

ASSESSMENT ON ORAL HEALTH KNOWLEDGE, ATTITUDE, AND PRACTICE AND ITS ASSOCIATION WITH SOCIODEMOGRAPHIC FACTORS IN JAKARTA POPULATION

Evaluación del conocimiento, la actitud y las prácticas de salud bucal y su asociación con factores sociodemográficos en la población de Yakarta

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ABSTRACT

Introduction: Oral health (OH) is vital to overall well-being, influencing essential functions such as chewing, speaking, and expressing emotions without discomfort. Despite its importance, OH problems remain a public health concern globally and in Indonesia, especially among youth. Jakarta, as the capital, reflects disparities in OH knowledge, attitude, and practices, shaped by demographic and socioeconomic factors.

Material and Methods: This cross-sectional study was conducted in 2025 using an online questionnaire targeting Jakarta residents aged 10 years and above. A total of 614 participants were recruited through random sampling. The questionnaire, adapted from a validated tool, assessed OH knowledge, attitudes, and practices. Data were analyzed using non-parametric tests and Spearman's correlation, with $p < 0.05$ considered statistically significant.

Results: The majority of participants demonstrated good knowledge (98.2%) and positive attitudes (95.3%), but only 75.9% practiced adequate oral hygiene. Significant associations were found between age group and both knowledge ($p < 0.001$) and practice ($p = 0.018$). Education level and location were also linked to knowledge ($p = 0.030$ and $p = 0.021$, respectively), while gender showed no significant associations.

Conclusions: While OH knowledge and attitudes are high among Jakarta residents, gaps in practice persist, particularly among younger age groups. Targeted interventions based on age, education, and regional disparities are essential to improve oral health behaviors. This study underscores the need for continuous, demographically tailored oral health promotion efforts to reduce preventable oral diseases in Jakarta.

Keywords: Oral health; Health knowledge, attitudes, practice; Cross-sectional studies; Socio-economic factors; Health promotion; Indonesia

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RESUMEN

Introducción: La salud bucal (SB) es vital para el bienestar general, influyendo en funciones esenciales como masticar, hablar y expresar emociones sin molestias. A pesar de su importancia, los problemas de SB siguen siendo un problema de salud pública a nivel mundial y en Indonesia, especialmente entre los jóvenes. Yakarta, como capital, refleja disparidades en conocimientos, actitudes y prácticas de SB, determinadas por factores demográficos y socioeconómicos.

Materiales y Métodos: Este estudio transversal se realizó en 2025 utilizando un cuestionario en línea dirigido a residentes de Yakarta de 10 años o más. Se reclutó un total de 614 participantes mediante muestreo aleatorio. El cuestionario, adaptado de una herramienta validada, evaluó los conocimientos, actitudes y prácticas de SB. Los datos se analizaron mediante pruebas no paramétricas y correlación de Spearman, considerándose estadísticamente significativo $p < 0,05$.

Resultados: La mayoría de los participantes demostró buenos conocimientos (98,2%) y actitudes positivas (95,3%), pero sólo el 75,9% practicaba una higiene bucal adecuada. Se encontraron asociaciones significativas entre el grupo de edad y tanto el conocimiento ($p < 0,001$) como la práctica ($p = 0,018$). El nivel educativo y la ubicación también se vincularon con el conocimiento ($p = 0,030$ y $p = 0,021$, respectivamente), mientras que el género no mostró asociaciones significativas.

Conclusión: Si bien el conocimiento y las actitudes sobre salud bucal son elevados entre los residentes de Yakarta, persisten brechas en la práctica, particularmente entre los grupos de edad más jóvenes. Las intervenciones específicas basadas en la edad, la educación y las disparidades regionales son esenciales para mejorar los comportamientos de salud bucal. Este estudio subraya la necesidad de realizar esfuerzos continuos y adaptados demográficamente a la promoción de la salud bucal para reducir las enfermedades bucales prevenibles en Yakarta.

Palabras clave: *Salud bucal; Conocimientos, actitudes y práctica en salud; Cross-sectional studies; Factores socioeconómicos; Promoción de la salud; Indonesia*

INTRODUCTION

Oral health (OH) is a key part of overall well-being, affecting important functions like speaking, chewing, and expressing emotions without pain or discomfort.¹ The Fédération Dentaire Internationale (FDI) defines OH as a complex concept that includes the ability to eat, speak, and socialize without active disease or discomfort.² Poor OH has been associated with various systemic conditions, including cardiovascular diseases and diabetes, emphasizing its significance beyond just the oral cavity.³

Despite its significance, OH remains a major public health issue worldwide. The rates of untreated dental caries, periodontal diseases, and other oral conditions stay alarmingly high, especially among children and teenagers.⁴ Globally, over 500 million children have untreated cavities in their primary teeth, highlighting disparities in oral health education and access to dental care.⁵ Teenagers are particularly vulnerable because of dietary changes, higher sugar intake, and the adoption of harmful habits like smoking and alcohol use.⁶ This age group is at a crucial point for developing lifelong oral hygiene habits,

making interventions vital for long-term oral health improvement.⁷

In Indonesia, the burden of oral diseases is significant. According to the Indonesian Basic Health Research (Riskesdas), the prevalence of dental and oral health problems remains high, with many individuals suffering from untreated dental caries and periodontal diseases. Jakarta, as the capital city, reflects both the challenges and opportunities in improving OH awareness and practices. While access to dental care is better compared to rural areas, disparities in knowledge, attitude, and behavior (KAP) persist across different demographics, influenced by factors such as gender, age, education level, and socioeconomic status.⁸

Previous studies have explored OH KAP in various populations. Research conducted in Nepal revealed a high prevalence of untreated cavities, emphasizing the need for targeted interventions among school-aged children.⁹ Similarly, a study in South India highlighted the impact of sociodemographic and habitual factors on oral health behaviors, demonstrating that factors such as income, education, and lifestyle choices significantly influence OH outcomes.¹⁰ In Indonesia, research among dental students in East Java indicated that higher education levels correlate with better OH knowledge and practices, underscoring the role of education in improving oral hygiene behaviors.¹¹

This study aims to assess the OH KAP of individuals in Jakarta and its correlation with sociodemographic factors, including gender, age, education level, and location. By identifying gaps in knowledge and behaviors, this research can contribute to the development of targeted public health initiatives to improve oral hygiene awareness and practices. Given the high prevalence of dental diseases in Indonesia, understanding these correlations is crucial for designing effective oral health pro-

motion strategies tailored to the population's needs. Ultimately, this study seeks to support national and regional efforts in enhancing OH and reducing the burden of preventable dental diseases in Jakarta and beyond.

MATERIALS AND METHODS

Sample Size and Sampling Design

This study employed a cross-sectional descriptive design conducted in 2025 using an online questionnaire. The survey targeted individuals residing in Jakarta, Indonesia, who met the inclusion criteria. Eligible participants were those aged 10 years and above, able to read and write in Bahasa Indonesia or English, and willing to participate voluntarily. Individuals under the age of 10 and those living outside Jakarta were excluded from the study.

A fixed sampling approach was used, with the minimum required sample size determined using Cochran's Formula, yielding a threshold of 385 participants. Ultimately, 614 respondents were recruited through random sampling. The study protocol received ethical approval from the Research Ethics Committee of the Faculty of Medicine, Pelita Harapan University (006/MARS/EC/IV/2025), and was conducted following the Declaration of Helsinki. Informed consent was obtained at the beginning of the online questionnaire, ensuring voluntary participation. Data collection was entirely anonymous to protect participants' privacy and confidentiality.

Data Collection Tools & Techniques

Data collection took place from March to April 2025, facilitated by the two authors (MM & MA). Participants were recruited through convenience sampling and invited to complete a self-administered questionnaire.

(available in the Supplementary Material) The questionnaire was designed to assess demographic characteristics, oral health knowledge, attitudes, and hygiene practices. The survey instrument was adapted from a standardized tool previously used in the study Assessment of Oral Health Knowledge, Attitude, and Behaviour and its Association with Sociodemographic and Habitual Factors of South Indian Population. The questionnaire comprised four sections: (1) socio-demographics; (2) knowledge; (3) attitude; and (4) practice.

Participants who answered more than 50% of the questions correctly were classified as having 'good' knowledge, attitude, or practice, while those scoring below this threshold were categorized as having 'poor' knowledge, attitude, or practice.¹⁰

Data Analysis

Descriptive statistics were employed to determine the frequency and percentage distribution of sociodemographic variables

and behavioral habits. As the dataset did not meet normality assumptions, non-parametric tests were applied.

The Mann-Whitney U test and Kruskal-Wallis test were used to explore associations between sociodemographic factors, habitual behaviors, and oral health-related knowledge, attitudes, and practices. Spearman's rank correlation analysis was conducted to assess the strength of relationships between these variables. A *p*-value of <0.05 was considered statistically significant.

RESULTS

Sociodemographic

Among the 614 participants, 46.3% were male and 53.7% were female. The majority (45.7%) fell within the 17-30 age range, while 39.9% were at the undergraduate educational level. Most participants resided in North Jakarta (28.8%). (Table 1)

Table 1

Sociodemographic Data of the Respondents

	Variables	N	%
Gender	Male	284	46.3
	Female	330	53.7
Age Group	< 17	144	23.5
	17 - 30	281	45.7
	31 - 45	99	16.1
	> 45	90	14.7
Education Level	Primary School	10	1.6
	Junior High School	92	15.0
	Senior High School	230	37.5
	Undergraduate	245	39.9
	Postgraduate	37	6.0
Location	Central Jakarta	125	20.4
	North Jakarta	177	28.8
	East Jakarta	123	20.0
	West Jakarta	106	17.3
	South Jakarta	83	13.5

Oral Health Knowledge

The knowledge section of the questionnaire consisted of 11 multiple-choice questions designed to assess the fundamental understanding of oral health practices and the purpose of oral health maintenance (Table 2). Participants were instructed

to select the response they believed was correct. Responses were categorized into three options: agree, no opinion, and disagree. For scoring purposes, correct answers were assigned a score of 1, while incorrect answers received a score of 0.

Table 2

Summary of Knowledge-Related Answers

Knowledge-Related Variables	Correct N (%)	Incorrect N (%)
1. There are two sets of teeth (dentition) during lifetime	593 (96.6)	21 (3.4)
2. Tooth infection causes gum bleeding	575 (93.6)	39 (6.4)
3. Replacement of missing tooth improves oral hygiene	540 (87.9)	74 (12.1)
4. Dental caries of deciduous teeth don't need to be treated	501 (81.6)	113 (18.4)
5. Bacteria is one of the reasons to cause gingival problems	588 (95.7)	26 (4.3)
6. Fizzy soft drinks affect the teeth adversely	568 (92.5)	46 (7.5)
7. Loss of teeth can interfere with speech	525 (85.5)	89 (14.5)
8. Irregularly placed teeth can be moved into correct position	560 (91.2)	54 (8.8)
9. Decayed teeth can affect the appearance of a person	567 (92.3)	47 (7.7)
10. Tobacco chewing or smoking cause oral cancer	574 (93.5)	40 (6.5)
11. Soft White patches on teeth surface are called dental plaque	569 (92.7)	45 (7.3)
Status of Knowledge	N	%
Poor Knowledge	11	2.8
Good Knowledge	603	98.2
Total	614	100

Table 3

Summary of Attitude-Related Answers

Attitude-Related Variables	Correct N (%)	Incorrect N (%)
1. Keeping your teeth clean and healthy is beneficial to your health	594 (96.7)	20 (3.3)
2. Scaling is harmful for gums	471 (76.7)	143 (23.3)
3. Dentist care only about treatment and not prevention	478 (77.8)	136 (22.2)
4. Sweet retention leads to tooth decay	571 (93.0)	43 (7.0)
5. Brushing with fluoridated toothpaste help prevent tooth decay	572 (93.2)	42 (6.8)
6. Brushing teeth twice a day improves oral hygiene	588 (95.8)	26 (4.2)
7. Gum bleeding denotes gum infection	571 (93.0)	43 (7.0)
8. Improper brushing leads to gum disease	575 (93.6)	39 (6.4)
Level of Attitude	N	%
Negative Attitude	29	4.7
Positive Attitude	585	95.3
Total	614	100

Table 4

Summary of Practice-Related Answers

Practice-Related Variables	Correct N (%)	Incorrect N (%)
1. I have bleeding gums during brushing	339 (55.2)	275 (44.8)
2. I do routine dental check-up	513 (83.6)	101 (16.4)
3. I give importance to my teeth as much as any part of my body	566 (92.2)	48 (7.8)
4. I brush my teeth atleast twice a day	560 (91.2)	54 (8.8)
5. I use my teeth to open/tear things	347 (56.5)	267 (43.5)
6. I have sensitive teeth	341 (55.5)	273 (44.5)
7. I experience toothache while chewing food	379 (61.7)	235 (38.3)

Level of Practice	N	%
Inadequate Practice	148	24.1
Adequate Practice	466	75.9
Total	614	100

Table 5

Association between Sociodemographic Factors and KAP Score

Variables	Categories	N	Knowledge Median (IQR)	p-value	Attitude Median (IQR)	p-value	Practice Media (IQR)	p-value
Gender*	Male	284	11 (10,11)	0.485	8 (7,8)	0.180	5 (4,7)	0.848
	Female	330	11 (10,11)		8 (7,8)		5 (4,7)	
Age Group**	< 17	144	11 (10,11)	<0.001	8 (6.25,8)	0.108	5 (4,7)	0.018
	17 - 30	281	10 (9,11)		8 (6,8)		5 (3,6)	
	31 - 45	99	11 (10,11)		8 (7,8)		6 (4,7)	
	> 45	90	11 (10,11)		8 (7,8)		6 (4,7)	
Education Level**	Primary School	10	11 (9.75,11)	0.030	8 (7,8)	0.465	6.5 (5.75,7)	0.074
	Junior High School	92	11 (10,11)		8 (7,8)		5 (3.25,6)	
	Senior High School	230	10 (9,11)		8 (7,8)		6 (4,7)	
	Undergraduate	245	11 (10,11)		8 (7,8)		5 (3,6)	
	Postgraduate	37	11 (10,11)		8 (7,8)		6 (4,7)	
Location**	Central Jakarta	125	11 (10,11)	0.021	8 (7,8)	0.413	6 (4,7)	0.025
	North Jakarta	177	10 (9,11)		8 (6,8)		5 (4,6)	
	East Jakarta	123	11 (9,11)		8 (6,8)		5 (4,7)	
	West Jakarta	106	11 (10,11)		8 (7,8)		6 (4,7)	
	South Jakarta	83	11 (10,11)		8 (7,8)		5 (3,6)	

*: Kruskal Wallis Test. **: Mann-Whitney Test. **IQR**: Interquartile Range;

Oral Health Attitude

The attitude section of the questionnaire included eight questions evaluating participants' perspectives on oral health maintenance (Table 3). Similar to the knowledge section, responses were categorized into three options: agree, no opinion, and disagree. The 'no opinion' responses were combined with incorrect responses for scoring purposes. Each response was classified as either a positive attitude (score of 1) or a negative attitude (score of 0), and an overall attitude score was calculated for each participant.

Oral Health Practice

The practice section of the questionnaire consisted of seven questions assessing participants' fundamental behaviors and actions related to maintaining oral health (Table 4). Responses were categorized into three options: agree, no opinion, and disagree. For scoring purposes, 'no opinion' responses were combined with incorrect responses. Each response was classified as either adequate practice (score of 1) or inadequate practice (score of 0), and an overall practice score was calculated for each participant.

Association between Sociodemographic Factors & KAP Score

Table 5 presents the relationship between sociodemographic factors and Knowledge, Attitude, and Practice (KAP) scores. A significant association was found between age group and both knowledge ($p < 0.001$) and practice ($p = 0.018$), with individuals aged 17-30 demonstrating the lowest scores compared to other age groups. Educational level was significantly associated with knowledge ($p = 0.030$), whereas no significant relationship was observed with attitude and practice. Location was also significantly

associated with knowledge ($p = 0.021$) and practice ($p = 0.025$), with the highest scores recorded among residents of Central Jakarta and West Jakarta. No significant association was found between gender and KAP scores.

DISCUSSION

Main Discussion

Most of the 614 participants in this study demonstrated a strong understanding of oral health, with 98.2% falling into the high knowledge category. A similarly positive trend was observed in attitude, with 95.3% showing favorable views toward oral health, reflecting a high level of awareness about the importance of oral hygiene. However, despite these encouraging figures, only 75.9% of respondents reported adequate oral health practices.

The study explored how sociodemographic factors relate to oral health knowledge, attitude, and practice (OH KAP) among residents of Jakarta. Age, education level, and residential area showed significant associations with knowledge and practice, whereas attitudes remained relatively stable across these groups. Notably, there were no significant differences in OH KAP scores between male and female participants—knowledge ($p = 0.485$), attitude ($p = 0.180$), and practice ($p = 0.848$) all showed comparable results. This aligns with findings from Wimardhani et al. (2018), who also found no gender disparity in oral health literacy among adults in Jakarta. Such results could indicate that awareness campaigns have reached both genders equally or that gender isn't a strong predictor of oral health behaviors in this context.¹²

Education level was significantly linked to knowledge ($p = 0.030$), with higher knowledge

scores among those with undergraduate and postgraduate degrees. However, education did not significantly impact attitude ($p = 0.465$) or practice ($p = 0.074$). These findings reinforce previous research suggesting that higher education contributes to better health literacy and more informed decision-making when it comes to oral hygiene.^{13,14}

Age was another important factor. Significant differences were found in both knowledge ($p < 0.001$) and practice ($p = 0.018$) across age groups. Interestingly, participants under 17 years old had the highest median knowledge score,¹¹ likely due to school-based education efforts. Yet, this knowledge didn't always translate into action. This disconnect mirrors findings from other studies—for example, Wismardhani *et al.*,¹² noted that while younger populations in Indonesia often possess good oral health knowledge, they don't consistently apply it in their daily routines. Similarly, research by Opoku *et al.*,¹⁵ in Ghana found that despite high awareness among secondary school students, many lacked regular brushing habits and dental check-up routines. On the other hand, older participants in our study showed more balanced outcomes, with both high knowledge and stronger oral health practices. This suggests that with age and life experience comes greater consistency in maintaining healthy habits.

Finally, we observed differences in OH KAP scores across various areas in Jakarta. Knowledge ($p = 0.021$) and practice ($p = 0.025$) scores varied significantly by location, with West and Central Jakarta showing the highest averages. One possible explanation is the presence of dental faculties in these regions, which may lead to greater public exposure to oral health education and services.

To address the persistent gap between knowledge and practice, future public health strategies should emphasize the impor-

tance of behavior-focused interventions, particularly among younger and less-engaged populations. Regular assessment of OH KAP across different demographic segments will be essential for guiding targeted educational efforts and promoting oral health equity. Strengthening collaboration between healthcare providers, educators, and community institutions can support the integration of oral health education into daily life, ultimately contributing to long-term improvements in oral hygiene and overall health among Jakarta residents.

Limitations

This study has several limitations. As a cross-sectional study, it does not establish causal relationships between oral health knowledge, attitudes, and practices. Additionally, contextual factors such as changes in participants' addresses were not accounted for, which may have influenced the findings. Furthermore, individuals who were physically, mentally, or legally incapacitated and unable to provide informed consent were excluded from the study. Another limitation is the reliance on self-administered questionnaires for data collection, which may introduce response bias. Participants might have provided socially desirable answers or misinterpreted certain questions, potentially affecting the accuracy of the data.

Recommendations for Future Studies

Assessing oral health knowledge, attitudes, and behaviors at the right time can contribute to meaningful improvements in oral hygiene within the population. The findings of this study can inform the development of more effective oral health promotion strategies and policies.

To encourage a positive attitude towards oral health, interventions should focus on

reinforcing and sustaining good oral hygiene habits throughout individuals' lives. Regular monitoring of oral health knowledge, attitudes, and practices across different demographic groups is crucial for identifying trends and addressing disparities in oral health equity.

Targeted educational initiatives may be necessary for specific populations, who are shown as significantly lower than the other groups, to enhance their understanding and adoption of proper oral hygiene practices. Collaboration between healthcare professionals and educational institutions can facilitate the implementation of oral health promotion programs. Integrating oral health education into the daily practice is a vital step in ensuring long-term improvements in oral hygiene and overall oral health among Jakarta residents.

CONCLUSIONS

This study revealed that while most participants demonstrated high levels of oral health knowledge and positive attitudes, a significant gap remains between awareness and consistent oral health practices. Socio-demographic factors such as age, education level, and residential location were found to significantly influence both knowledge and practice, whereas gender had no significant impact on any aspect of OH KAP.

Younger individuals, despite their strong knowledge—likely influenced by school-based programs—were less consistent in applying this knowledge in daily routines, highlighting the need for strategies that not only educate but also encourage sustained behavioral change.

Differences observed across various areas in Jakarta suggest that proximity to educational and health institutions may enhance exposure to oral health information and positively affect behavior. However, these findings must be interpreted in light of the study's limitations, including its cross-sectional design and reliance on self-reported data, which may be subject to response bias.

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CONFLICT OF INTERESTS

The authors have no conflict of interest to disclose.

ETHICS APPROVAL

This study was approved by the Prof. Dr. Sabrina Octoria Sihombing, S.E., M.Bus, Universitas Pelita Harapan, with approval number 006/MARS/EC/IV/2025, dated 9th of April 2025.

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AUTHORS' CONTRIBUTIONS

Both authors contributed equally to all aspects of the study, including data collection, analysis, interpretation, and manuscript writing.

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SUPPLEMENTARY TABLE

Survey Description: This survey aims to assess the knowledge, attitudes, and practices of Jakarta residents regarding oral and dental health, as well as to analyze their relationship with sociodemographic factors.

Confidentiality and Data Security: All information provided by participants will be kept confidential and used solely for research purposes. Responses will be collected anonymously without including any personal identifying information.

Voluntary Participation: Participation in this survey is voluntary. You have the right to withdraw from the survey at any time without any consequences.

Consent Statement: By proceeding to the next page, you confirm that you have read and understood the information above and agree to participate in this survey voluntarily.

A. Yes, I agree to participate

B. No, I do not agree to participate

Introduction

Please answer the following questions by selecting the option that best describes you.

16. Gender:

A. Male

B. Female

17. Last Education / Current Education Level

A. Primary School

B. Junior High School

C. Senior High School

D. Undergraduate (Bachelor's Degree)

E. Postgraduate (Master's / Doctoral Degree)

18. Age Group

A. < 17 years (Child)

B. 17–30 years (Young Adult)

C. 31–45 years (Middle-Aged Adult)

D. >45 years (Older Adults & Seniors)

19. Current Living Area (Choose the Closest Option)

A. Central Jakarta

B. North Jakarta

C. East Jakarta

D. West Jakarta

E. South Jakarta

Part 1: Knowledge of Dental and Oral Health

Please answer the following questions by selecting one of the options below:

* **“Agree”** if you agree with the statement, or * **“Disagree”** if you do not agree with the statement, or * **“Not sure”** if you are unsure about your answer to the statement.

1. There are two sets of teeth (dentition) during lifetime

A. Agree

B. Disagree

C. Unsure

2. Tooth infection causes gum bleeding

A. Agree

B. Disagree

C. Unsure

3. Replacement of missing tooth improves oral hygiene

A. Agree

B. Disagree

C. Unsure

4. Dental caries of deciduous teeth don't need to be treated

A. Agree

B. Disagree

C. Unsure

5. Bacteria is one of the reasons to cause gingival problems

A. Agree

B. Disagree

C. Unsure

6. Fizzy soft drinks affect the teeth adversely

A. Agree

B. Disagree

C. Unsure

7. Loss of teeth can interfere with speech

- A. Agree
- B. Disagree
- C. Unsure

8. Irregularly placed teeth can be moved into correct position

- A. Agree
- B. Disagree
- C. Unsure

9. Decayed teeth can affect the appearance of a person

- A. Agree
- B. Disagree
- C. Unsure

10. Tobacco chewing or smoking cause oral cancer

- A. Agree
- B. Disagree
- C. Unsure

11. Soft White patches on teeth surface are called dental plaque

- A. Agree
- B. Disagree
- C. Unsure

Part 2: Attitude towards Dental and Oral Health

Please answer the following questions by selecting one of the options below:

* **“Agree”** if you agree with the statement, or * **“Disagree”** if you do not agree with the statement, or * **“Not sure”** if you are unsure about your answer to the statement.

1. Keeping your teeth clean and healthy is beneficial to your health

- A. Agree
- B. Disagree
- C. Unsure

2. Scaling is harmful for gums

- A. Agree
- B. Disagree
- C. Unsure

3. Dentist care only about treatment and not prevention

- A. Agree
- B. Disagree
- C. Unsure

4. Sweet retention leads to tooth decay

- A. Agree
- B. Disagree
- C. Unsure

5. Brushing with fluoridated toothpaste help prevent tooth decay

- A. Agree
- B. Disagree
- C. Unsure

6. Brushing teeth twice a day improves oral hygiene

- A. Agree
- B. Disagree
- C. Unsure

7. Gum bleeding denotes gum infection

- A. Agree
- B. Disagree
- C. Unsure

8. Improper brushing leads to gum disease

- A. Agree
- B. Disagree
- C. Unsure

Part 3: Behavior in Maintaining Dental & Oral Health

Please answer the following questions by selecting one of the options below:

* **“Agree”** if you agree with the statement, or * **“Disagree”** if you do not agree with the statement, or * **“Not sure”** if you are unsure about your answer to the statement.

1. I have bleeding gums during brushing

- A. Agree
- B. Disagree
- C. Unsure

2. I do routine dental check-up

- A. Agree
- B. Disagree
- C. Unsure

3. I give importance to my teeth as much as any part of my body A. Agree B. Disagree C. Unsure	4. I brush my teeth at least twice a day A. Agree B. Disagree C. Unsure
5. I use my teeth to open/tear things A. Agree B. Disagree C. Unsure	6. I have sensitive teeth A. Agree B. Disagree C. Unsure
7. I experience toothache while chewing food A. Agree B. Disagree C. Unsure	