1-4020-6754-9_10354
31. Newman MA, Nartey NO, Nyako EA. Van Der Woude syndrome: report of a case [Internet]. Vol. 39, *Ghana Medical Journal*. 2006. Available from: <http://dx.doi.org/10.4314/gmj.v39i2.35985>
32. Phalke N, Goldman JJ. Cleft Palate. In: *StatPearls*. Treasure Island (FL): StatPearls Publishing;

2021.

33. Desai V, Pratik P. RETROCUSPID PAPILLA: A CASE REPORT [Internet]. Vol. 4, INTERNATIONAL RESEARCH JOURNAL OF PHARMACY. 2014. p. 93–93. Available from: <http://dx.doi.org/10.7897/2230-8407.041221>