Republic of Sudan

Napata College

Faculty of Dentistry

A BDS Research on:

Knowledge, Attitude And Practice Oral Hygiene Among Clinical Dental Students In Napata College, Khartoum State, Sudan, 2024.

A research thesis Submitted in Partial Fulfilment for the Requirements of the Degree of BDS.

Submitted By

Anfal Hasab Elrasol Alhaj Alshafee

Halema Faisal Mohammed Ahmed Elnour

Hiba Allah Faisal Dafallah Ebrahim

Israa Bakhit Ibrahim Abdallah.

Mohammed Yousif Mohammed Osman

Nada Fadlalmola Abd Elgader Fadlalmola

Roaa Elhadi Noreldim Aboagla

Zeinab Abd Elmjed Mohammed Salem

Supervised by

Dr. Alia Elfadul.

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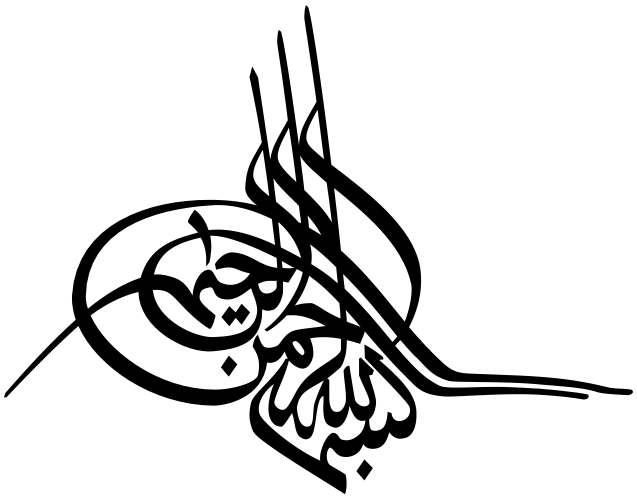

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Dedication

We dedicate our dissertation work to our family and many friends. We feel a special sense of gratitude to our loving parents, whose words of encouragement and push for tenacity ring in our ears. Our sisters and brothers have never left our side and are very special to us.

Acknowledgments

We would like to thank Dr. Alia Elfadul for her significant support and insights that helped us write this work. We are also grateful for her ongoing mentorship and never-ending supply of fascinating tasks. Her humble approach to research and methodology is an inspiration. This approach is evident in her simple yet profound writing style, which we aspire to emulate throughout our careers.

List of abbreviations

Abbreviations	Meaning
ADA	American Dental Association
AIDS	Acquired immunodeficiency syndrome
HIV	Human immunodeficiency virus
UK	United Kingdom
KAP	Knowledge, Attitude and Practice

Abstract

Background Dentists play an important role in the improvement of the public's oral health education. Therefore, acquiring knowledge and attitudes related to dental health and the prevention of oral diseases is very important during the future dentists' training period. One of the main objectives of dental education is to train students who can motivate patients to adopt good oral hygiene practices. They are more likely to be able to do this if they themselves are motivated. Moreover, dental students should be able to apply this knowledge and attitude to their own dental care.

Objective To assess Knowledge, Attitude And Practice Oral Hygiene Among Clinical Dental Students In Napata College, Khartoum State, Sudan, 2024.

Methodology A Cross-sectional, Institutional-based study, with a sample size of 100 students, faculty of Dentistry, Napta College during the year of 2024.

Results The study involved 100 participants from the fourth and fifth years at the Faculty of Dentistry, Napata College. Most participants were aged 21-23 years (51%), with females comprising 77% of the sample. Knowledge about oral health was generally , with 76% rating their knowledge as good. Attitudes towards oral health were positive, with 94% agreeing that regular dental visits are necessary. Oral health practices showed that 60% brushed their teeth twice a day, and 77% always used fluoride toothpaste. Barriers to oral hygiene included busy schedules and financial constraints, with 50% having average barriers knowledge.

Conclusion The study, conducted among dental students aged 18-27 at Napata College, revealed that the majority were female and in their fifth year of study. Most students demonstrated good knowledge of oral health practices, particularly emphasizing the importance of brushing teeth and understanding the role of fluoride. Attitudes towards oral health were positive, with regular dental visits and the harmful effects of smoking widely acknowledged. While oral hygiene practices were generally adequate, some barriers like busy schedules and financial constraints were noted. Overall, most students had an average practice level and faced moderate barriers to maintaining oral hygiene.

ملخص الدراسة

الخلفية يلعب أطباء الأسنان دورًا مهمًا في تحسين التثقيف العام حول صحة الفم. ولذلك، فإن اكتساب المعرفة والمواقف المتعلقة بصحة الأسنان والوقاية من أمراض الفم أمر مهم للغاية خلال فترة تدريب أطباء الأسنان في المستقبل. أحد الأهداف الرئيسية لتعليم طب الأسنان هو تدريب الطلاب الذين يمكنهم تحفيز المرضى على تبني ممارسات نظافة الفم الجيدة. من المرجح أن يكونوا قادرين على القيام بذلك إذا كان لديهم الدافع. علاوة على ذلك، يجب أن يكون طلاب طب الأسنان قادرين على تطبيق هذه المعرفة والمواقف في العناية بالأسنان الخاصة بهم.

الهدف تقييم المعرفة والمواقف والممارسة في مجال صحة الفم بين طلاب طب الأسنان السريري في كلية نبتة، ولاية الخرطوم، السودان، 2024.

المنهجية: دراسة لحظية مستقطعه، بحجم عينة مكونة من 100 طالب، كلية طب الأسنان، كلية نبتة خلال عام 2024.

النتائج شملت الدراسة 100 مشارك من السنتين الرابعة والخامسة في كلية طب الأسنان، كلية نبتة. وتتراوح أعمار معظم المشاركين بين 21 و23 سنة (51%)، وتشكل الإناث 77% من العينة. وكانت المعرفة حول صحة الفم مرتفعة بشكل عام، حيث قيّم 76% معرفتهم بأنها جيدة. وكانت المواقف تجاه صحة الفم إيجابية، حيث وافق 94% على أن الزيارات المنتظمة لطبيب الأسنان ضرورية. أظهرت ممارسات صحة الفم أن 60% ينظفون أسنانهم مرتين يوميًا، و77% يستخدمون دائمًا معجون أسنان يحتوي على الفلورايد. وشملت العوائق التي تحول دون نظافة الفم الجداول الزمنية المزدحمة والقيود المالية، حيث كان 50٪ لديهم معرفة متوسطة بالعوائق.

الاستنتاجات: أجريت هذه الدراسة في كلية طب الأسنان، كلية نبتة، وشملت 100 طالب من طلاب السنة الرابعة والخامسة. وكشفت النتائج أن معظم المشاركين كانوا من الإناث الذين تتراوح أعمارهم بين 21-23 سنة، وأغلبهم في السنة الخامسة من الدراسة. كانت المعرفة بصحة الفم جيدة بشكل عام، مع التركيز الأساسي على تنظيف الأسنان ومنع تسوس الأسنان. كانت المواقف تجاه الزيارات المنتظمة لطبيب الأسنان وممارسات نظافة الفم المناسبة إيجابية، حيث قام معظم الطلاب بتنظيف الأسنان بالفرشاة مرتين يوميًا واستخدام معجون أسنان يحتوي على الفلورايد. تم العثور على ارتباطات كبيرة بين درجات الممارسة والجنس، فضلا عن العوائق التي تحول دون ممارسة نظافة الفم مع سنة الدراسة.

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CHAPTER ONE

INTRODUCTION, RATIONALE, LITREATURE REVIEW AND OBJECTIVES

1.1-Introduction:

Similar to other anatomical regions, the oral cavity harbors a plethora of microorganisms, primarily non-pathogenic. However, the mouth acts as the entry point to both the gastrointestinal tract—a continuous conduit of organs extending from the oral cavity to the anus through which ingested nutrients are processed—and the respiratory tract, which facilitates ventilation. Consequently, oral microorganisms can occasionally lead to systemic pathologies. [1]

Under normal circumstances, the body's immune mechanisms and adequate oral hygiene practices maintain microbial homeostasis. Optimal oral hygiene involves daily tooth brushing and flossing. In the absence of such practices, microbial proliferation can reach pathogenic levels, resulting in dental caries and periodontal disease. [2]

Additionally, certain pharmacological agents can diminish salivary flow, or xerostomia. These agents include decongestants, antihistamines, analgesics, diuretics, and antidepressants. Saliva is essential for the mechanical cleansing of the oral cavity and for maintaining an acidic balance that inhibits microbial overgrowth, thereby preventing the dissemination of pathogens and disease onset. [3]

Oral pathogens and the inflammatory response, termed periodontitis, are linked to a severe form of gum disease. Studies suggest that these pathogens and inflammation may play a role in the etiology of systemic diseases. Moreover, systemic conditions such as diabetes mellitus and HIV/AIDS can compromise the immune system, exacerbating oral health problems and impeding the body's ability to combat infections. [4]

Your oral health might play a part in conditions such as:

- **Endocarditis.** This is an infection of the inner lining of the heart chambers or valves, called endocardium. It most often happens when germs from another part of the body, such as the mouth, spread through the blood and attach to certain areas in the heart. Infection of the endocardium is rare. But it can be fatal. [5]
- **Cardiovascular disease.** Some research suggests that heart disease, clogged arteries and stroke might be linked to the inflammation and infections that oral germs can cause. [5]
- **Pregnancy and birth complications.** Gum disease called periodontitis has been linked to premature birth and low birth weight. [6]

- **Pneumonia.** Certain germs in the mouth can go into the lungs. This may cause pneumonia and other respiratory diseases. [7]

Certain health conditions also might affect oral health, including:

- **Diabetes.** Diabetes makes the body less able to fight infection. So, diabetes can put the gums at risk. Gum disease seems to happen more often and be more serious in people who have diabetes. Research shows that people who have gum disease have a harder time controlling their blood sugar levels. Regular dental care can improve diabetes control. [8]
- **HIV/AIDS.** Oral problems, such as painful mouth sores called mucosal lesions, are common in people who have HIV/AIDS. [9]
- **Cancer.** A number of cancers have been linked to gum disease. These include cancers of the mouth, gastrointestinal tract, lung, breast, prostate gland and uterus. [8]
- **Alzheimer's disease.** As Alzheimer's disease gets worse, oral health also tends to get worse.

Other conditions that might be linked to oral health include eating disorders, rheumatoid arthritis and an immune system condition that causes dry mouth called Sjogren's syndrome. [10]

Diet can affect oral health via numerous mechanisms. Dietary deficiencies are known to cause several diseases that manifest as oral changes. In addition, certain foods have both beneficial and disease-causing capacity, potentially affecting the teeth, periodontal structures, and mucosa. [11]

Dietary considerations are also important in the prevention and management of head and neck cancer. This article discusses the impact of these dietary variables on multiple aspects of oral health. [11]

Extensive research has demonstrated a direct correlation between dietary factors and the development of dental caries and erosion. Key risk factors include the intake of fats and sugars in both pediatric and adult populations. Evidence indicates that not only does sugar consumption in childhood contribute to caries, but pediatric caries in children under five years old is also significantly associated with maternal weight and the consumption of sugar and fat during pregnancy. Additionally, maternal educational level may confound dietary habits and caries risk in children. [12]

Dental caries also affects adults, with its incidence rising with age, paralleling rates observed in children. Studies from Europe and the United States highlight that dietary influences on caries are as critical in adults as they are in children. Severe tooth loss in older adults has been linked to poor dietary quality, and the consumption of sports drinks has been implicated in increasing dental erosion, a precursor to caries in both child and adult athletes. [13]

Specific dietary factors that significantly contribute to caries include the consumption of sugary fruit-based drinks, the frequency and duration of intake of acidic beverages, and the consumption of processed starches and fermentable carbohydrates. Additional factors include the timing of food intake, the presence of salivary flow, the type of starch consumed, and the co-ingestion of buffers such as calcium. [14]

To mitigate caries risk, it is recommended to consume fruits (e.g., apples, oranges, pears, bananas) and vegetables (e.g., carrots, celery, tomatoes, lettuce, cucumber), aged cheese, milk, eggs, yogurt, and xylitol-containing products. It is also advised to consume sugary foods with meals rather than between meals, drink rather than sip sugary beverages, rinse with water after consuming sugary snacks, eat fruits instead of drinking sugary fruit juices, and avoid sugar or sticky carbohydrates before bedtime. [15]

Certain foods and ingredients have shown potential anticaries properties, including those with xylitol or fluoride, green tea, apples, red grape seeds, red wine, nutmeg, ajowan caraway, coffee, barley coffee, chicory, mushrooms, cranberries, glycyrrhiza root, Myrtus communis extract, garlic extract, cocoa extracts, and propolis. However, the extent of research on these anticaries foods is limited, though some evidence suggests they may reduce caries development. [16]

A study by Antonenko et al. evaluated the link between oral health and calcium and vitamin D nutritional status, finding that low calcium intake was associated with a high risk of caries and severe oral disease in young women. The authors propose that maintaining adequate levels of calcium and vitamin D could be beneficial for oral health preservation. [17]

Protection of oral health:

- Brush your teeth at least twice a day for two minutes each time. Use a brush with soft bristles and fluoride toothpaste. Brush your tongue too. [18]
- Clean between your teeth daily with floss, a water flosser or other products made for that purpose.
- Eat a healthy diet and limit sugary food and drinks.
- Replace your toothbrush every 3 to 4 months. Do it sooner if bristles are worn or flare out. [19]
- See a dentist at least once a year for checkups and cleanings.
- Don't use tobacco. [20]

Dental Health behavior:

The term "oral health behavior" describes the complex effect on individual oral health of oral hygiene habits, nutritional preferences and the pattern of a person's utilization of dental services. [21]

Types of dental health behavior:

Tooth brushing

Routine tooth brushing is the principal method of preventing many oral diseases, and perhaps the most important activity an individual can practice to reduce plaque buildup. Controlling plaque reduces the risk of the individual with plaque-associated diseases such as gingivitis, periodontitis, and caries – the three most common oral diseases. The average brushing time for individuals is between 30 seconds and just over 60 seconds. Many oral health care professionals agree that tooth brushing should be done for a minimum of two minutes, and be practiced at least twice a day. Brushing for at least two minutes per session is optimal for preventing the most common oral diseases, and removes considerably more plaque than brushing for only 45 seconds. [22]

Flossing

Tooth brushing alone will not remove plaque from all surfaces of the tooth as 40% of the surfaces are interdental. One technique that can be used to access these areas is dental floss. When the proper technique is used, flossing can remove plaque and food particles from between the teeth and below the gums. The American Dental Association (ADA) reports that up to 80% of plaque may be removed by this method. The ADA recommends cleaning between the teeth as part of one's daily oral hygiene regime. [22]

Interdental brushes

Interdental brushes come in a range of color-coded sizes. They consist of a handle with a piece of wire covered in tapered bristles, designed to be placed into the interdental space for plaque removal. Studies indicate that interdental brushes are equally or more effective than floss when removing plaque and reducing gum inflammation. They are especially recommended to people with orthodontics, often to use as well as floss. [23]

Tongue scrapers

The tongue contains numerous bacteria which causes bad breath. Bad breath, also considered as Halitosis, is a bad oral hygiene habit that also leads to dehydration and other medical conditions. Parents are always concerned by bad breath among their toddlers, but they feel embarrassed to talk about this with a toddler dentist. When one starts noticing the bad breath among toddlers, there is a need to instantly help them. Tongue cleaners are designed to remove the debris built up on the tongue. Using a toothbrush to clean the tongue is another possibility, however it might be hard to reach the back of the tongue and the bristles of the toothbrush may be too soft to remove the debris. [24]

Oral irrigation

Some dental professionals recommend subgingival irrigation, also known as water flossing, as a way to clean teeth and gums. Oral irrigators may be used instead of or in addition to flossing. [25]

Gum stimulators

Toothbrushes with pointed rubber tips at the ends of the handles have been available for many years, and have more recently been replaced by a standalone tool called a gum stimulator designed to massage the gum line and the bases of the areas between the teeth. Such stimulators help to increase circulation to the gum line and to clear away bacteria which might not be removed by brushing and flossing alone[26]

Oral swabs

Oral care swabs, commonly known as Toothettes, are small sponges attached to a stick, often used for oral care in hospital or long-term care settings. The sponge is used to moisten and clear the patient's mouth of debris or thickened saliva in situations where conventional toothbrushing is not an option. [27]

1.2-literature review

Ozler, C. O., et al (2023). Oral Care and Maintenance Habits Among Pharmacy Students. American journal of pharmaceutical education, which is resulted in A study involving 484 pharmacy students, with a mean age of 21.4 years, highlighted significant gaps in oral health knowledge and practices. Among the participants, 9.3% did not regularly brush their teeth, and only 44.8% consistently used fluoridated toothpaste. A significant proportion, 64.5%, had visited a dentist for a dental issue. When asked about the effects of dental plaque, causes of dental decay, and signs of periodontal disease, 16.3%, 4.8%, and 43.2% of students, respectively, were unsure of the correct answers. Additionally, 38.7% were unaware of the cariogenic or erosive effects of pediatric syrups. Notably, 32% of the students reported being consulted about oral health issues. These findings suggest that the oral care habits, awareness, and knowledge of pharmacy students need substantial improvement. Addressing these deficiencies is crucial, as it not only impacts their quality of life but also their capacity to contribute to public health initiatives related to dental care. [28]

Ahmad, M. S., et al. (2021). Perceptions of oral health education and practice among nursing students in Malaysia and Australia. International journal of dental hygiene, which is resulted in A study comparing Malaysian and Australian nursing students revealed that significantly more Malaysian students reported encountering patients with oral health (OH) issues (98.4% vs. 82.9%). Specific conditions included halitosis (87.7% vs. 62.2%), oral ulcers (63.1% vs. 41.1%), oral/dental trauma (36.9% vs. 21.1%), and caries in children (28.7% vs. 7.7%). Less than half of the students in both countries felt they had received adequate OH training (48.4% vs. 36.6%, $p \leq 0.01$), particularly in detecting oral cancer (18.0% vs. 22.6%, $p \leq 0.01$) and preventing oral diseases (46.7% vs. 41.7%, $p \leq 0.01$). Despite the training gaps, students from both countries displayed positive attitudes toward their role in OH care. Most agreed on the necessity of training in OH, especially for smoking cessation and care for patients with special needs, and advocated for a standardized, evidence-based oral hygiene protocol. The findings underscore the need for enhanced education and practice support, suggesting positive implications for the development of nurses' roles in OH promotion and management. [29]

AlJasser, R., et al (2023). Association of oral health awareness and practice of proper oral hygiene measures among Saudi population: a systematic review. Which is resulted in A review of forty cross-sectional studies and one prospective cohort study revealed that most university students across various departments were aware of the protective effects of fluoride on teeth. Two studies on oral hygiene attitudes and practices indicated that the majority of students understood that poor oral health leads to gum disease, with 59.1% recognizing the importance of maintaining oral hygiene using a toothbrush and toothpaste. Additionally, most participants acknowledged the significance of oral and dental care before pregnancy and the methods to mitigate dental issues during pregnancy, with pregnant women generally cleaning their teeth daily and valuing brushing and using toothpaste. Studies focusing on diabetic patients' oral hygiene practices found that flossing was considered less important, with most respondents never flossing their teeth. A strong correlation between oral health knowledge and practices was observed, indicating that higher knowledge levels led to better practices. Consequently, the implementation of new technologies and strategies is necessary for an effective oral health system. [30]

Rajabzadeh, M., et al (2023). Assessment of knowledge, attitude and practice of medical and dental students about maintaining and disinfecting toothbrushes. International journal of dental hygiene, which is resulted in The study found that 63.7% of students had a good level of knowledge regarding toothbrush maintenance, 62.2% had a positive attitude towards toothbrush care, and 53.7% demonstrated good practices. Dental, clinical, and female students scored significantly higher in knowledge, attitude, and practice compared to medical, preclinical, and male students, respectively. Approximately 54.3% of students stored their toothbrushes outside the bathroom, 68% kept them vertically with bristles upright, and 54% used separate containers. While 50.6% believed in the necessity of toothbrush disinfection, 31.9% thought only certain groups required it. The study concluded that medical and dental students had a moderate level of knowledge, attitude, and practice in toothbrush maintenance and disinfection, highlighting the need for further improvements. Future educational intervention programs are essential to enhance students' oral health habits. [31]

Rodakowska, E., Kierklo, A., & Jamiołkowski, J. (2016). Self-reported Oral Health Behavior among Scandinavian and Polish Medical Students Studying in Poland. Which is resulted in The study identified significant gender and nationality differences in dental health behaviors. Polish females were more likely to visit a dentist within the past year compared to Polish males and Scandinavian females ($p=0.011$). They also had higher frequencies of dental visits for check-ups and fillings ($p=0.002$; $p=0.040$) and brushed their teeth more frequently ($p<0.001$). Polish males consumed sweet snacks more often than Polish females and Scandinavian males ($p=0.018$; $p=0.004$). Logistic regression analysis showed that female gender (OR=2.310; 95% CI 1.381-3.865) and Polish nationality (OR=3.833; 95% CI 2.293-6.408) were independently associated with visiting a dentist at least once a year. Female gender was significantly associated with visiting a dentist more than a year ago (OR=1.913; 95% CI 1.192-3.070), brushing teeth at least once a day (OR=3.759; 95% CI 1.567-9.017), and using dental floss (OR=2.249; 95% CI 1.445-3.503). Polish nationality was linked to increased rates of brushing teeth for at least three minutes (OR=2.435; 95% CI 1.526-3.885) and smoking cigarettes (OR=2.340; 95% CI 1.336-4.098). [32]

Prosser, G. M., Radford, D. R., & Louca, C. (2022). Teaching of gerodontology to dental and dental hygiene therapy students in the UK. British dental journal, which is resulted in The study revealed that 37.5% of dental schools and 61.9% of dental hygiene and therapy (DHT) schools responded to the survey on gerodontology training. Although gerodontology was taught in all responding schools, it was a standalone course in only 16.7% of dental schools and 7.7% of DHT schools. All respondents included a theoretical component in their curriculum, but only 50% of dental schools and 53.8% of DHT schools offered clinical experience. Furthermore, 33.3% of dental schools and 15.4% of DHT schools adhered closely to European curriculum guidelines in gerodontology. The study concluded that gerodontology training in the UK is not standardized across dental and DHT schools, and there is a lack of awareness regarding the recommended European guidelines. The findings indicate a need for improvements in gerodontology training to achieve standardized and comprehensive education in this field. [33]

Lakshmi, K. P. D., et al (2020). Correlation of pharmacy students' knowledge, attitude, and practices with their oral health status in Salem city-A cross-sectional survey. Journal of family medicine and primary care, which is resulted in In a survey involving 386 participants (263 males and 123 females), the highest mean knowledge score was observed among students aged 17-21 years (18.07 ± 3.07), which was significantly higher compared to other age groups ($P < 0.05$). Gender differences were notable, with males exhibiting a significantly more positive mean ± SD oral health knowledge, attitudes, and practices (KAP) score than females ($P < 0.001$). Correlation analysis indicated a positive relationship between knowledge and attitudes ($r = 0.015$), knowledge and practices ($r = 0.016$), and attitudes and practices ($r = 0.069$). These findings underscore the inadequacy of oral health KAP among students, highlighting a need for improvement as they play a crucial role in counseling patients on oral care. [34]

Suzuki, H., et al (2022). A survey of oral health status, subjective oral symptoms and oral health behaviors among first-year dental students at a Japanese university. Which is resulted in The study found that 43.5% of participants had decayed teeth (DT), and 50.0% had gingivitis (bleeding on probing ≥ 10%). Both conditions were significantly linked to poorer oral hygiene practices. While no association was found between DT and subjective symptoms, gingivitis was notably associated with xerostomia, mouth-breathing, and infrequent use of interdental cleaning tools. Multiple logistic regression analysis indicated that higher plaque scores increased the odds of gingivitis (odds ratio [OR] = 1.41, 95% confidence interval [CI]: 1.19-1.67), while experiencing xerostomia significantly elevated these odds (OR = 2.75, 95% CI: 1.27-5.98). Given the significant number of students with DT and gingivitis who did not report clear symptoms, regular dental visits are recommended to initiate early treatment and maintain oral hygiene throughout their university years. [35]

1.3 Problem Statement:

Despite the crucial role of oral hygiene in preventing dental diseases and promoting overall health, there is limited information about the knowledge, attitudes, and practices (KAP) regarding oral hygiene among dental students at Napata College, Khartoum State, Sudan. Understanding these factors is essential as dental students are future oral health professionals who will influence public health practices. This study aims to assess and compare the knowledge, attitudes, and practices related to oral hygiene among clinical dental students in Napata College, identify gaps, and suggest areas for improvement to enhance their educational experience and future professional conduct.

1.4 Justification:

Assessing the knowledge, attitudes, and practices (KAP) related to oral hygiene among dental students at Napata College is crucial for several reasons. Firstly, dental students are the future frontline professionals in oral health, and their understanding and habits will directly impact their ability to educate and treat patients effectively. Secondly, identifying gaps in KAP among these students can highlight deficiencies in the current curriculum and training methods, thereby guiding necessary educational reforms. Additionally, comparing clinical students can provide insights into how knowledge and attitudes evolve with increased exposure to clinical practice. This study will contribute to improving the oral health education framework, ultimately leading to better oral health outcomes in the community.

1.5 Research Question:

What is the Knowledge, Attitude And Practice Oral Hygiene Among Clinical Dental Students In Napata College, Khartoum State, Sudan, 2024?

1.6-Objectives:

1.6.1-General Objectives:

To assess Knowledge, Attitude And Practice Oral Hygiene Among Clinical Dental Students In Napata College, Khartoum State, Sudan, 2024.

1.6.2-Specific objectives:

- To determine the knowledge about the oral hygiene among clinical dental students
- To check the attitude about the oral hygiene among clinical students
- To identify the practice about the oral hygiene among clinical students
- To correlate the gender and year of study to knowledge, attitude and practice

CHAPTER TWO

Research Methodology

2.1 Study design:

An Observational cross-sectional Facility-based study design.

2.2Study area:

The study was conducted at Faculty of dentistry, Napta College, Khartoum State, Sudan.

2.3 Study period:

From June-July 2024.

2.4 Study population:

All Female and male students' clinical students who are currently studying dentistry in the faculty of dentistry in Napta college.

2.4.1 Inclusion Criteria:

All Female and male students who are currently studying dentistry in the faculty of dentistry in Napta college.

2.4.2 Exclusion Criteria:

- Participants who refused to participate in the study.

2.5 Sample size:

Because of the usage of the total coverage of all the students in both fifth and fourth year, there is no equation for the sample size.

2.5.1 Sampling Technique:

Total Coverage sampling technique sampling method was used.

2.6 Data collection and methods:

Data was collected using a written questioner which was generated from the students themselves which was written into a Google Form and distributed to them, and the first page of the questionnaire had the informed consent from the researcher directly through the link will be distributed to them. Which in all total score for the questions for the score to be between 16-25 (Good) – Then 11-15 (Average) – then 1-10 (Poor).

2.6.1 Study Variables:

- **Independent:**

- Age
- Gender
- Educational Level

- **Dependent**

- Knowledge and attitude about the methods of the students towards the oral health care methods and hygiene.

2.7 Data management and analysis:

The collected data were entered coded then analyzed using SPSS (statistical package social science) version 26.0. And the results will be shown in form of tables and figures and graphs, Chi-square test, $p<0.05$ is considered statistically significant (confidence interval 95%).

2.8 Ethical consideration:

- The ethical clearance from the community department in the faculty of dentistry in Napta college
- . Written informed consent from participants Also, a permission from the administration of all the centers that the study was done in.

CHAPTER THREE

RESULTS

CHAPTER THREE

3.1: Results:

Table 3.1: Distribution of participants according to Sociodemographic data:

		Count	Table N %
Age Distribution	**21-23 years**	51	51.0%
	24-26 years	33	33.0%
	18-20 years	9	9.0%
	27 and above	7	7.0%
Gender Distribution	**Female**	77	77.0%
	Male	23	23.0%
Year of Study	**Fifth year**	55	55.0%
	Fourth year	45	45.0%

Table show the age majority of the participants aged between 21-23 years old (51%), most of participants were females (77%), more than half of students were in the fifth year (55%).

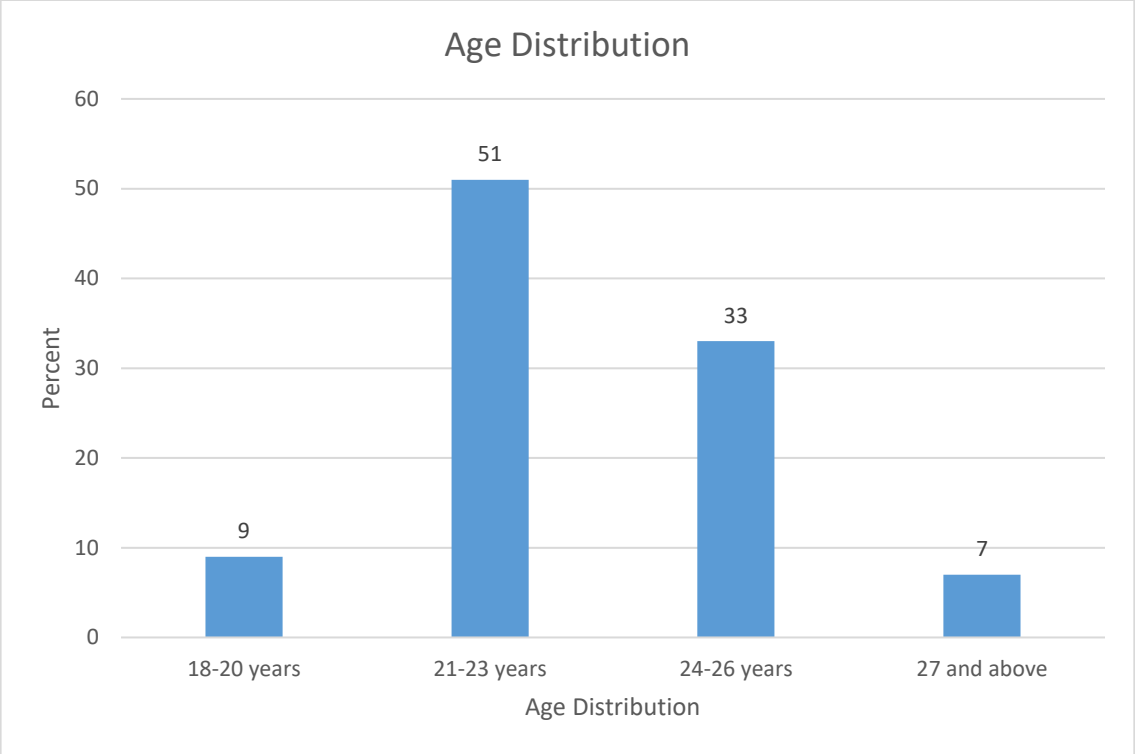

Figure (3.1): Age Distribution.

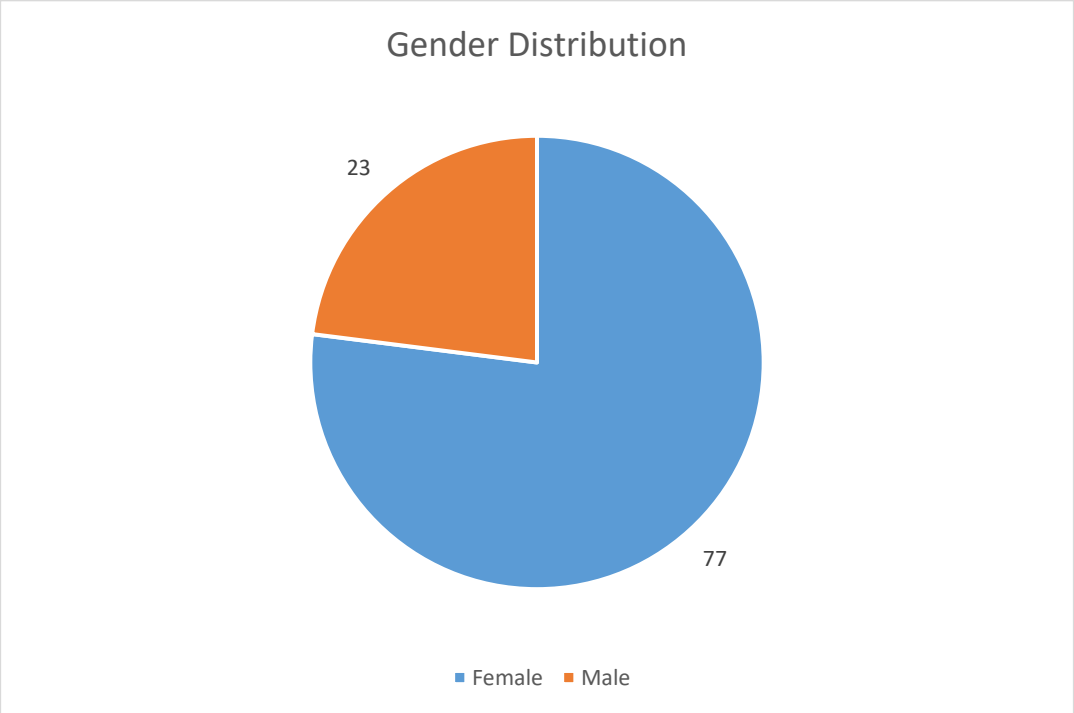

Figure (3.2): Gender Distribution

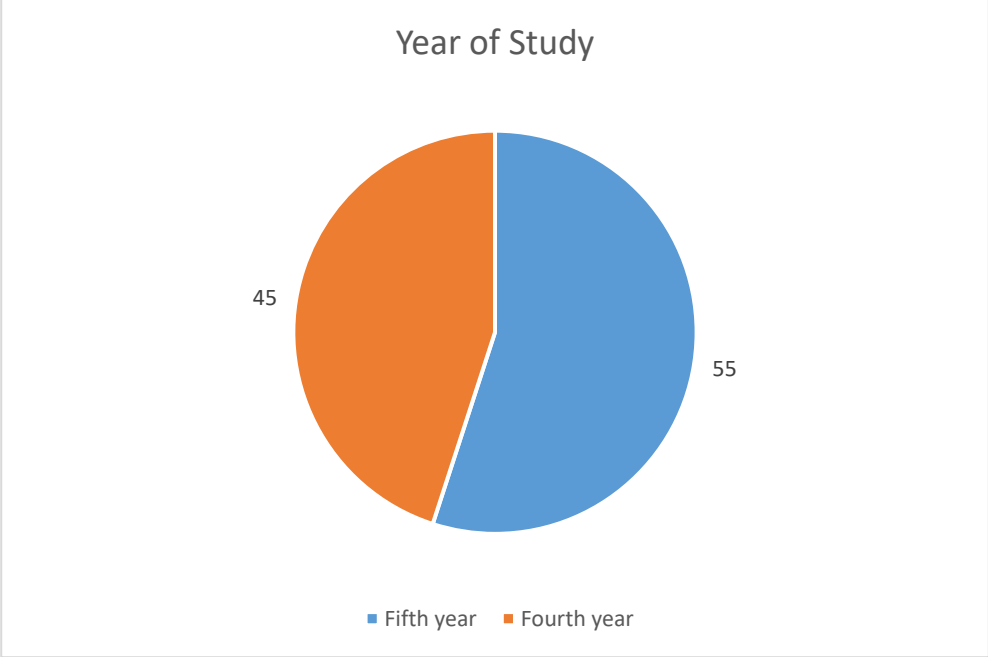

Figure (3.3): Year of study

Table 3.2: Distribution of participants according to knowledge of oral health:

		Count	Table N %
How would you rate your current knowledge of oral health care practices?	Good	78	78.0%
	Excellent	22	22.0%
What do you believe is the most important aspect of oral health care?	Brushing teeth	81	81.0%
	Regular dental check-ups	9	9.0%
	Diet control	7	7.0%
	Flossing	3	3.0%
What is the Main purpose of tooth brushing?	Prevention of tooth decay and gum disease.	90	90.0%
	To remove stains on teeth.	5	5.0%
	Achievement of cleaner and brighter teeth.	3	3.0%
	I don't know	2	2.0%
What is the Meaning of dental plaque?	Soft deposits on teeth	56	56.0%
	White patches on teeth	34	34.0%
	Discoloration of teeth	7	7.0%
	Don’t know	3	3.0%
Gum bleeding indicate?	Gum disease indicate (inflammation of gums)	96	96.0%
	Don’t know	2	2.0%
	Infection of tooth	1	1.0%
	Calcium deficiency	1	1.0%
What is the Effect of retention of sweet food on teeth?	Can lead to decaying of teeth	94	94.0%
	Calcium deficiency	4	4.0%
	Leads to bleeding gums	1	1.0%
	Don’t know	1	1.0%
What are the Effects of fluorides on teeth?	Prevention of tooth decay	91	91.0%
	Cleaning of teeth	6	6.0%
	Prevention of gum disease	3	3.0%

The knowledge of oral health care practice rate was average , the students agreed to the most important aspect of oral health care brushing teeth (81%), and the main purpose of tooth brushing is the prevention of tooth decay and gum diseases (90%), for the meaning of dental plaque soft deposits on teeth (56%), gum bleeding indicates gum diseases (96%), for the effect of retention of sweet food on teeth can lead to decaying of teeth (94%), students also agreed to the effects of fluorides on teeth is to prevent tooth decay (91%).

Table 3.3: Distribution of participants according Attitude towards oral health:

		Count	Table N %
Dentists should be visited regularly?	**Yes**	94	94.0%
	No	6	6.0%
Well cleaning of teeth can be done without using toothpaste?	**No**	66	66.0%
	Yes	34	34.0%
Hardness of bristles of toothbrush has any effect on teeth and gums?	**Yes**	95	95.0%
	No	5	5.0%
Does Dentists play a role only in treatment part and not in the prevention?	**No**	77	77.0%
	Yes	23	23.0%
Smoking in any form is a bad habit?	**Yes**	98	98.0%
	No	2	2.0%

Most students concurred that regular dental visits are essential, with 94% agreeing. Regarding tooth cleaning, (66%) believed that it can not be done effectively without toothpaste. A majority (95%) thought that the hardness of toothbrush bristles affects teeth and gums. When it comes to dentists,(77%) felt they play a role only in treatment rather than prevention. Additionally, (98%) of students agreed that smoking is a bad habit.

Table 3.4: Distribution of participants according Oral health care practices:

		Count	Table N %
How often do you brush your teeth each day?	Twice	60	60.0%
	Once	33	33.0%
	Three times or more	7	7.0%
What type of toothbrush do you use in terms of type bristles?	Medium	80	80.0%
	Soft	17	17.0%
	Hard	3	3.0%
How often do you replace your toothbrush?	Every 1-3 months	52	52.0%
	Every 3-6 months	45	45.0%
	Once a year or less frequently	3	3.0%
Do you use fluoride toothpaste?	Always	77	77.0%
	Often	9	9.0%
	Sometimes	6	6.0%
	Rarely	5	5.0%
	Never	3	3.0%
Do you floss your teeth?	Sometimes	36	36.0%
	Never	29	29.0%
	Rarely	23	23.0%
	Often	11	11.0%
	Always	1	1.0%
Do you use mouthwash?	Rarely	38	38.0%
	Sometimes	26	26.0%
	Never	26	26.0%
	Always	6	6.0%
	Often	4	4.0%
Do you clean (brush) your tongue?	Always	68	68.0%
	Sometimes	16	16.0%
	Never	7	7.0%
	Often	5	5.0%
	Rarely	4	4.0%
How often do you visit the dentist for routine check-ups?	Only when there's a problem	42	42.0%
	Every 6 months	31	31.0%
	Never	16	16.0%
	Once a year	11	11.0%

Regarding daily tooth brushing, of them brushed twice (60%), a wide range of students chose the medium-bristle type of toothbrush (80%), and more than half of them replaced the toothbrush every 1-3 months (52%), students used toothpaste With fluoride constantly.

Table 3.5: Distribution of participants according Barriers towards practicing oral health hygiene:

		Count	Table N %
I find it difficult to maintain a regular oral hygiene routine due to my busy schedule.	Strongly Disagree	45	45.0%
	Disagree	29	29.0%
	Neither Agree nor Disagree	21	21.0%
	Agree	5	5.0%
I do not visit the dentist regularly because of financial constraints.	Disagree	32	32.0%
	Neither Agree nor Disagree	27	27.0%
	Strongly Disagree	23	23.0%
	Agree	14	14.0%
	Strongly Agree	4	4.0%
I am sometimes too tired to brush and floss before bed.	Strongly Disagree	34	34.0%
	Neither Agree nor Disagree	29	29.0%
	Agree	20	20.0%
	Disagree	16	16.0%
	Strongly Agree	1	1.0%
I lack access to dental care resources and products.	Disagree	35	35.0%
	Neither Agree nor Disagree	30	30.0%
	Strongly Disagree	30	30.0%
	Agree	5	5.0%
I feel that I need more education on proper oral hygiene techniques.	Neither Agree nor Disagree	31	31.0%
	Strongly Disagree	25	25.0%
	Disagree	21	21.0%
	Agree	12	12.0%
	Strongly Agree	11	11.0%

As for finding it difficult to maintain a regular oral hygiene routine due to my busy schedule, strongly agree (45%), disagree with not visiting the dentist regularly due to restrictions (32%), of them do not seriously find it difficult to use the brush and floss before bed due to the feeling sometimes Extremely tired (34%), lack of access to dental care resources and products Disagree (35%), Feeling like I need more education on proper oral hygiene techniques Neither disagree nor agree (31%).

Table 3.6: Distribution of participants according Total practice Scoring:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total Practice Statistics	100	7.00	19.00	13.3300	2.53483

The total practice scoring the minimum was 7, maximum 19, mean 13.3 and Std. Deviation was 2.5, with 72 have an average practice (72%), 15 poor practice (15%), 13 good practice (13%).

		Count	Table N %
Total Practice	**Average Practice (11-15)**	72	72.0%
	Poor Practice (1-10)	15	15.0%
	Good Practice (16-25)	13	13.0%

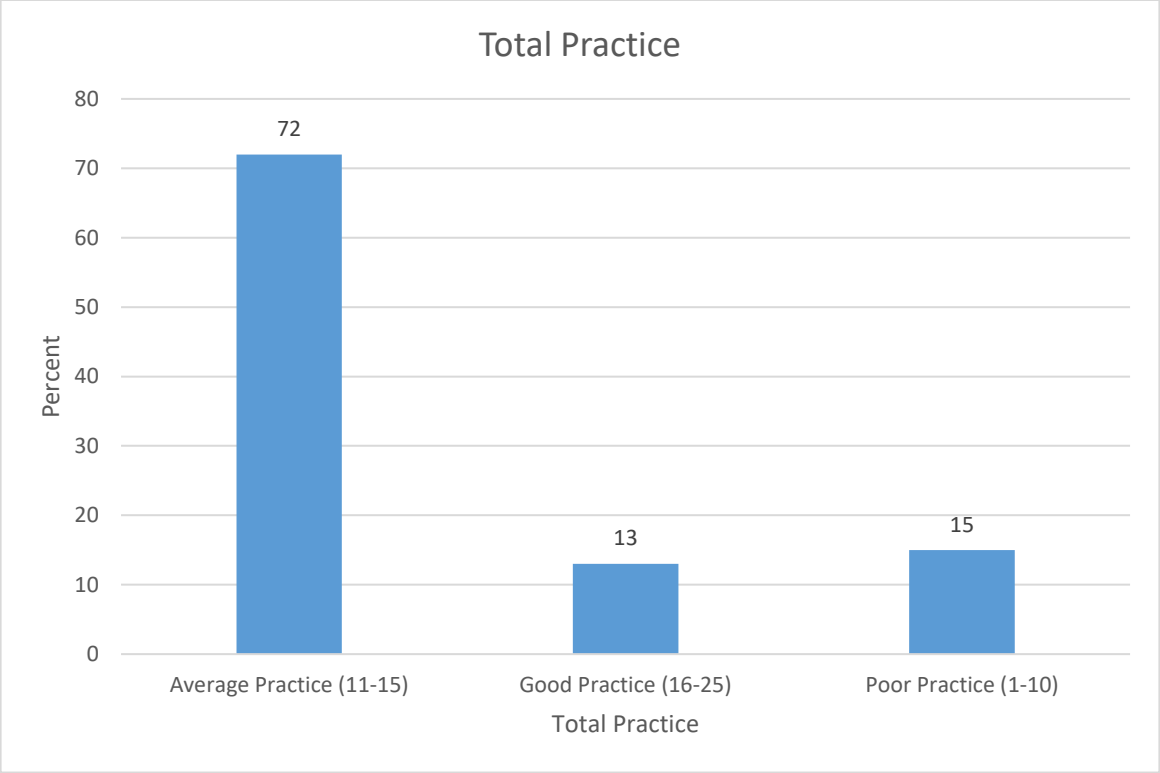

Figure (3.4): Total Practice

Table 3.7: Distribution of participants according Total Barriers to practicing oral hygiene Scoring:

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Total Barriers to Practicing Oral Hygiene Statistics	100	5.00	20.00	11.4100	3.68205

The total barriers to practicing oral health hygiene scoring the minimum was 5, maximum was 20, mean was 11.4 and the Std. Deviation was 3.6. with have average barriers knowledge (50%), poor barriers knowledge (37%), good barriers knowledge (13%).

		Count	Table N %
Total Barriers to Practicing Oral Hygiene	Average Barriers Knowledge (11-15)	50	50.0%
	Poor Barriers Knowledge (1-10)	37	37.0%
	Good Barriers Knowledge (16-25)	13	13.0%

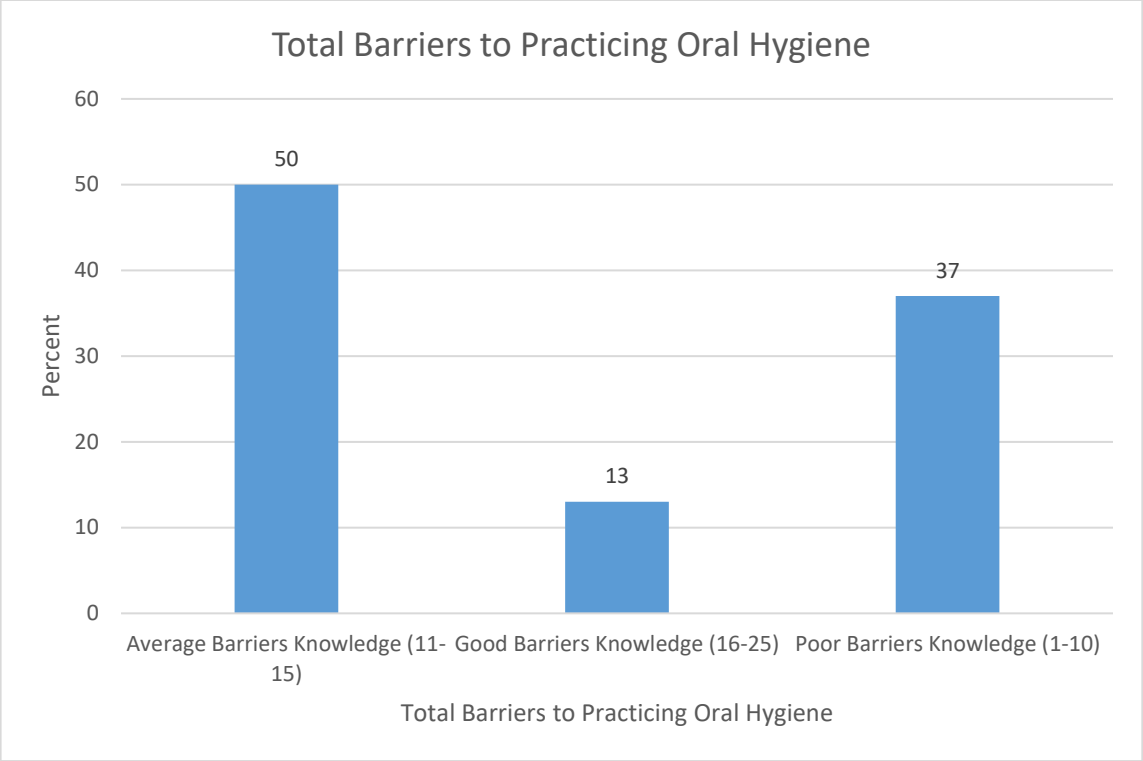

Figure (3.5): Total Barriers to practicing oral hygiene.

Table 3.8: The correlation between the total practice and gender:

Gender Distribution * Total Practice Crosstabulation						
			Total Practice			Total
			Average Practice (11-15)	Good Practice (16-25)	Poor Practice (1-10)	
Gender Distribution	Female	Count	53	12	12	77
		%	73.6%	92.3%	80.0%	77.0%
	Male	Count	19	1	3	23
		%	26.4%	7.7%	20.0%	23.0%
Total		Count	72	13	15	100
		%	100.0%	100.0%	100.0%	100.0%

P Value of 0.03<0.05 Which is considered significant

Which showed that majority of the students have had an average practice in both genders' females and males with a P Value of 0.03 which is considered significant.

Table 3.9: The correlation between the total practice and year of study:

Year of Study * Total Practice Crosstabulation						
			Total Practice			Total
			Average Practice (11-15)	Good Practice (16-25)	Poor Practice (1-10)	
Year of Study	Fifth year	Count	40	5	10	55
		%	55.6%	38.5%	66.7%	55.0%
	Fourth year	Count	32	8	5	45
		%	44.4%	61.5%	33.3%	45.0%
Total		Count	72	72	13	15
		%	100.0%	100.0%	100.0%	100.0%

P value of 0.26>0.05 Which is considered not significant

Which showed that majority of the students have had an average practice in both study years fourth and fifth year with a P value of 0.2 which is not significant.

Table 3.10: The correlation between the Total barriers to practicing oral hygiene and gender:

Gender Distribution * Total Barriers to Practicing Oral Hygiene Crosstabulation						
			Total Barriers to Practicing Oral Hygiene			Total
			Average Barriers Knowledge (11-15)	Good Barriers Knowledge (16-25)	Poor Barriers Knowledge (1-10)	
Gender Distribution	Female	Count	40	9	28	77
		%	80.0%	69.2%	75.7%	77.0%
	Male	Count	10	4	9	23
		%	20.0%	30.8%	24.3%	23.0%
Total		Count	50	13	37	100
		%	100.0%	100.0%	100.0%	100.0%

P Value of 0.7>0.05 Which is considered not significant

Regarding the comparison with the total barrier's knowledge majority of the student's males and females have an average barriers knowledge with more than two thirds with a P value of 0.7 which is not significant.

Table 3.11: The correlation between the Total barriers to practicing oral hygiene and Year of study:

Year of Study * Total Barriers to Practicing Oral Hygiene Crosstabulation						
			Total Barriers to Practicing Oral Hygiene			Total
			Average Barriers Knowledge (11-15)	Good Barriers Knowledge (16-25)	Poor Barriers Knowledge (1-10)	
Year of Study	Fifth year	Count	21	0	34	55
		%	42.0%	0.0%	91.9%	55.0%
	Fourth year	Count	29	13	3	45
		%	58.0%	100.0%	8.1%	45.0%
Total		Count	50	50	13	37
		%	100.0%	100.0%	100.0%	100.0%

P Value of 0.00<0.05 Which is considered significant

Regarding the comparison with the year of study majority of the participants also in both years have an average barriers knowledge but in the fifth year have had a poor barriers knowledge with a P Value of 0.00 which is considered significant**.**

Table 3.12: The correlation between the knowledge and the gender:

		Gender Distribution				P value
		Female		Male		
		Count	%	Count	%	
Knowledge of oral health How would you rate your current knowledge of oral health care practices? P Value	Excellent	17	22.1%	5	21.7%	0.9
	Good	60	77.9%	18	78.3%	
What do you believe is the most important aspect of oral health care?	Brushing teeth	64	83.1%	17	73.9%	0.02
	Diet control	6	7.8%	1	4.3%	
	Flossing	0	0.0%	3	13.0%	
	Regular dental check-ups	7	9.1%	2	8.7%	
What is the Main purpose of tooth brushing?	Achievement of cleaner and brighter teeth.	1	1.3%	2	8.7%	0.05
	I don't know	2	2.6%	0	0.0%	
	Prevention of tooth decay and gum disease.	72	93.5%	18	78.3%	
	To remove stains on teeth.	2	2.6%	3	13.0%	
What is the Meaning of dental plaque?	Discoloration of teeth	7	9.1%	0	0.0%	0.00
	Don’t know	2	2.6%	1	4.3%	
	Soft deposits on teeth	42	54.5%	14	60.9%	
	White patches on teeth	26	33.8%	8	34.8%	
	Leads to bleeding gums	0	0.0%	1	4.3%	

P value of 0.05 or less is considered Significant

Also majority of the students have good knowledge about oral health care practice in females (77.9%), most of students agree that brushing teeth is the most important aspect of oral health care (83.1%) and the main purpose is the prevention of tooth deacy and gum disease (93.5%) but when it's come to the meaning of dental plaque more than half agreed it's soft deposit on teeth (54.5%)

Table 3.13: The correlation between the knowledge and the Study year:

		Year of Study				P Value
		Fifth year		Fourth year		
		Count	%	Count	%	
Knowledge of oral health How would you rate your current knowledge of oral health care practices?	Excellent	15	27.3%	7	15.6%	0.1
	Good	40	72.7%	38	84.4%	
What do you believe is the most important aspect of oral health care?	Brushing teeth	49	89.1%	32	71.1%	0.00
	Diet control	1	1.8%	6	13.3%	
	Flossing	3	5.5%	0	0.0%	
	Regular dental check-ups	2	3.6%	7	15.6%	
What is the Main purpose of tooth brushing?	Achievement of cleaner and brighter teeth.	3	5.5%	0	0.0%	0.00
	I don't know	0	0.0%	2	4.4%	
	Prevention of tooth decay and gum disease.	52	94.5%	38	84.4%	
	To remove stains on teeth.	0	0.0%	5	11.1%	
What is the Meaning of dental plaque?	Discoloration of teeth	2	3.6%	5	11.1%	0.4
	Don’t know	1	1.8%	2	4.4%	
	Soft deposits on teeth	33	60.0%	23	51.1%	
	White patches on teeth	19	34.5%	15	33.3%	

P value of 0.05 or less is considered Significant

most of students in fifth-year agree that brushing teeth is the most important aspect of oral health care (89.1%)and the main purpose is the prevention of tooth deacy and gum disease (94.5%) but when it's come to the meaning of dental plaque more than half agreed it's soft deposit on teeth (60.0%)

Table 3.14: The correlation between the Attitude and the Gender:

		Gender Distribution				P Value
		Female		Male		
		Count	%	Count	%	
Attitude towards oral health: Dentists should be visited regularly?	No	6	7.8%	0	0.0%	0.3
	Yes	71	92.2%	23	100.0%	
Well cleaning of teeth can be done without using toothpaste?	No	52	67.5%	14	60.9%	0.00
	Yes	25	32.5%	9	39.1%	
Hardness of bristles of toothbrush has any effect on teeth and gums?	No	4	5.2%	1	4.3%	0.7
	Yes	73	94.8%	22	95.7%	
Does Dentists plays a role only in treatment part and not in the prevention?	No	58	75.3%	19	82.6%	0.4
	Yes	19	24.7%	4	17.4%	
Smoking in any form is a bad habit?	No	2	2.6%	0	0.0%	0.00
	Yes	75	97.4%	23	100.0%	

P value of 0.05 or less is considered Significant.

All of male students agreed that dentist should be visited regularly (100%) and somking any form is bad habit (100%) and the majority of female students too (97.4%) .

Table 3.15: The correlation between the Attitude and the Year of Study:

		Year of Study				P Value
		Fifth year		Fourth year		
		Count	Column N %	Count	Column N %	
Attitude towards oral health: Dentists should be visited regularly?	No	1	1.8%	5	11.1%	0.4
	Yes	54	98.2%	40	88.9%	
Well cleaning of teeth can be done without using toothpaste?	No	36	65.5%	30	66.7%	0.00
	Yes	19	34.5%	15	33.3%	
Hardness of bristles of toothbrush has any effect on teeth and gums?	No	3	5.5%	2	4.4%	0.3
	Yes	52	94.5%	43	95.6%	
Does Dentists plays a role only in treatment part and not in the prevention?	No	47	85.5%	30	66.7%	0.00
	Yes	8	14.5%	15	33.3%	
Smoking in any form is a bad habit?	No	0	0.0%	2	4.4%	0.00
	Yes	55	100.0%	43	95.6%	

P value of 0.05 or less is considered Significant.

The vast majority of fifth-year students agreed that dentist should be visited regularly (98.2%) , and the hardness of bristle of tooth brush has effect on tooth and gum (94.5%) and all of them agreed that smoking in any form is bad habit (100%) .

CHAPTER FOUR

DISCUSSION, CONCLUSION AND RECOMMENDATION

CHAPTER FOUR

4.1 Discussion:

Education of oral health for individuals and communities relies heavily on the knowledge imparted by dentists, which in turn is shaped by the education, attitudes, and behaviors of dental students. Enhancing dental students' understanding of oral health through comprehensive academic instruction is essential as it equips them to better motivate their patients to maintain good oral hygiene. This education not only aids in preventing various oral diseases but also promotes overall community health. The significance of this educational approach lies in its direct impact on improving public oral health by ensuring that future dental professionals are well-prepared to educate and guide their patients effectively.

The study was carried out at the Faculty of Dentistry, Napata College, focusing on fourth and fifth-year dental students, with a sample size of 100 participants. Most participants were aged between 21 and 23 years, aligning with findings from Suzuki et al. (2022) and Lakshmi et al. (2020). The majority were female, making up over two-thirds of the sample, which is consistent with the studies mentioned. Additionally, more than half of the participants were in their fifth year of study, which aligns with Suzuki et al. (2022) but contrasts with Lakshmi et al. (2020), who found that most participants were in their fourth year. This demographic data is important as it provides insights into the educational level and gender distribution of the participants.

The study showed that oral health knowledge, attitudes and practices among fourth- and fifth-year clinical students were generally good. This reflects that the high amount of knowledge acquired during the years of study has influenced their practices and attitudes. Additionally, female students had higher scores in knowledge, attitude, and practice compared to their male counterparts, though the difference was not statistically significant. This indicates that both genders have comparable levels of awareness regarding oral health care, highlighting the effectiveness of the educational interventions provided to all students.

Participants demonstrated a strong understanding of the importance of tooth brushing, with 81% recognizing it as a crucial aspect of health care and 90% acknowledging its role in preventing tooth decay and gum disease. These findings are consistent with studies by Suzuki et al. (2022) and Lakshmi et al. (2020). More than half of the participants correctly identified dental plaque as soft deposits on teeth (56%) and recognized gum bleeding as a sign of gum disease (96%). The majority also understood the benefits of fluoride in preventing tooth decay (91%). These results emphasize the effectiveness of dental education in conveying key concepts of oral health.

Attitudes towards regular dental visits, the impact of toothbrush bristle hardness, and the negative effects of smoking were strongly supported, with correct response rates of 94%, 95%, and 98%, respectively. This agreement aligns with Suzuki et al. However, 34% of participants disagreed with the necessity of toothpaste for effective cleaning, which contrasts with Lakshmi et al. (2020), who emphasized self-care over professional dental intervention. Fifth-year students showed a higher percentage of support for regular dental visits (98.2%) compared to fourth-year students (88.9%). All fifth-year students agreed that smoking in any form is a harmful habit (100%), reflecting their enhanced clinical knowledge. This demonstrates the positive impact of advanced clinical training on students' attitudes towards oral health.

In terms of oral health practices, most participants brushed their teeth twice daily (60%), preferred medium-bristled toothbrushes (80%), and replaced their toothbrushes every 1-3 months (52%). Over two-thirds used fluoride toothpaste (77%), consistent with findings by Suzuki et al. and Lakshmi et al. Flossing was performed occasionally by 36% of participants, while mouthwash use was infrequent (38%). Routine dental check-ups were primarily sought only when problems arose, differing from Suzuki et al.'s findings. These practices reflect participants' commitment to maintaining oral health, though there is room for improvement in regular flossing and mouthwash use.

The study found no significant gender bias in oral health knowledge and practices. It was anticipated that fifth-year students would exhibit improved knowledge, attitudes, and behaviors related to oral health due to their extended clinical experience. This experience contributes to their increased awareness and understanding of oral health. Regarding barriers to oral hygiene, most participants did not view a busy schedule or fatigue as significant obstacles (45%), which contrasts with findings by Suzuki et al. (2022) and Lakshmi et al. (2020). Financial constraints and limited access to dental care were also not seen as major barriers, though many participants acknowledged the need for further education on oral hygiene techniques. This indicates that while barriers to oral hygiene exist, they are more related to the need for better education rather than personal or financial constraints.

The average total practice score among participants was 13.3±2.53, indicating a moderate level of adherence to recommended oral health practices. In terms of barriers to oral health, the average score was 11.4±3.68, with about half of the participants demonstrating an average understanding of these barriers. A significant correlation was found between total practice scores and gender (P=0.03), suggesting an appropriate relationship between gender and oral health practices among both male and female participants. However, the year of study did not show a significant correlation with practice scores (P=0.26). In contrast, no significant differences in barriers were observed based on gender (P=0.7), but the year of study did show a significant correlation (P=0.00), indicating a relationship between students' academic progression and their understanding of barriers to oral health. These findings highlight the crucial role of continuous education in improving oral health practices and emphasize how academic advancement influences students' practices and perceptions of barriers.

4.2 Conclusion

The study, conducted among dental students aged 18-27 at Napata College, revealed that the majority were female and in their fifth year of study. Most students demonstrated good knowledge of oral health practices, particularly emphasizing the importance of brushing teeth and understanding the role of fluoride. Attitudes towards oral health were positive, with regular dental visits and the harmful effects of smoking widely acknowledged. While oral hygiene practices were generally adequate, some barriers like busy schedules and financial constraints were noted. Overall, most students had an average practice level and faced moderate barriers to maintaining oral hygiene.

4.3 Recommendations:

- **Enhance oral health education:** Implement more comprehensive and frequent educational sessions focused on proper oral hygiene techniques and the importance of regular dental visits to improve students' knowledge and practices.

- **Increase accessibility to dental care resources:** Provide better access to dental care products and resources within the college to reduce barriers related to financial constraints and availability, ensuring all students can maintain optimal oral health.

- **Promote regular dental check-ups:** Encourage and facilitate regular dental check-ups through partnerships with local dental clinics or on-campus dental services to ensure early detection and management of oral health issues.

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Annexes:

1. **A copy of the questionnaire.**

Questionnaire: Knowledge, Attitude, and Practice

of Oral Hygiene Among Clinical Dental Students in Napata College

Questionnaire Number ( )

Section 1: Demographic Information

1. Age:

- 18-20 years
- 21-23 years
- 24-26 years
- 27 years and above

2. Gender:

- Male
- Female

3. Year of Study:

-fourth year

-fifth year

Section 2: Knowledge of oral health

1 . How would you rate your current knowledge of oral health care practices?

- Excellent
- Good
- Fair
- Poor

2 . What do you believe is the most important aspect of oral health care?

- Brushing teeth

- Flossing
- Diet control
- Regular dental check-ups
- Other (please specify)

3-what is the Main purpose of tooth brushing:

a)Prevention of tooth decay and gum disease.

b)Achievement of cleaner and brighter teeth.

c)To remove stains on teeth.

d)Don't know.

4-what is the Meaning of dental plaque:

a)Discoloration of teeth

c)White patches on teeth

d)Don't know

b)Soft deposits on teeth

5 - gum bleeding indicate ?:

a)Gum disease indicate (inflammation of gums)

b)Infection of tooth

c)Calcium deficiency

d)Don't know

6-what is the Effect of retention of sweet food on teeth:

a)Can lead to decaying of teeth

b)Calcium deficiency

c)Leads to bleeding gums

d)Don't know

7-what is the Effects of fluorides on teeth:

a)Prevention of gum disease

b)Prevention of tooth decay

c)Cleaning of teeth

d)Don't know

Section 3 : attitude

1- Dentists should be visited regularly?

Yes

No

2- Well cleaning of teeth can be done without using toothpaste?

Yes

No

3- Hardness of bristles of tooth brush has any effect on teeth and gums?

Yes

No

4- does Dentists plays role only in treatment part and not in the prevention?

Yes

No

5- Smoking in any form is a bad habit?

Yes

No

Section 4: Oral Health care Practices:

1. How often do you brush your teeth each day?

- Once
- Twice
- Three times or more
- Irregularly

2-What type of toothbrush do you use in terms of type bristles

Hard

Medium

Soft

3. How often do you replace your toothbrush?

- Every 1-3 months
- Every 3-6 months

- Once a year or less frequently

4. Do you use fluoride toothpaste

- Never

-Rarely

-Sometimes

-Often

-always

5. do you floss your teeth?

- Never

-Rarely

-Sometimes

-Often

-always

6. Do you use mouthwash ?

-Never

-Rarely

-Sometimes

-Often

-always

7. Do you clean (bruh) your tongue?

- Never

-Rarely

-Sometimes

-Often

-always

8. How often do you visit the dentist for routine check-ups?

- Every 6 months

- Once a year

- Only when there's a problem

- Never

Section 5: Barriers to Practicing Oral Hygiene

1- I find it difficult to maintain a regular oral hygiene routine due to my busy schedule.

(1) Strongly Disagree

(2) Disagree

(3) Neither Agree nor Disagree

(4) Agree

(5) Strongly Agree

2-I do not visit the dentist regularly because of financial constraints.

(1) Strongly Disagree

(2) Disagree

(3) Neither Agree nor Disagree

(4) Agree

(5) Strongly Agree

3-I am sometimes too tired to brush and floss before bed.

(1) Strongly Disagree

(2) Disagree

(3) Neither Agree nor Disagree

(4) Agree

(5) Strongly Agree

4-I lack access to dental care resources and products.

(1) Strongly Disagree

(2) Disagree

(3) Neither Agree nor Disagree

(4) Agree

(5) Strongly Agree

5- I feel that I need more education on proper oral hygiene techniques.

(1) Strongly Disagree

(2) Disagree

(3) Neither Agree nor Disagree

(4) Agree

(5) Strongly Agree

Thanks