

## EXPLORING THE DENTAL HEALTH BELIEFS AND PRACTICES OF COLLEGE STUDENTS IN RELATION TO SCALING AND ROUTINE DENTAL CHECK-UPS AND ITS ASSOCIATION WITH SOCIODEMOGRAPHIC FACTORS IN DISTRICT MANSEHRA KPK

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### ABSTRACT

**Background:** Maintaining good oral hygiene practice and receiving routine dental check-up are crucial for preventing dental diseases. Dental scaling is a common dental procedure that involves removing the calculus and other debris from the teeth.

**Objective:** This study aimed to explore the dental health beliefs and practices of college students in District Mansehra regarding scaling and routine dental checkups and identify the sociodemographic factors that influence dental health behaviors.

**Methodology:** A cross-sectional survey was conducted among 200 college students including females and males in District Mansehra, and data was collected using a self-administered questionnaire. Descriptive statistics is used to analyze the data through SPSS .

**Result:** Only 37% of college students adhere to regular dental checkups every six months, and a mere 16.5% express a positive attitude towards dental scaling. Notably, there are no statistically significant differences in dental check-up rates between genders ( $P = 0.210$ ), housing arrangements (own vs. rented,  $P = 0.494$ ), or education levels ( $P = 0.598$ ). Similarly, there is no significant variance in attitudes towards scaling based on gender ( $P = 0.116$ ), urban/rural residence ( $P = 0.459$ ), housing status ( $P = 0.531$ ), or education level ( $P = 0.295$ ). Overall, the study underscores the unsatisfactory dental care habits among college students and suggests a widespread negative perception of routine dental check-ups and scaling.

**Conclusion:** The findings of the study provide valuable insights into the oral health needs of this population and inform the development of culturally appropriate oral health promotion programs.

**Keywords:** Dental Health beliefs and Practice, Routine Dental Check-up, Sociodemographic factors.

### INTRODUCTION

Establishing a routine of dental check-ups plays a vital role in preserving oral health and preventing oral ailments. Regular dental visits are closely linked to

maintaining good oral hygiene.<sup>1,2</sup> Rosenstock's health belief model, a widely recognized theoretical framework, elucidates health behaviors by emphasizing an individual's beliefs concerning health-related actions. This model encompasses four key constructs: perceived vulnerability, gravity, advantages, and obstacles. These elements were conceptualized to elucidate an individual's motivation to engage in proactive behavior.<sup>3, 4</sup> Scaling and polishing, also known as prophylaxis or professional mechanical plaque removal, removes plaque and calculus buildup from teeth surfaces. This routine procedure helps prevent and reduce gum

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diseases like gingivitis and periodontitis, promoting good oral health and preventing more severe dental issues from arising.<sup>5</sup> Routine scaling and polishing for patients, even those at low risk of periodontal disease, is a subject of debate in the dental community. Its effectiveness and optimal frequency for healthy adults are still under discussion, despite its widespread use in general dental practice.<sup>6</sup> Maintaining good oral health is crucial for overall well-being and quality of life, given the strong link between oral and general health. Systemic diseases often present in the oral cavity, such as periodontal disease in diabetes. Periodontal diseases affect cardiovascular health and impact conditions like hypertension, Alzheimer's, and diabetes. Regular dental checkups and oral hygiene are vital for managing overall health.<sup>7,8</sup>

Oral and dental diseases are widespread globally, impacting around 3.5 billion individuals. The majority of affected people, particularly in middle-income countries like Pakistan, suffer from dental caries and periodontal diseases, leading to tooth loss among adults.<sup>9</sup> In developing and underdeveloped countries, the costly nature of oral disease treatment poses a challenge for healthcare systems. Limited access to affordable care exacerbates complications and adverse health outcomes. Raising awareness and improving access to affordable dental care is vital for effective prevention and management<sup>10</sup>.

Negative beliefs and attitudes, coupled with dental fear and anxiety, hinder individuals from seeking routine dental check-ups and scaling. Lack of awareness, financial constraints, and the cost of treatment further impede access to dental care. Addressing these barriers requires raising awareness, improving access to affordable care, and enhancing patient education and support to promote better oral health practices.<sup>11</sup> Insufficient oral health beliefs and practices among the general population pose challenges in effectively diagnosing, treating, and preventing oral diseases. Mansehra, a significant city in KPK, Pakistan, offers an opportunity to assess the oral health beliefs and practices of a diverse college student population. However, there is currently no available data on this topic.

Therefore, this study aims to evaluate college students' oral health beliefs and practices, considering sociodemographic factors. The goal is to provide valuable insights for healthcare authorities to develop

oral health education programs that promote positive beliefs and practices, specifically related to scaling and routine dental check-ups. By doing so, we aim to foster better oral health practices and reduce the prevalence of oral and periodontal diseases among college students in Mansehra.

## METHODOLOGY

The research study was conducted in accordance with the principles outlined in the Helsinki Declaration of 2013<sup>12</sup>. Ethical permission was taken from ethical board of Bacha Khan medical college. College students enrolled in FSC Part 1 and Part 2 in the Mansehra district were approached and informed of the study's objectives and aims. All participants provided written informed consent before participating in the study. A total of 200 participants, consisting of 129 males and 71 females with a mean age of 17.94, were included in the study.

Participants who were absent or physically challenged were excluded from the study. Upon obtaining written informed consent, the research team provided the participants with a self-administered, close-ended, structured questionnaire.

The questionnaire was specifically designed by the research team for this study. The purpose of the questionnaire was to gather data on the oral health beliefs and practices of college students in the Mansehra district, specifically their attitudes towards scaling and routine dental check-ups, as well as any sociodemographic factors that may be associated with these beliefs and practices.

## Study Design

A cross-sectional survey will be conducted among 200 college students including females and males in District Mansehra.

Sample Size: 200 participants

Sampling Technique: Convenience sampling (Non probability sampling).

Sampling Selection:

Inclusion Criteria: 1. 1st year male and female 2. 2nd year male and female Exclusion Criteria:

1. Other than students of 1st and 2nd year 2. Students with co-morbidities. 3. Those who are absent

Data Analysis Procedure: The completed question-

naires were coded, compiled, and entered into Microsoft Excel, and then exported to the Statistical Package for Social Sciences version 23.0 (SPSS) for data analysis. Descriptive statistics, such as percentages and chi square test, were used to calculate the frequencies of oral health beliefs and practices regarding scaling and routine dental check-ups, as well as their associations with sociodemographic factors.

These statistical analyses aimed to provide a clear and concise overview of the participants' oral health beliefs and practices, allowing for a better understanding of the factors that may influence their attitudes towards scaling and routine dental check-ups. By analyzing this data, the research team hoped to identify any trends or patterns that could help inform future oral health education programs and improve the oral health practices of the college student population in Mansehra.

## RESULT

The study population comprises 200 students having mean age of 17.94 year (SE=0.91,SD =1.28) (max =22, min=15) out of which 129 (64.5%) are male and 71 (35.5%) are female. Table 1.0 provides information about the sociodemographic factors of the students.

The beliefs and practices of college students regarding dental health, scaling, and routine checkups appear to be negative.(Table 1.2,1.3). Only 33 students (16.5%) out of 200 believed that scaling is not harmful to teeth, while the majority of students (81 or 40.5%) believed that scaling weakens teeth and is harmful. Additionally, 86 students (43%) had no knowledge of scaling. As a result, the overall attitude of students toward scaling is negative. Most college students have negative attitudes towards scaling, which is an essential dental health practice.

This negative perception may be due to a lack of knowledge or misinformation. There is association between gender and attitude toward scaling. Only 37% students reported having a routine dental checkup every six months, and 16.5% have positive attitude to words scaling. No significant difference between the routine dental check-up for male and female(P value=0.210, P=<0.05 is significant), and also no significant difference between the dental check-up of students who have own houses and rent(P value=0.494, P=<0.05 is significant)., and have low education level(P value=0.598).There is no significant difference between the dental check-up of the students belong to rural and urban(P=0.596).

There is no significant difference between the attitude of students to words scaling among gender (P=0.116), urban and rural area (P=0.459),students having own houses and rented(P=0.531), and education level (P=0.295) (Graph 1.0, 1.1,1.2. Overall routine dental check-up among college students is not satisfactory (only 37% students do their routine dental check-up).(Graph1.3,1.4). There is no significant difference in routine dental checkups between male and female students, This shows that's overall all the students have negative attitude and belief towards scaling and routine dental check-up.(Table 1.1,1.2).

## DISCUSSION

Routine dental check-ups are essential for maintaining normal oral health and hygiene. Regular visits to the dentist help in the early detection and prevention of oral health problems, ensuring that any issues are addressed before they become more serious. Our research focused on examining the perceptions and behaviors regarding dental scaling and routine dental check-ups among college students in the Mansehra district of the Hazara division.

This study, the first of its kind in this region, em-

**Table 1: Sociodemographic Factors: Table 1.0**

Gender			House status		
Variable	Frequency	Percentage	Variable	Frequency	Percentage
Male (total)	129	64.5%	Own	181	90.5%
Female(total)	71	35.5%	Rent	19	9.5%
Education			Geographic area		
Variable	Frequency	Percentage	Variable	Frequency	Percentage
1st Year	80	40%	Rural	62	31%
2nd Year	120	60%	Urban	138	69%

Table 2: Attitude toward Dental Scaling

Is Scaling harmful for teeth?				
Variable	Response (yes /No/ Don't know) Frequency			P value
	Yes (%)	No (%)	Don't know (%)	
Total	81 (40.5%)	33 (16.5%)	86 (43%)	0.116
Male	42 (32.55%)	22 (17.0%)	65 (50.3%)	
Female	39 (54.92%)	11 (15.4%)	21 (29.5%)	
1st Year	38 (47.5%)	14(17.5%)	28 (35%)	0.295
2nd Year	43 (35.83%)	19 (15.8%)	60 (50%)	
Rural	27 (43.54%)	20 (32.2%)	15 (24.1%)	0.459
Urban	54 (39.13%)	13 (9.4%)	71 (51.4%)	
House Rent	07 (36.84%)	00 (0%)	12 (63.1%)	0.531
House Own	74 (41.34%)	33 (18.4%)	74 (41.3%)	

Table 3: Routine Dental Check-up

I do Routine Dental Check-up?			
Variable	Response ( yes /No) frequency		P value
	Yes (%)	No (%)	
Total	74 (37%)	126 (63%)	0.210
Male	43 (33.33%)	86(66.66%)	
Female	32 (45.07%)	39(54.92%)	
1st Year	30(37.5%)	50(62.5%)	0.598
2nd Year	44(36.66%)	76(63.33%)	
Rural	25(40.32%)	37(59.67%)	0.596
Urban	49(35.5%)	89 (64.5%)	
House Rent	07(33.33%)	14(66.66%)	0.494
House Own	69 ( 38.5%)	112(62.5%)	

ployed a cross-sectional design to assess the beliefs and practices related to dental scaling and routine dental check-ups. The sample consisted of college students from both urban and rural areas, representing diverse family structures and socioeconomic backgrounds. Our investigation revealed that the majority of participants tend to hold negative beliefs and exhibit unfavorable practices in relation to dental scaling and routine dental check-ups.

These negative attitudes can be attributed to several factors, including lack of awareness, dental anxiety, low socioeconomic status, and misinformation regarding the benefits of dental scaling. Notably, our findings indicate that female students generally demonstrate more positive attitudes and beliefs towards dental scaling and routine dental check-ups compared to their male counterparts. The current study also highlights that despite having knowledge about dental care, there is a significant disparity between people's attitudes and

their actual seeking of dental treatment. A majority of the participants expressed fear and anxiety when it comes to visiting the dentist<sup>13</sup>. This fear and anxiety have emerged as crucial barriers that prevent individuals from seeking necessary dental care, consequently resulting in poor oral health. Dental fear is a prevalent issue affecting both children and adults across numerous countries worldwide.

The current study also reveals that the attitude of seeking dental care lags far behind knowledge and a majority of the participants were afraid of visiting the dentist. Dental fear and anxiety are important limiting factors in seeking dental care, leading to poor oral health. Dental fear is a widespread problem in children and adults in many countries of the world<sup>14,15</sup>, including Pakistan.<sup>16</sup> Medical and dental students also experience dental fear and anxiety, with research indicating that female students tend to exhibit higher levels of anxiety compared to their male Medical and dental students

also experience dental fear and anxiety, with research indicating that female students tend to exhibit higher levels of anxiety compared to their male counterparts with female counterparts.<sup>17</sup>

In many countries around the world, dental fear and anxiety can be attributed, at least in part, to financial constraints and negative past experiences with dentists. Consequently, it becomes essential to provide comprehensive psychological counseling to patients before initiating any dental treatment<sup>18</sup> In many countries of the world Dental pain is the main reason for visiting the dentist<sup>19</sup>. In Pakistan and many other countries of the world lack of knowledge, awareness, and attitude to words oral health is not satisfactory<sup>20</sup>, this is also the main cause of negative belief towards dental scaling and routine dental check-up.

## CONCLUSION

The findings of the study provide valuable insights into the oral health needs of this population and inform the development of culturally appropriate oral health promotion programs. Government and concerned health authority should take serious action for the awareness of oral health and should arrange the community dental health education program to change the belief of community.

Dentist, dentistry students, community health worker and non-profitable organization also play their role. Another alternative conclusion that can be drawn from the findings is that healthcare professionals, such as dentists and dental hygienists, should play a key role in educating the population about the importance of routine dental examinations.

These professionals can provide information and guidance directly to their patients during dental visits, emphasizing the significance of dental health and the benefits of regular checkups and dental scaling in maintaining oral health. Additionally, dental clinics and practices can implement educational programs or workshops to further promote oral health awareness and encourage individuals to prioritize regular dental checkups. By taking an active role in patient education, dental professionals can contribute to increased awareness and improved dental care outcomes.

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