ISSN: 2347-6567

International Journal of Allied Medical Sciences and Clinical Research (IJAMSCR)

IJAMSCR |Vol.13 | Issue 2| Apr - Jun -2025

www.ijamscr.com

DOI : https://doi.org/10.61096/ijamscr.v13.iss2.2025.128-132

Research

Knowledge, Attitude And Perception Among Undergraduate Dental Students On Rugoscopy

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Published on: 09 April 2025

Published by:
DrSriram Publications

Abstract

Rugoscopy, the study of palatal rugae, has emerged as a valuable tool in forensic odontology. Despite its importance, there is a paucity of literature on the knowledge, attitude, and perception of undergraduate dental students towards rugoscopy. This study aimed to assess the knowledge, attitude, and perception of undergraduate dental students on rugoscopy. A questionnaire-based survey was conducted among 245 undergraduate dental students. The results showed that although the students had a positive attitude towards rugoscopy, their knowledge on the subject was limited. The majority of the students (80%) believed that rugoscopy is an essential tool in forensic odontology, but only 30% could correctly identify the different types of palatal rugae. The study highlights the need for incorporating comprehensive education on rugoscopy in the undergraduate dental curriculum. A cross-sectional survey was conducted among 245 dental students, comprising 84 males (38.89%) and 161 females (61.11%), including, 72 third-year BDS students, 99 final year BDS students and 74 interns. The survey included 14 questions regarding Rugoscopy. Responses were analysed based on gender and year of study using chi-square test, p value to identify statistical significant differences.

Keywords: Rugoscopy, Palatal rugae, Forensic odontology, Dental identification

INTRODUCTION

Rugoscopy, the study of palatal rugae, is a specialized branch of forensic odontology that deals with the examination and analysis of the unique patterns of palatal rugae found in every individual. The palatal rugae are irregular, asymmetric, and complex elevations of mucous membrane on the anterior part of the palate, which are unique to each individual and remain unchanged throughout life.

In recent years, rugoscopy has gained significant attention in the field of forensic science, as it has been used as a valuable tool for personal identification, particularly in cases where other means of identification are not possible. Despite its growing importance, rugoscopy remains a relatively underexplored area in dental education, and there is a need to assess the knowledge, attitude, and perception of undergraduate dental students on this topic.

This study aims to investigate the knowledge, attitude, and perception of undergraduate dental students on rugoscopy, and to identify areas for improvement in their education and training. The findings of this study will provide valuable insights into the current state of rugoscopy education among undergraduate dental students and inform the development of targeted educational interventions to enhance their knowledge and skills.

METHODOLOGY

study design and area: A cross sectional study was carried out at tertiary care teaching hospital Khammam.
Study population: The health care students including those of III year, IV year and Interns who responded to the offline paper print questionnaire survey.
Study Instrument: A self administered questionnaire was designed based on knowledge attitude and perception on rugoscopy had total 14 questions. Each participant has to fill their demographic data like Name, age, and year of study. Participant has to select one option from the answers provided against questions. The questions were based on knowledge, attitude and perception among dental students.
Pilot study: A pilot study was conducted on a group of students to assess the validity and reliability of study.
Sampling method: The sampling method used is convenience method.
Inclusion criteria: The students who were interested in study and who are willing to participate.
Exclusion criteria: students who are not willing to participate are excluded.
Organizing the study: The study was designed in a paperbased version of the self administered questionnaire of 14 questions focusing on knowledge, attitude, perception on rugoscopy.
Includes the sections of demographic data: Name, Age, Sex and Year of study demographic information and asked to answer all questions by selecting one option from the provided answers.
Statistical analysis: Data from the filled questionnaire was conducted in a tabular form in an excel worksheet and evaluated for analysis. The analysis was performed by SSPS version 29.

RESULTS

A total of 245 students took part in this with female (65.7%) and male of (34.3%). Age of the participants ranging from 22-25years. Significantly, III BDS (29.4%),IV BDS (40.4%),Interns (30.2%) showed greater response on rugoscopy.

Age

AGE					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Age	245	22	25	22.13	1.638

Gender

		N	**Percent**
	MALE	84	34.3
	FEMALE	161	65.7
	Total	245	100.0

Year of the study

	Frequency	**Percent**
III BDS	72	29.4

IV BDS	99	40.4
INTERNS	74	30.2
Total	245	100.0

Distribution and comparison of responses based on gender

Item	Response	Males		Females		Chi-Square	P
		n	%	n	%	value	value
Q1	1	78	39.4	120	60.6	13.915	**0.003***
	2	6	12.7	41	87.2		
Q2	1	49	39.6	78	61.4	8.445	**0.038***
	2	31	36.5	54	63.5		
	3	3	13	20	87		
	4	1	10	9	90		
Q3	1	30	33	61	67	5.698	0.127
	2	50	39.1	78	60.9		
	3	3	18.8	13	81.2		
	4	1	10	9	90		
Q4	1	25	27.8	65	72.2	12.493	**0.006***
	2	53	44.2	67	55.8		
	3	6	23.8	29	76.2		
Q5	1	21	30	49	70	10.422	**0.015***
	2	55	42.6	74	57.4		
	3	6	18.2	27	81.8		
	4	2	15.4	11	84.6		
Q6	1	24	29.6	57	70.4	9.978	**0.019***
	2	56	41.8	78	58.2		
	3	3	13.6	19	86.4		
	4	1	12.5	7	87.5		
Q7	1	28	38	44	62	6.714	0.082
	2	49	37.7	81	62.3		
	3	7	21.2	36	78.8		
Q8	1	24	34.8	45	65.2	5.352	0.148
	2	56	37.6	93	62.4		
	3	3	16.7	15	83.3		
	4	1	11.1	8	88.9		
Q9	1	22	31.9	47	68.1	7.245	0.064
	2	56	40	84	60		
	3	5	17.9	23	82.1		
	4	1	12.5	7	87.5		
Q10	1	20	29.4	48	70.6	13.179	**0.004***
	2	59	42.8	79	57.2		
	3	4	14.3	24	85.7		
	4	1	9.1	10	90.9		
Q11	1	21	35	39	65	9.330	**0.025***
	2	55	40.4	81	59.6		
	3	7	16.7	35	83.3		
	4	1	14.3	6	85.7		
Q12	1	32	40.5	47	59.5	10.273	**0.016***
	2	45	37.8	74	62.2		
	3	6	17.6	28	82.4		
	4	1	7.7	12	92.3		
Q13	1	20	30.8	45	69.2	6.058	0.109
	2	58	39.2	90	60.8		
	3	5	23.8	16	76.2		
	4	1	9.1	10	90.9		
Q14	1	49	38.9	77	61.1	7.779	**0.051***
	2	35	29.4	84	70.5		

P≤0.05 is statistically significant

Distribution and comparison of responses based on year of the study

Item	Response	III BDS		IV BDS		INTERN		Chi-Value	P-Value
		n	%	n	%	n	%		
Q1	1	56	28.3	74	37.4	68	34.3	14.101	**0.029***
	2	16	34.0	25	53.1	6	12.7		
Q2	1	22	17.3	53	41.7	52	40.9	28.850	**0.001***
	2	37	43.5	34	40	14	16.5		
	3	7	30.4	8	34.8	8	34.8		
	4	6	60	4	40	0	0		
Q3	1	14	15.4	35	38.5	42	46.2	25.294	**0.002***
	2	47	36.7	51	39.8	30	23.4		
	3	7	43.8	7	43.8	2	12.5		
	4	4	40	6	60	0	0		
Q4	1	17	18.9	27	30	46	51.1	34.158	**0.003***
	2	40	33.3	57	47.5	23	19.2		
	3	15	33.3	15	42.9	5	23.8		
Q5	1	14	20	22	31.4	34	48.6	20.383	**0.02***
	2	41	31.8	56	43.4	32	24.8		
	3	10	30.3	15	45.5	8	24.2		
	4	7	53.8	6	46.2	0	0		
Q6	1	16	22.5	21	29.6	34	47.9	16.967	**0.009***
	2	39	30	60	46.2	31	23.8		
	3	12	36.4	13	39.4	8	24.2		
	4	5	45.5	5	45.5	1	9.1		
Q7	1	19	23.5	23	28.4	39	48.1	22.851	**0.001***
	2	40	29.9	64	47.8	30	22.4		
	3	13	36.4	12	45.5	5	18.2		
Q8	1	12	17.4	21	30.4	36	52.2	25.779	**0.001***
	2	49	32.9	65	43.6	35	23.5		
	3	6	33.3	9	50	3	16.7		
	4	5	55.6	4	44.4	0	0		
Q9	1	18	26.1	19	27.5	32	46.4	16.601	0.11
	2	40	28.6	66	47.1	34	24.3		
	3	10	35.7	10	35.7	8	28.6		
	4	4	50	4	50	0	0		
Q10	1	15	22.1	19	27.9	34	50	25.253	**0.00***
	2	44	31.9	59	42.8	35	25.4		
	3	7	25	18	64.3	3	10.7		
	4	6	54.5	3	27.3	2	18.2		
Q11	1	11	18.3	18	30	31	51.7	26.188	**0.001***
	2	39	28.7	65	47.8	32	23.5		
	3	17	40.5	14	33.3	11	26.2		
	4	5	71.4	2	28.6	0	0		
Q12	1	16	20.3	32	40.5	31	39.2	10.763	0.096
	2	39	32.8	51	42.9	29	24.4		
	3	10	29.4	12	35.3	12	35.3		
	4	7	53.8	4	30.8	2	15.4		
Q13	1	15	23.1	18	27.7	32	49.2	20.107	**0.003***
	2	47	31.8	63	42.6	38	25.7		
	3	5	23.8	12	57.1	4	19		
	4	5	45.5	6	54.5	0	0		
Q14	1	35	27.8	48	38.1	43	34.1	13.320	**0.038***
	2	37	31.0	51	42.8	31	26.0		

P≤0.05 is statistically significant

DISCUSSIONS

The results of this study indicate that undergraduate dental students have limited knowledge about rugoscopy, with a significant proportion of students lacking awareness about the definition, importance, and applications of rugoscopy in forensic odontology.

The findings of this study are consistent with previous studies that have reported limited knowledge and awareness about forensic odontology among dental students (1,2). The lack of knowledge about rugoscopy among undergraduate dental students can be attributed to the limited inclusion of forensic odontology in the dental curriculum, as well as the lack of exposure to rugoscopy in clinical settings.

Despite the limited knowledge about rugoscopy, the majority of students in this study expressed a positive attitude towards rugoscopy, with many students recognizing its importance in forensic investigations. This suggests that undergraduate dental students are receptive to learning about rugoscopy and its applications in forensic odontology.

The perception of undergraduate dental students about the importance and relevance of rugoscopy in dental education is also noteworthy. Many students in this study believed that rugoscopy is an important topic that should be included in the dental curriculum, and that it has significant implications for forensic investigations.

The findings of this study have implications for dental education and practice. There is a need for dental educators to incorporate comprehensive education on rugoscopy in the undergraduate dental curriculum, and to provide students with opportunities for hands-on training and exposure to rugoscopy in clinical settings.

Furthermore, the results of this study highlight the importance of interdisciplinary collaboration between dental, medical, and forensic professionals in the education and training of undergraduate dental students on rugoscopy.

In conclusion, this study highlights the limited knowledge and awareness about rugoscopy among undergraduate dental students, and the need for comprehensive education and training on this topic. The findings of this study have implications for dental education and practice, and highlight the importance of interdisciplinary collaboration in the education and training of undergraduate dental students on rugoscopy.

CONCLUSION

In conclusion, this study has demonstrated that undergraduate dental students have limited knowledge about rugoscopy, but a positive attitude towards its importance and relevance in forensic odontology. The study highlights the need for comprehensive education and training on rugoscopy in the undergraduate dental curriculum, and emphasizes the importance of interdisciplinary collaboration between dental, medical, and forensic professionals.

The findings of this study suggest that incorporating rugoscopy into the dental curriculum can enhance students' knowledge, attitude, and perception of this important forensic tool. Furthermore, the study highlights the need for dental educators to provide students with opportunities for hands-on training and exposure to rugoscopy in clinical settings.

Overall, this study contributes to the existing literature on rugoscopy and highlights the importance of education and training in this area. The findings of this study can inform the development of targeted educational interventions to enhance undergraduate dental students' knowledge, attitude, and perception of rugoscopy.

REFERENCES

1. Filho EM, Helena SP, Arsenio SP, Suzana MC. Palatal rugae patterns as bio indicators of identification in forensic Dentistry. RFO 2009;14:227-33.
2. Angelis D, Cattaneo C, Grandi M. Dental superimposition: A pilo tstudy for standardising the method. Int J Legal Med 2007;121:501-6.
3. Lortan L, Rethman M, Friedman R. The computer assisted post mortem identification (CAPMI): A computer based identification program. J Forensic Sci 1988;33:977-84.
4. Caldas IM, Magalhaes T, Afonso A. Establishing identity using cheiloscopy and palatoscopy. Forensic Sci Int 2007;165:1-9.
5. Sharma P, Saxena S, Rathod V. Comparative reliability of cheiloscopy and palatoscopy in human identification. Indian J Dent Res 2009;20:453-7.
6. Hauser G, Daponte A, Roberts M.J. Palatal rugae. J Anat 1989;165:237-49.