

# Knowledge of cleft lip and cleft palate among medical students of a tertiary care hospital in south India

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## Abstract

**Background:** Sufficient knowledge and awareness of cleft lip and palate deformity is required to identify and manage at the condition at the earliest.

**Objectives:** This study was conducted to assess the awareness and knowledge of medical students on cleft lip and palate. To assess the understanding of the possible causative factors of cleft lip and palate **among the same population.**

**Materials and methodology:** a cross sectional study was carried out among 128 medical students attending a tertiary care hospital in south India. This was performed through a researcher administered questionnaire which contained queries regarding risk factors and management.

**Results:** A total of 89.1% of the subjects were aware of the term cleft lip and palate with the majority being females. Though they were not well informed regarding the treatment procedures, and timings. The results were then interpreted in table formats for better understanding of the level of education on the topic.

**Conclusion:** There is a general lacking of experience in the diagnosis and management of cleft lip and palate among medical students which should be addressed to ensure timely cure and quality of life of the patients.

**Keywords:** cleft lip, cleft palate, knowledge, awareness, medical students, south India.

## Introduction

Cleft lip and cleft palate are some of the most severe congenital anomalies affecting the oral cavity and its surrounding structures, where there is an abnormal gap in the upper lip, alveolus,

or the hard palate.<sup>[1]</sup> In the Indian subcontinent, the prevalence of this defect is around 27,000 to 33,000 per year. This along with an accumulation of untreated clefts pose a significant health problem in the country.<sup>[2]</sup> Recent studies have found that environmental and genetic factors together are the probable cause for the anomaly.<sup>[3]</sup> This condition needs an organized multidisciplinary approach for management, which includes specialists from various departments.<sup>[4,5]</sup> As future doctors, medical students are required to have adequate knowledge on the subject so as to refer them to the right specialist at the earliest possible. The current study aims to assess this aspect and the possible risk factors associated with the disorder.

### **Materials and methods:**

**Study design:** Among the medical students of a tertiary care hospital in south India, a cross-sectional study was conducted.

**Study period:** The study period lasted from February to September of 2021 during which data collection, analysis, and article writing was done.

**Study population:** Medical students attending Saveetha Medical College were chosen as the study population, where the study was conducted.

**Inclusion and exclusion criteria:** Students who were present during the study period, and who were above the age of 18 years were included in the study, while unwilling, and absent students during the study period were excluded from the study.

**Study tool:** The study tool solicited information regarding demographic details and knowledge about cleft lip and palate. The questionnaire that was used in the study was fully self-constructed, and validated adequately by the authors.

**Data collection and analysis:** The data was collected by distributing a self-administered questionnaire among the study population, which was filled out by consenting individuals, the received responses were then entered in Microsoft Excel, and analysis was performed on the same.

## Results

A total of 128 responses were considered in the study, excluding incomplete forms. The participants were spread from first to final year students, final year students being the highest responders. Females participated actively than males. Table 1 gives the demographic details of the study subjects.

**Table 1 demographic details of the study subjects**

Year of study	Female n (%)	Male n (%)	Grand Total (%)
1st year	7(43.75)	9(56.25)	16(12.5)
2nd year	12(46.15)	14(53.84)	26(20.3)
3rd year part 1	20(58.82)	14(41.17)	34(26.6)
3rd year part 2	28(53.84)	24(46.15)	52(40.6)
<b>Grand Total</b>	<b>67(52.34)</b>	<b>61(47.65)</b>	<b>128(100)</b>

About 114(89.1%) of them were aware of the terms cleft lip and cleft palate, 7(%) had a vague idea, and 7(5.5%) had not heard about it. On questions accessing the knowledge of factors that can cause clefting, 60(46.9%) people were not aware that smoking during pregnancy may cause cleft lip and palate. Knowledge on other factors are presented in Table 2.

**Table 2: Knowledge on other factors**

Causative factors	Categories	Total	Percentage(%)
Chemical substance exposure during pregnancy	Yes	96	75
	No	32	25
Consanguineous marriage	Yes	96	75
	No	32	25
Smoking and alcohol consumption during pregnancy	Yes	86	67.2
	No	42	32.8
Folic acid deficiency	Yes	92	71.9
	No	36	28.1
Medicines like phenytoin, valproic acid, trimethadion	Yes	105	82
	No	23	18
Genetics	Yes	62	48.4
	No	66	51.6

On questioning their source of knowledge about cleft lip and palate, it was found that 39.8% knew it through self-education, 37.5% from health professionals, 14.8% from media, and the rest from friends, family, relatives, and neighbors. 90(70.3%) were aware that an intrauterine diagnosis of cleft lip and cleft palate can be made, whereas 38(29.7%) did not know. Various factors which play an important role in management of a cleft child was assessed and recorded, the details of which are presented in Table 3.

**Table 3 Questionnaire survey**

Question	Categories	Total	Percentage (%)
Does management require a multidisciplinary approach?	Yes	77	60.2
	No	11	8.6
	Not always	32	25
	Rarely	8	6.3
Who all are the participants of the team?	Feeding specialist, nurse coordinator, plastic/ craniofacial surgeon, and otolaryngologist.	32	25
	Pedodontist, orthodontist, and prosthodontist	10	7.8
	Geneticist, speech therapist, and social worker.	0	0
	All of the above	86	67.2
Who do you refer a cleft patient to?	Pedodontist	20	15.6
	Orthodontist	21	16.4
	Craniofacial surgeon	79	61.7
	Speech therapist	8	6.3
Which specialty performs Nasoalveolar Molding (NAM)?	Prosthodontist	6	4.7
	Orthodontist	29	22.7
	Craniofacial surgeon	70	54.7
	Pedodontist	23	18

Which specialty is involved in fabrication of the NAM appliance?	Prosthodontist	39	30.6
	Orthodontist	30	23.4
	Craniofacial surgeon	43	33.6
	Pedodontist	16	12.5
What are the age criteria for performing NAM?	Immediately after birth till 5 years	39	30.5
	2 weeks after birth till 6 months after birth	47	36.7
	Immediately after birth till 3 months after birth	23	18
	2 weeks to 9 months after birth	19	14.8

When asked about the sequelae of management of cleft lip and palate twenty seven(21.1%) replied as CL/P repair, NAM, rhinoplasty, ear surgery, orthodontic treatment, and orthognathic surgery, nineteen (14.8%) chose the option CL/P repair, rhinoplasty, ear surgery, NAM, orthognathic surgery, orthodontic treatment. Thirty four (26.6%) responded as NAM, CL/P repair, ear surgery, rhinoplasty, orthodontic treatment, and orthognathic surgery, while forty eight (37.5%) said all of the above options.

### **Discussion:**

Cleft lip and cleft palate are disorders that can be largely prevented and surgical correction can lead to normalcy and satisfactory quality of life. Among the general public the awareness of the disease is poor like in Nepal.<sup>[6]</sup> A majority of 89.1% knew the term cleft lip and palate which was not surprising as they are medical students. About three-quarters of the students agreed that chemical substance exposure and consanguineous marriages can be possible risk factors.<sup>[7]</sup> While only 67.2% thought that smoking is an important hazard during pregnancy which can cause clefting. Various observations have shown that genetic factors like monozygotic twins have a higher risk.<sup>[8]</sup> other factors that are known to cause the anomaly are alcoholism<sup>[9]</sup>, increased maternal age, passive smoking<sup>[11]</sup>, pregestational diabetes. Some studies have also found that folate supplementation<sup>[10]</sup> can reduce the incidence by one-third. The aim of management is to address the functional and cosmetic deformity. The surgery is usually performed between 10 and 12 weeks of age by many, as a part of “rule of ten” which are: weight over 10 lbs, hemoglobin over 10 g, age over 10 weeks.<sup>[12]</sup> 70.1% of the respondents were conscious of the fact that the

process of treatment requires specialists from various fields. Though they were not knowledgeable of all the departments involved like oral/maxillofacial surgery, otolaryngology, genetics/dysmorphology, speech/language pathology, orthodontics, prosthodontics, and other.<sup>[4]</sup> All the above information shows that though medical students are familiar with the topic, their in depth understanding is greatly lacking in the management aspect. This study is limited only to a particular area and only students who responded to the specific topic, hence the wisdom of all medical students cannot be analysed.

## Conclusion

In this study, the level of awareness of medical students regarding the possible factors that can cause cleft lip and cleft palate and when to detect them was found to be lacking in certain aspects. The familiarity regarding the sequelae of treatment and management criteria of the same was also studied.

**Ethical approval:** Before the study was conducted, necessary ethical clearance was obtained from the Institutional Ethics Committee, Saveetha Medical College.

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